

VOLUME 1

NEW JERSEY

InnovationsoftheWorld.com

"Minds are like parachutes;
they only function when open."

—THOMAS DEWAR







THIS IS ONLY THE BEGINNING OF NEW CONNECTIONS AND COLLABORATIONS AMONG NEW JERSEY'S INNOVATORS.

GLEN EDWARDS, ASSOCIATE PUBLISHER

INNOVATE® New Jersey profiles 140+ of the state's most innovative companies. Finding these worthy innovators took some time and some traveling, but that journey doesn't end with this book's publication. The INNOVATE® series is about connecting the innovators and innovation enablers whose paths might not cross otherwise. As *INNOVATE® New Jersey*'s publishing partner, I'm fortunate to have met or met with every participant in the book you're holding.

No matter how *INNOVATE® New Jersey* ended up in your hands, you're witness to something special: a tribe of innovators and innovation enablers that spans not just New Jersey but also the globe. We've worked hard to put this volume together, and my hope is that this is only the beginning of new connections and colla borations.

I hope you're as inspired as I have been.
Glen Edwards, Associate Publisher















GLEN EDWARDS:

Glen Edwards was born and raised in Philadelphia, Pennsylvania. He graduated from Pennsylvania State University and served in the United State Marine Corps Reserves. For the next ten years, Glen worked as a Juvenile Probation Officer in Philadelphia, counseling underprivileged children in North and West Philadelphia.

In 1983, Glen left the court and went to work for Windsor Publications, a national publisher of membership directories, image publications, and coffee-table books that were meant to showcase the quality of life in cities, states, and regions of the US. Working in the sales and marketing arena for the next 25 years, Glen was responsible for the successful completion of books in communities as diverse as Grand Rapids, Michigan; Louisville, Kentucky; Jacksonville, Florida; Williamsport, Pennsylvania, and numerous others.

In 2010, Glen formed his own company, Contemporary Publishing Group. He has continued to publish books to showcase places and important subjects of his own choosing. His recent books include a volume on the manufacturing industry in Philadelphia and another that highlights life in Bucks County, Pennsylvania.

Glen and his wife, Nancy, live in Holland, Pennsylvania. They have four adult children.

SUSAN RITZHEIMER:

Susan Ritzheimer is a publishing jane of all trades and master of all. As Development Associate and Executive Assistant for Contemporary Publishing Group East, Susan works as hard behind the scenes as she does in her client-facing roles. With experience in promotions and sales, office management, and as an artist, Susan brings her expertise to everything she does. *INNOVATE® New Jersey* would not have been possible without her.

The "*INNOVATE® New Jersey*" Team would like to give a special thanks to all the participants and the following companies for their support and assistance in making this project a reality.



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For a Business Like Mine

INNOVATE® NEW JERSEY: A MULTIMEDIA EXPERIENCE AND MORE.

SVEN BOERMEESTER, FOUNDER/CEO, INTERNATIONAL GROUP PUBLISHER



Sven Boermeester, Founder/CEO & International Group Publisher with **Callie Van Graan**, Global Village COO

INNOVATE® New Jersey showcases the best of New Jersey's innovation and entrepreneurial ecosystem. Embedded in its pages, you will find augmented reality videos that accompany select features, and when you use the free GLOBAL VILLAGE AR app, the world of the future will open up before your very eyes.

But "*INNOVATE® New Jersey*" is far more than a tech-enabled publication; it is a multimedia experience centered around the deluxe hardcover coffee-table book you are now holding, which, in addition to AR videos, includes an online web platform and multilevel social media networking. Online, the full e-book will be viewed in the millions through the InnovationsoftheWorld.com online library.

This publication aims to celebrate those involved in the New Jersey ecosystem, but it is also meant for all business leaders and decision-makers who can effect change in their industries throughout the US and the world. We publish *INNOVATE® New Jersey* for the open-minded folk who want to know more about the exciting changes that have recently transpired in the New Jersey ecosystem, and who play or want to play an active role in its growth and development.

This inaugural edition of *INNOVATE® New Jersey* is just one part of a global series. We are currently launching volumes in cities throughout the GlobalVillage.world publishing partnership network.

By experiencing *INNOVATE® New Jersey*, you are part of our Global Village tribe, and we are happy to have you. I trust you will join us as we continue the journey of the INNOVATE® series.

Sven Boermeester
Founder/CEO
International Group Publisher

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CONNECTING MINDS - BUILDING COMMUNITIES

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978-1-949677-13-3

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IT'S A KIND OF MAGIC...



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NEW JERSEY, THE INSPIRED INNOVATION GARDEN

THE ROOTS OF GLOBAL INNOVATION: PLANTED RIGHT HERE IN THE GARDEN STATE

It is marvelous that such a small state is blessed with four physiographic formations: the Appalachian Mountains in the northwest and coastal plains to the south and east, and the intersecting highlands and rolling slopes of the Piedmont in between. Nature's diversity, inspiration, and rejuvenation is close to metropolitan humanity. It's one of the reasons that the roots of global R&D and innovation flourish here. In 1920, the leaders of world renown Bell Labs, decided to move to a bucolic setting in the hills of New Jersey "to get away from the congestion and environmental distractions of New York City." Perhaps that's why Edison established the world's first research and development lab in the Menlo Park community of Edison which has been ranked as one of "America's 10 Best Places to Grow Up" thanks to low crime, strong schools, green spaces, and an abundance of recreational activities.

New Jersey first got its humble nickname in 1876 when Abraham Browning of Camden spoke at the Philadelphia Centennial Exposition. Perhaps borrowing from Ben Franklin, he said, "Our Garden State is an immense barrel, filled with good things to eat and open at both ends, with Pennsylvanians grabbing from one end and New Yorkers from the other."

It's true that the Garden State's dairy farms, fields, and fisheries nourished two of the world's great cities. But humble New Jersey also generously shares its good fruits with the entire world. These fruits are the foundational innovations that built the transformational industries of the late 20th century and today's emerging technologies that connect us, make us productive, heal us, and move our lives and possibilities forward. The innovators in this book are inspired planters, a highly diverse and collaborative community of the world's most curious minds, who live, work, and play right here in the Garden State to make our world a better place.



EDISON'S LABORATORY: THE ORIGINAL MODEL FOR RAPID INNOVATION



The "Wizard of Menlo Park," Thomas Edison, produced over 1,000 patents and invented the technologies that resulted in motion pictures, sound recording and countless other innovations. Perhaps his greatest contribution was inventing the first industrial research laboratory. By bringing together a highly diverse group of electricians, chemists, mechanical engineers, and generalists, he established the model for high-speed innovation and commercialization. Lean-startup entrepreneurs at collaborative workspaces everywhere are following in Edison's footsteps.

BELL LABS: THE IDEA FACTORY



The company that realized its vision to connect the world through faster, better voice and video communications, Bell Labs built its main R&D headquarters in Murray Hill, New Jersey. As the company flourished, it developed R&D sites for thousands of scientists in thirteen communities across New Jersey. The main site and the 1.9-million-square-foot Holmdel site were designed so that researchers would encounter co-workers, sharing ideas as they moved from lab to lab. This beehive philosophy worked wonders, resulting in over 20,000 patents and eleven Nobel Prize winners. Today, the site in Holmdel has transformed into BellWorks, a private Metroburb and a hub of innovation for dozens of companies and startups, just ten miles from the Jersey shore.

REACHING ABOVE AND BEYOND

DREAMS UNCONSTRAINED: INNOVATING FOR A CONNECTED WORLD

It is also fitting that a state blessed with natural beauty, rich soils, and a location in the center of the economic engine of the Eastern United States first served as the nation's welcoming center for millions of talented immigrants, including Russian-born David Sarnoff who built RCA labs. Far beyond inventing television, RCA's diverse workforce, including women and minorities, created the technologies that power our digital-streaming world.

Today, with a highly educated workforce, including 20% comprised of foreign-born talent, the state is rich in discovery and entrepreneurship across multiple sectors. The Garden State's clusters of innovation include biotech, information technologies, finance and fintech, advanced logistics, clean energy, advanced manufacturing, and, quite naturally, food and beverage innovation.

The speed of innovation in New Jersey is nurtured by connectedness and quality of life. New Jersey's walkable towns, transit villages, and burgeoning small cities are connected by the most developed transit system of any state and supported by the best broadband and fiber network in the nation.



DIVERSE CLUSTERS OF INNOVATION

LIFE SCIENCES



New Jersey is home to 13 of the top 20 global pharmaceutical companies, 12 of the top 20 R&D companies, and over 3,000 life sciences establishments. With 63 institutions producing 27,000 life sciences graduates each year, New Jersey's talent and innovations bring healing and hope to the world's population.

HEALTHCARE INNOVATION

CDI Center for Discovery & Innovation

One of the state's many centers of healthcare innovation is Hackensack-Meridian Health's Center for Discovery and Innovation where the nation's top researchers are accelerating medical breakthroughs from the lab to the beside in cancer, infectious diseases, and regenerative medicine.

MULTI-CLUSTER INNOVATION HUBS

New Jersey Innovation Institute
An NJIT Corporation

NJII in Newark is one of many burgeoning, multi-cluster hubs of innovation. Others, with close ties to top universities, are flourishing in Jersey City, Montclair, New Brunswick, Holmdel, Princeton, Camden, and Glassboro. NJII is accelerating entrepreneurship and enterprise expansion in multiple sectors, including smart city infrastructure, security, logistics, and financial services.

AN EVEN BRIGHTER TOMORROW

OUR KIDS, OUR FUTURE: INVESTING IN THE WHOLE PERSON

New Jersey's contribution to innovation and human advancement will continue to grow stronger because the people and leaders of this state highly value the role of education. New Jersey ranks first in the nation in public school education, first in high school graduates moving on to post-secondary education, and first in city-based pre-school education. And while New Jersey ranks at or near the top in many other important education measures, it is also leading the nation in fostering whole-child health and development, a commitment to nurturing mind, body, and spirit from earliest childhood through young adulthood.

Today, New Jersey's youngest children are better prepared to thrive when they enter kindergarten due to programs like Grow NJ Kids—a state-sponsored initiative that helps raise the quality of early learning and child care centers so that children can build vocabulary and develop their cognitive and social skills.

New Jersey's commitment to STEM (science, technology, engineering, and math) education has expanded to STEAM, where the "A" represents the arts. The development of body movement through dance, auditory memory through music, and creative expression through drama, poetry, and the visual arts develops the whole brain, stimulates creativity, and enhances confidence and team problem-solving. Organizations like Young Audiences of New Jersey bring participatory programming with teaching artists to hundreds of New Jersey's schools every year to open minds to cultural and creative exploration.

The state is also leading the way in providing more access to a college education, regardless of income constraints, through its high-quality county college system. Apprenticeships are moving beyond the traditional trades to include IT so that colleges and employers can expand their capacity to train the next generation of programmers and network engineers.

As each new day dawns on New Jersey's shore, it brings more promise and opportunity for all who call the Garden State home.



By Tom Sullivan
CEO, Princeton Partners

Tom Sullivan writes to share his love for the state and people of New Jersey.

princetonpartners.com



Today in New Jersey, we have all the elements of a perfect storm for innovation: brain power, infrastructure, technology that is transforming how businesses operate, interdisciplinary research, industry expertise, and a culture of collaboration that pushes all the key players in the ecosystem toward the same goal—*progress*.

As a coastal state, we benefit from an incredibly strategic location that provides access to the world's trade, financial, and regulatory centers. Home to the East Coast's largest seaport, it's easy to move products across the country and around the world.

The state is an undisputed education leader, with 63 public and private colleges and universities, including six research universities, producing one of the most highly educated workforces in the nation and research that is changing lives.

As one of the most diverse states in the nation, New Jersey is also home to more than 1,100 multinational companies and 225 foreign company headquarters and serves as an international gateway.

Discovery is weaved in the fabric of the Garden State, and key industries like healthcare, technology, financial services, food, life sciences, manufacturing, and clean energy are playing an important role in the health of our state's economy.



A hotbed for innovation, The Hub at New Brunswick is being built as a mixed-use project that will provide approximately 1.7 million square feet in the heart of downtown New Brunswick for startup incubation, research, and retail and commercial space with direct access to one of the Northeast's major commuter rail stations.

Allies like the New Jersey Tech Council, Research and Development Council of New Jersey, and BioNJ are making broader connections between higher education, industry and government to push the state forward as a center for invention and discovery.

At Rutgers University, we are proud to be a driving force in this innovation ecosystem, spending more on research and development every year than all New Jersey universities combined and fueling the state's economy.



An educational, health, and research powerhouse and a university of opportunity, Rutgers is a change-maker for the greater good, locally and globally. More than 71,000 students and 23,600 full- and part-time faculty and staff learn, work, and serve the public at Rutgers locations across New Jersey and around the world.

Our students and thinkers are learning and leveraging their talents and expertise every day to improve the human condition and the world. And our footprint can be seen across the state and in the regions of our main locations in three great New Jersey cities—New Brunswick, Newark, and Camden.

Our flagship institution and one of America's leading research universities, Rutgers–New Brunswick is committed to excellence in teaching and is home to state-of-the-art research and academic facilities that host a convergence of world-class programs in disciplines ranging from engineering, physics, and oncology to urban planning, oceanography, and theater.

Rutgers–Newark, a leading urban research university, leverages diversity and high-impact scholarship to cultivate social mobility and transform its surrounding communities.

Rutgers-Camden delivers a highly personalized learning experience driven by focused research in the sciences, healthcare, business, law, and the humanities.

And through a public-private partnership, Rutgers and RWJBarnabas Health formed New Jersey's largest academic health system to provide life-changing research, clinical training of tomorrow's healthcare workforce, and high-quality patient care.

At Rutgers, we support and strengthen our researchers by providing them with the necessary tools and a pipeline of services to advance their discoveries that will change the world tomorrow and enhance their competitiveness in the global economy. We recognize the value of partnerships with fellow New Jersey research universities—Princeton, NJIT, Rowan, Montclair State, and Stevens Institute of Technology—that are equally committed to meeting the demands of the 21st century and fueling our innovation ecosystem.

In New Jersey, we are greater than the sum of our parts when we work together. And through our shared commitment and vision for excellence in education, research, discovery, and innovation, we are creating a pathway that will not only advance but enrich humanity, our world, and our future.



S. David Kimball, PhD
Senior Vice President for Economic Development

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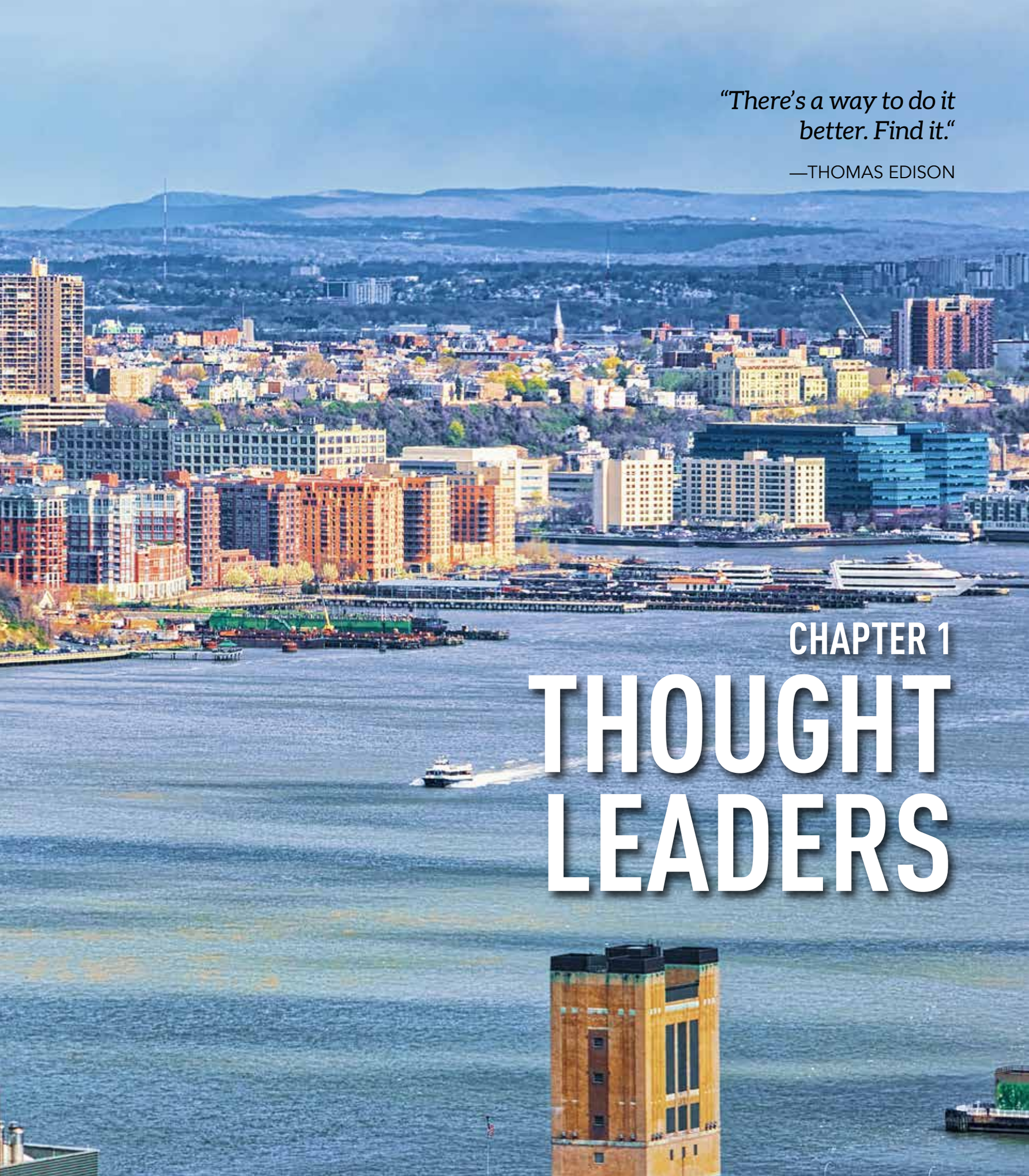
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"There's a way to do it better. Find it."

—THOMAS EDISON

CHAPTER 1

THOUGHT LEADERS

JOIN NEW JERSEY'S THRIVING AND DIVERSE INNOVATION ECOSYSTEM.

JAMES BARROOD, TECH COUNCIL VENTURES; JUMPSTART ANGELS



I've spent over two decades evangelizing New Jersey as a truly remarkable (if occasionally under-appreciated) center of innovation. It's been my responsibility—and pleasure—to show leaders the powerful advantages of plugging into our regional innovation ecosystem, in markets ranging from enterprise tech to biotech. Today, I'm more excited about New Jersey's potential—and realities—than I've ever been.

This Garden State, of course, has a long heritage of innovation. Thomas Edison planted his invention laboratories here—and also launched the nation's first movie studio here, in a quintessential early example of the interplay between devices, content, and entertainment. AT&T's Bell Laboratories invented the transistor and information theory and discovered the expanding universe here—and, as innovation powerhouses tend to do, Bell Labs spawned immense activity as its scientists and researchers moved on, transforming great ideas into companies of their own. New Jersey welcomed a wide cross-section of the world's most significant pharmaceutical companies—creating and sustaining a foundation for wider innovation in medical R&D and healthcare more broadly.

As at other key centers of innovation, New Jersey hasn't rested on its laurels or a storied past. I can tell you from firsthand experience that the state has built out all the elements of a thriving modern innovation ecosystem. First, ours is an enormously educated population: 4th among the 50 states in percentage of adults with bachelor's degrees, 7th in both masters and professional degrees. We value education here, and it shows in our commitment to higher education—from the Ivy League (Princeton), to an exceptional state university and college system, to outstanding STEM education at institutions like Rutgers University, New Jersey Institute of Technology, Rowan University, Stevens Institute of Technology, Fairleigh Dickinson, Montclair State, and The College of New Jersey, among others.

But these colleges and universities equally value their deep linkages to the region's entrepreneurial communities, and their roles as engines of innovation. I can tell you this from personal experience. I started working at one of the nation's and state's first university-based entrepreneurial programs, at Fairleigh Dickinson, in 1997, and I've had a firsthand view of how these links have deepened into an exceptionally robust set of programs and initiatives statewide. Entrepreneurship programs and activities. Startup weekends to welcome and encourage new entrepreneurs and developers. Technology accelerators and incubators to give startups a home and a community. Innovation programming. You name it, we have it.

These are just a few of the ways New Jersey's entrepreneurs, technologists, and scientists have organically evolved strong networks to promote innovation. As CEO of the New Jersey Technology Council for five years, I've seen these efforts firsthand, too.

Through the Tech Council and other thriving support organizations, our innovators regularly come together to build a virtuous circle of successful entrepreneurship. Exited founders give back to the community in money and time,

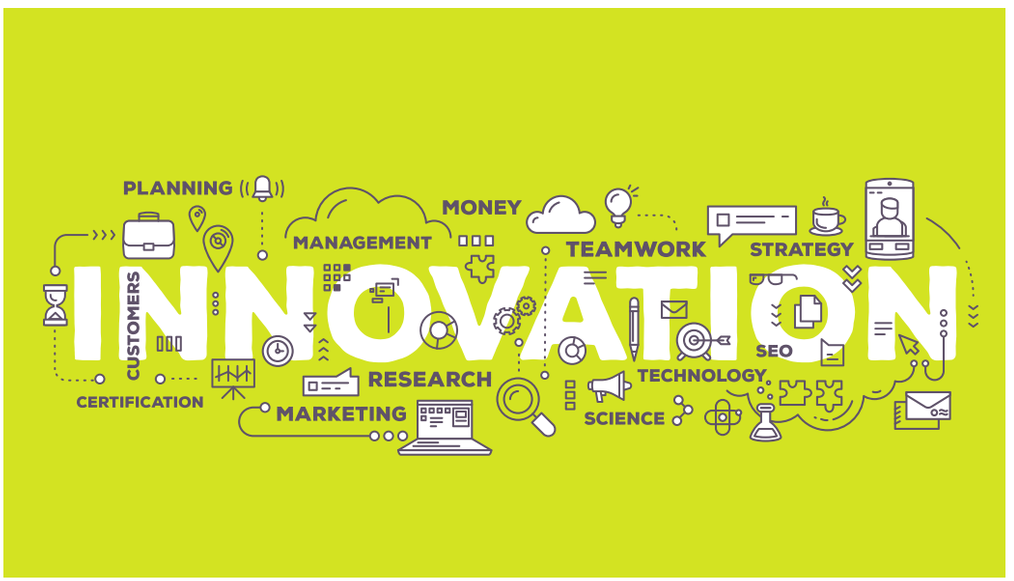




and an active investor group of VCs and angels (i.e., JumpStart Angel Network) is providing both capital and expertise to emerging startups. As just one example, the Tech Council Ventures Fund—which the Council and I helped launch—is a $55 million early-stage venture capital fund investing in promising companies located throughout the region. We're making available crucial early funding to companies in industries ranging from fintech to health tech to enterprise tech to clean tech—backed here on the ground by the expertise of a remarkable network of active partners and advisors.

Another area where we've come a long way: we now have government leadership that celebrates and nurtures our innovative ecosystem—and above all, respects and listens to innovators. Businesses don't get everything they want here, but they do get a fair hearing from leaders who truly want them to succeed, and aim to build an environment where they can.

There's one final point about New Jersey that makes me especially proud to recommend it to you. From the days of Edison's "Muckers"—his remarkably creative team of inventors from across the US and far beyond it—we've always embraced smart and hard-working people from everywhere. We still do. We know immigrants start more businesses: they always have.



By welcoming them, we've been rewarded with a brilliantly diverse community of entrepreneurs and innovators. They aim to change the world, and they've found New Jersey a great place to do it. That's why I wrote this piece: to invite you to join them.

INNOVATION: FINDING THE ADDED DIMENSION.

DR. SIMIN CAI, CEO, GO!FOTON CORPORATION



"Innovation begins with the perception of a previously unnoticed additional dimension in a given frame of reference. It results from grasping a property of the status quo that's been missed, and then following through on this changed awareness to implement either a solution to a problem or an enhancement of value," explains Dr. Simin Cai, CEO of Go!Foton. "The change may sometimes be a small one, but great innovations are capable of creating orders-of-magnitude improvements. In either case, though, innovation emerges from seeing the same things everyone else sees, but imagining them from a newly found and completely different perspective that animates a crucial insight."

He picks up a pencil. "If you look at it, most people will see a long, thin yellow object, a geometric line. But if there is a hole on the table and you want to drop the pencil through the hole, this 'line' perspective of the pencil would prevent you from doing so. If on the other hand you stare at the pencil from the point head on, it's just a dot, a geometric point. This 'point' perspective will enable you easily to drop the pencil into the hole."

"Einstein's Special Relativity adds the time dimension to three-dimensional space and explains why wave-based light can propagate in a vacuum, an enigma that could not be understood in Newtonian mechanics. And his theory of General Relativity takes a further step by asserting that this four-dimensional space-time is not flat but actually curved, thereby reconciling Special Relativity with the Newtonian Theory of Gravity."

Company innovations are driven by this intuition of an added dimension. Go!Foton's PEACOC® High Density Fiber Management Platform is an award-winning solution for the growing epidemic of connection clutter faced by central offices and data centers as accelerating demand for broadband access and bandwidth necessitates continuing densification of optical fiber in the network. Representing a revolutionary advance for both inside and outside plant physical architecture, PEACOC (Platform with Enhanced Access for Compact Optical Connectors) enables telecom operators to navigate the densification-induced chaos of optical connectivity by directly addressing a multiple challenge that has vexed the industry for years: namely, how to enable human fingers, often stout and sometimes clumsy, to manipulate flawlessly the tightly-packed connections between delicate cables of optical fiber (itself sometimes as thin as a human hair) without interrupting traffic and without using special tools in the field, while minimizing the footprint of equipment-filled racks and cabinets through which the cabling must be routed. Go!Foton answered these challenges by adding another dimension to traditional fiber patch panels, allowing the connection ports to spread out like the feathers of a peacock so that even the largest hands can switch connections quickly and efficiently.

Another example of Go!Foton's instinct for effective and pragmatic innovation is provided by the company's SELFOC® lenses. These lenses feature a gradient refractive index of the glass medium, enabling lensing power with flat surfaces instead of the curved surfaces required for lenses with a uniform refractive index. The flat geometry of the SELFOC lens confers significant advantages for end users: it not only facilitates the mounting of the lens, but also permits applications requiring multiple lenses and/or optical filters to be attached together or to an optical fiber. Such applications include small form-factor optical communications devices and insertable medical probes.

Dr. Cai even applies his model to economics. "For healthy and sustainable growth, innovation itself is the added dimension. Go!Foton is one of many companies in New Jersey following proudly in the footsteps of Edison, Einstein, and other science and technology pioneers from the Garden State. With its rolling hills, extensive shoreline, and dense forests, New Jersey has always been a wonderfully three-dimensional place. Our mission at Go!Foton is to Bring Light To Life and add a dimension by contributing as much as we can to the vitality of this great state through innovations in optics and photonics."

Dr. Simin Cai has served as CEO of Go!Foton since 2009, when he founded the company after leading a management buyout of NSG Group's telecommunications business. Prior to joining NSG, Dr. Cai worked for several startup optics and optical instrumentation companies before participating in the founding of Avanex, now part of Lumentum. Dr. Cai received a BS degree in Applied Physics from Shanghai Jiao Tong University in Shanghai, China. He has a Master of Engineering degree in Engineering Optics and a PhD degree in Physics, both from Stevens Institute of Technology in Hoboken, New Jersey.

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THERE ARE THREE FACTORS THAT DETERMINE YOUR SUCCESS—LUCK, INTELLIGENCE, AND HARD WORK. YOU CAN'T DO ANYTHING ABOUT THE FIRST TWO. IF YOU WANT TO BE SUCCESSFUL, THE ONLY THING YOU CAN CONTROL IS HARD WORK.

JASSI CHADHA, PRESIDENT & CEO, AXTRIA





When I founded my first company, nearly twenty years ago, I had little knowledge of starting a business, but I knew that hard work was part of the equation. While I was studying at the Indian Institute of Technology, I sought entrepreneurial role models who I could emulate and who could help me discover my strengths and weaknesses. One of these role models gave me wise advice; simply put: "You need to be the hardest working person in the industry." When I found myself in the CEO chair and being recognized as one of the NJBIZ "Top Forty under Forty," I was living this advice! As I faced obstacles, such as hiring the right people, growing revenues, and funding a company, I discovered that the factors that determine your success are luck, intelligence, and hard work. You can't do anything about the first two. If you want to be successful, the only thing you can control is hard work.

Through hard work, I discovered that life sciences as an industry had, and has, an enormous opportunity to improve operational efficiency, product sales, and most importantly, better healthcare outcomes for patients. It was these opportunities, specifically the vision to improve commercial operations, that I founded Axtria on in 2010. Axtria began generating unique market value with offerings across three different capabilities—including a full business consulting suite, cloud technology, and advanced analytics—enabled by platforms specifically built for the life sciences industry.

Technology innovation has been a key component of Axtria's success, and our ability to combine that technology innovation, domain experience, and analytics has been a winning differentiation. I firmly believe that innovation should be a key part of a company's DNA. With innovation and creative thinking, problems can be solved strategically and differently, which results in tremendous efficiencies and growth.

Jassi currently serves as Axtria's President and CEO. Previously, Jassi was the co-founder and CEO of marketRx, which was acquired by Cognizant Technology Solutions. Under his remarkable leadership, Axtria has become one of the biggest global players in the life sciences industry.

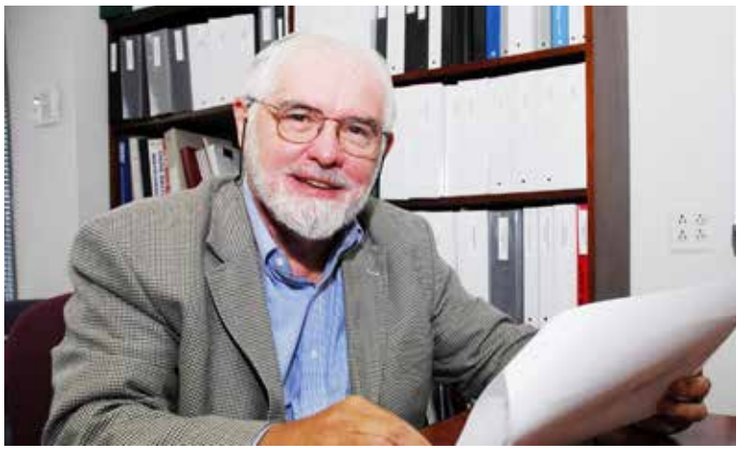
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AXTRIA
INGENIOUS INSIGHTS

LEMONS RIPEN IN ABOUT TWO YEARS; PLUMS TAKE ABOUT SEVEN.

DR. WAYNE TAMARELLI, PRESIDENT, AWT PRIVATE INVESTMENTS

AWT Private Investments



As a CEO, entrepreneur, private company owner, and public company officer, Dr. Wayne Tamarelli's 40+ years of experience have encompassed general management, entrepreneurship, new ventures, mergers and acquisitions, and many more. He also has investments in several wine industry businesses.

His primary business activity is as a professional venture capital angel investor. He specializes in value-added investments in early stage technology businesses. He is also a limited partner in several venture capital funds active in these areas. Dr. Tamarelli is Founding Chairman of Jumpstart New Jersey Angel Network and a member of the Band of Angels in Silicon Valley.

At the beginning of my career, I began a love affair with innovation inspired by Einstein, the space program, the pharmaceutical revolution, plastics, and alternative energy, among others. I served as Project Leader of New Ventures for Exxon, as Senior Vice President of the Engelhard Corporation and managed billion-dollar groups of worldwide businesses. In 1983, I purchased Dock Resins Corporation in a leveraged buyout and successfully grew its revenues and profits as Owner, Chairman, and CEO.

But before all that, I was a Professor and National Science Foundation Fellow at Carnegie-Mellon University, and then Captain in the US Army Corps of Engineers. I hold BS, MS, and PhD degrees in engineering from Carnegie-Mellon University and an MBA in marketing and international business from New York University.

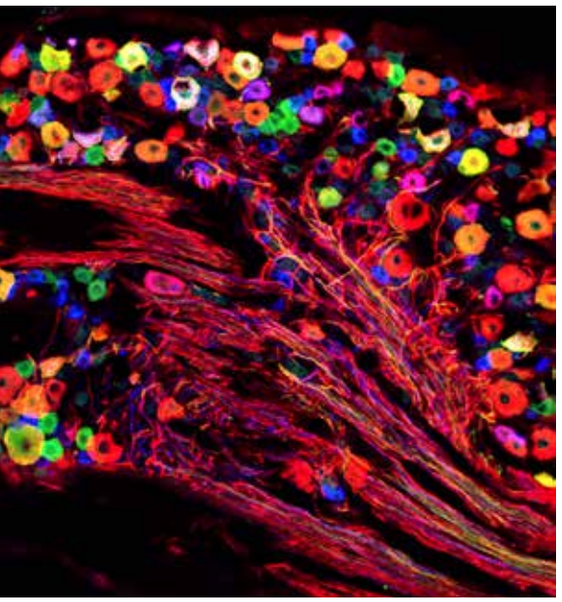
My time in each of these capacities has taught me so much that it's hard to distill it. But if I had to try, these are my lessons learned:

- Trends in Angel Investing include more formalization of the investigation and funding processes, more angel groups, and more syndication among angel groups and other early stage investors.
- The biggest competitor for startups is Non-Adoption due to customers having other priorities.
- The lead investor is the key to any investment deal. There are different skills needed for leading investment deals versus following as investor. At AWT, we do both.
- Angel investing is a marathon, not a sprint.
- Follow-up financing is difficult. Many startups fail to get follow-up financing in order to cross the Funding Chasm.
- Investors need to keep "dry powder" to help promising companies raise their valuations.
- Companies should be able to get introduced to investors, rather than making cold calls that have very low probability of success.
- Many of the best companies bootstrap and wait for better valuations before major fundraising.
- Lemons ripen in about two years; plums take about seven.
- To get home runs, you have to invest in a lot of mediocre deals and some losers. Judging which will be which beforehand is hard.
- Fools rush in where angels fear to tread. Angels invest where institutional VC funds and banks fear to tread.

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INNOVATION AT THE EDGE.

ELIZABETH GOOD CHRISTOPHERSON, PRESIDENT & CEO, THE RITA ALLEN FOUNDATION





(Photo: Andrea Kane).

We are living in a golden age of scientific discovery. In medicine, astrophysics, computer science, life sciences, and many more fields—monumental advances are announced so often that it feels familiar. These breakthroughs are accelerated by technologies that support communication and collaboration around the world, bringing together the brightest minds to solve our deepest questions about how the world works. Science, communication, and collaboration are also key to addressing our most pressing social issues—from feeding a growing global population to weighing the ethical implications of gene editing.

Our ability to build a healthy, secure, and prosperous future hinges on our ability to innovate and collaborate, strategically and rapidly, and to ensure that the fruits of that innovation have widespread and inclusive benefit.

At the Rita Allen Foundation, we see the power of bringing together unexpected partners to spark new ideas throughout our work. The Foundation functions as a philanthropic lab, promoting breakthrough solutions in science and civic life. Creativity, risk, and learning through experiments and prototypes are central to our work.

Our philanthropic lab draws inspiration from the scientists we support. For more than 40 years, the Rita Allen Foundation Scholars program has supported outstanding early-career biomedical scientists as they pioneer discoveries in the fields of cancer, immunology, neuroscience, and pain. The program has supported more than 175 Scholars, including scientists who went on to receive the Nobel Prize in Physiology or Medicine, the National Medal of Science, the MacArthur Fellowship, and the Breakthrough Prize in Life Sciences.

Andrew Fire, a 1989 Rita Allen Scholar, won the Nobel Prize in Physiology or Medicine with Craig Mello for their discovery of RNA interference, a cellular system that silences gene expression. Since then, RNAi has been used to identify gene function, develop disease-resistant crops and better biofuels, and more recently to prevent illness, including a common respiratory disease.

Other Rita Allen Scholars have made essential progress to understand and confront antibiotic resistance, launch the CRISPR gene editing revolution, harness the immune system to fight cancer, and find new pathways to prevent chronic pain.

The advances of Rita Allen Foundation Scholars show the innovations that emerge from supporting talented people with big ideas. With lessons from supporting basic science, we expanded to pull together and support innovative problem-solving teams working to strengthen informed engagement in science and civil society. We are building civic teams with members drawn from science, journalism, social entrepreneurship, philanthropy, and more.

For example, our grant partner First Draft is a nonprofit coalition combating the growing threat of misinformation worldwide. It brings together newsrooms and academic researchers, technology companies, and fact-checkers. First Draft has shown that by coming together, competing newsrooms can improve their reporting and increase trust among audiences.

We are also convening diverse leaders across multiple fields to connect science and society in powerful new ways. We are designing a new Civic Science Fellowship as a learning lab for rising stars from fields including journalism, social science, philanthropy, biomedical science, technology, media, and science education as they create a series of prototypes with host organizations working to strengthen connections between science and diverse communities. Our shared goal is to create a culture of civic science—where science is accessible to all as a tool for problem-solving and discovery.

The New Jersey spirit of innovation runs deep in the Rita Allen Foundation. Ultimately, curing cancer and chronic pain, defusing misinformation, or ensuring that science is accessible for all requires us to seek new approaches and new coalitions. Addressing complex societal issues in the long-term means bringing together problem-solving teams with diverse experiences and perspectives to test and discover better solutions. Innovation often begins when we gather together at the edge of the known.

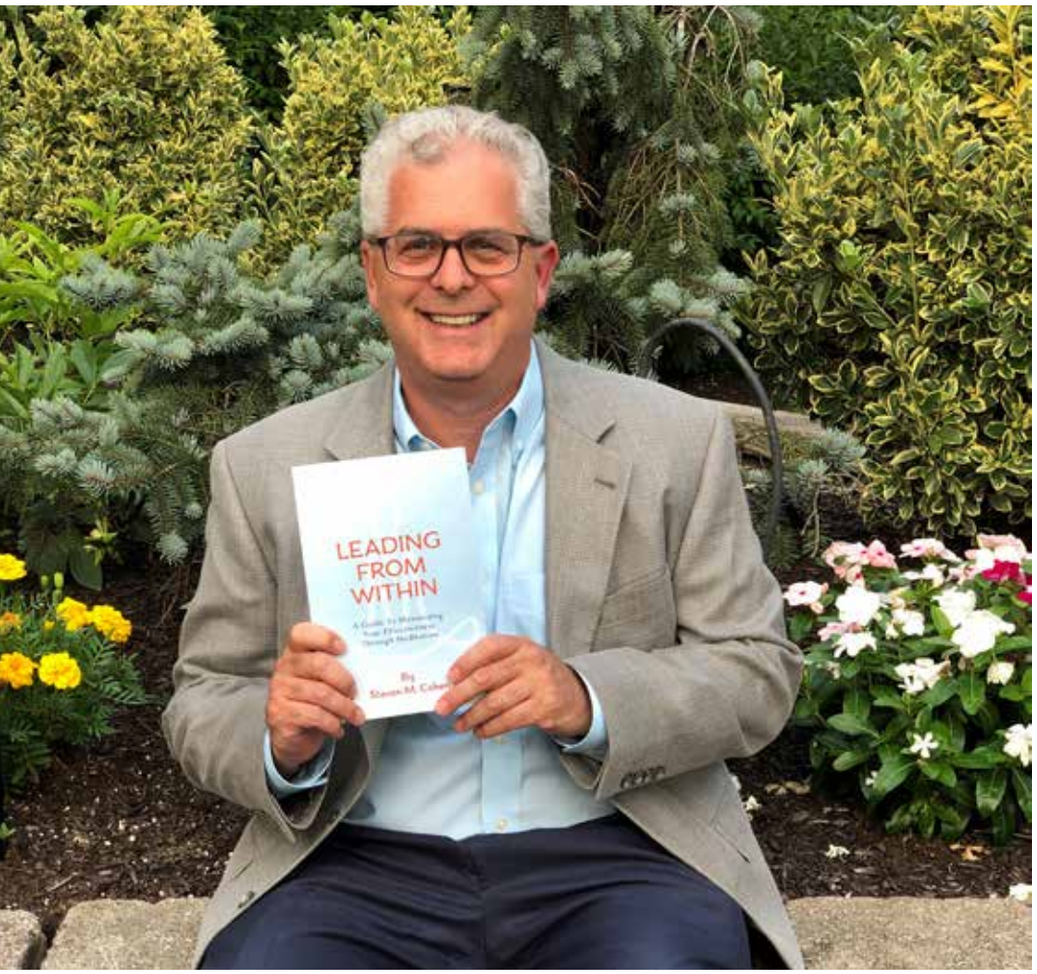
Elizabeth Good Christopherson is President and CEO of the Rita Allen Foundation. Throughout her career she has served New Jersey's diverse communities through leadership in public media, the arts, and service on many boards, including the New Jersey Tech Council.

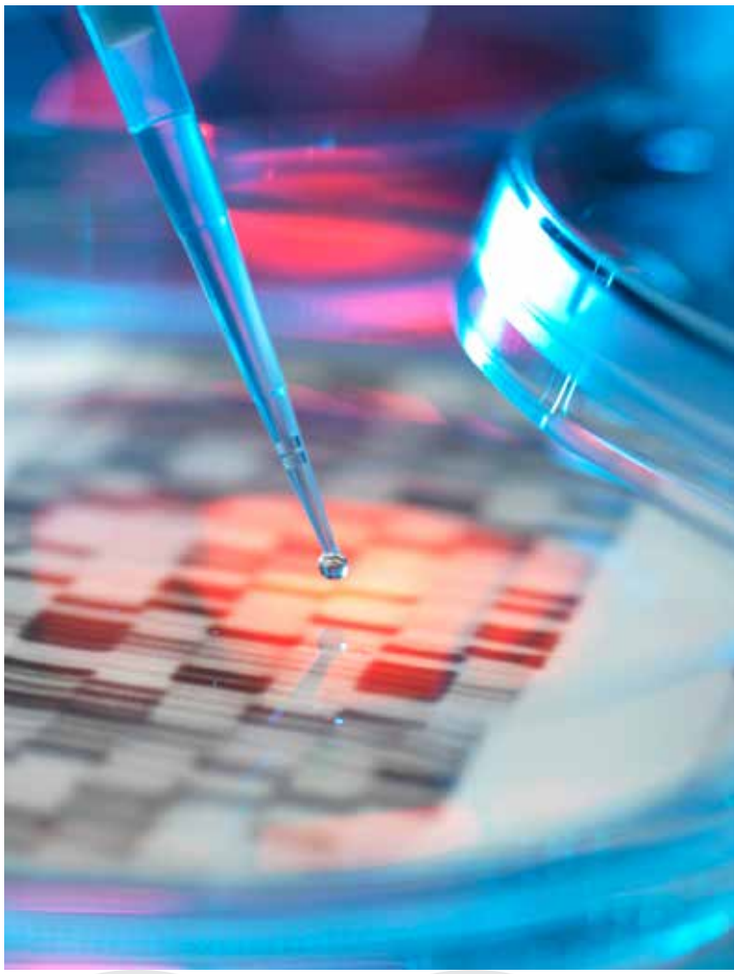
RITA ALLEN
FOUNDATION

ritaallen.org

WE ADVISE THE ROUTE 1 CORRIDOR AT EVERY STAGE IN THE BUSINESS LIFE CYCLE.

STEVE COHEN, MANAGING PARTNER, MORGAN LEWIS





Managing partner of Morgan Lewis's Princeton office, Steve Cohen advises entrepreneurs, private equity investors, and venture capital funds in New Jersey and throughout the East Coast on a variety of critical business transactions. His clients include mid-Atlantic region investors and emerging growth companies in the technology, life sciences, chemicals, consumer products, digital health, and fintech industries considering equity financing transactions, mergers and acquisitions (M&A), divestitures, initial public offerings (IPOs), joint ventures, and international strategic partnerships.

In the 2018 and 2019 *Chambers US guides*, clients and peers recognize Steve's diverse practice and his role in many significant transactions. Referring to him as one of the "true biotech veterans," they praise him for an "incredible sense of caring" and characterize his ability to help young companies navigate the market as "extremely valuable."

With a knack for creating connections between investors and entrepreneurs, Steve is the chair of the firm's emerging business and technology practice. In this role, he helps develop and implement growth strategies, working with companies throughout their entire life cycle. Steve lectures frequently on emerging technology topics such as planning profitable exit strategies, obtaining angel and venture capital financing for early-stage companies and business leadership.

A dedicated meditation practitioner and advocate, in 2019 Steve released a book on the benefits of meditation for professionals. *Leading from Within: A Guide to Maximizing Your Effectiveness Through Meditation*, takes the wisdom of 13 business thought leaders, identifies 13 universal traits of effective leaders, and pairs them with a variety of meditation techniques that readers can apply to their own lives.

Morgan Lewis

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AS OUR OWN INNOVATOR THOMAS EDISON ONCE SAID: 'VISION WITHOUT EXECUTION IS HALLUCINATION.'

MICHELE N. SIEKERKA, ESQ., PRESIDENT & CEO, NEW JERSEY BUSINESS & INDUSTRY ASSOCIATION



Our vision statement ensures we will never lose sight of our innovation goal: "New Jersey will reclaim its stature as the Innovation State."

To be sure, New Jersey has a rich history of innovation dating back to our glory days of the 19th and 20th centuries when discoveries made in the laboratories of Thomas Edison and Alexander Graham Bell revolutionized how the entire world lived, worked, and played.

Unfortunately, New Jersey's status as an innovation leader eroded over time. But I'm proud to say NJBIA has been leading the effort to return our innovation ecosystem to national prominence.

Why is this important? Because New Jersey still brings so much to the table. We have the right mix of private capital, renowned universities, highly educated talent, rich cultural diversity, and an ideal location to successfully hatch and groom tech startups.

Melding these assets together within a regional innovation ecosystem brings the type of economic, cultural, and social dynamism that attracts investment. And it gives New Jersey a better chance to retain its younger workforce.

How do we do it? By having played a key role in the establishment of the Innovation New Jersey Coalition and advocating for the re-establishment of the State Commission on Science, Innovation, and Technology. These initiatives are aimed at encouraging collaboration between business groups, trade associations, higher education, and government, and fostering a national reputation as a high-tech economy.

In 2019, we also released our widely utilized "Indicators of Innovation" report to gain a tactical understanding of where New Jersey is currently positioned in the innovation sector within our highly competitive region.

These are the steps needed to advance in this critical space. As our own innovator Thomas Edison once said: "Vision without execution is hallucination."

NJBIA
New Jersey Business & Industry Association

For a Business Like Mine

msiekerka@njbia.org
njbia.org



Michele N. Siekerka, Esq., President and CEO of the New Jersey Business & Industry Association, leads the nation's largest, most influential employers' organization, advocating on behalf of New Jersey's large and small businesses for policies that will make New Jersey more affordable and regionally competitive. She has been at the forefront of efforts to build more effective workforce development alliances in New Jersey between academia, business, and government.

I SURROUND MYSELF WITH PEOPLE THAT HAVE THE ABILITY TO LEARN FROM THE PAINS OF GROWING A COMPANY, THE CLARITY TO ENVISION OUR FUTURE, AND THE CHOPS TO TAKE US THERE.

RON GABOURY, CEO, YORKTEL & CAREGILITY



As the CEO of two technology companies, I have the distinct honor of leading a group of highly talented and passionate individuals across both organizations. One of the biggest lessons I've learned along the way is that building the right team can be a force multiplier when it comes to the success of any company. The challenge, however, is that it takes time and patience to find the right people for the right positions. And when you do find the right people it takes confidence—or maybe nerves of steel—to give the necessary latitude to allow them to be successful.

It's not enough to find people who can do the job as well as you can—they need to do it better. Why? Because as CEO, I've realized that surrounding myself with true leaders prevents me from being a bottleneck to their progress. It frees me from feeling responsible for detail decisions across all divisions, because I can now hand these decisions over to a trusted employee.

Creating a team that is more than the sum of its parts has generated a self-awareness that extends beyond the corporate boardroom. I've learned that I need to be mindful of the role the larger group ego plays in any company effort, and how to harness the talents of my team to counter my own shortcomings. I've learned to let go of the day-to-day decision-making and trust my team to make the right choices. This ability to let go and let them shine on their own has freed me up to focus on overall shareholder value and to prioritize making our corporate mission and vision for both companies a reality.

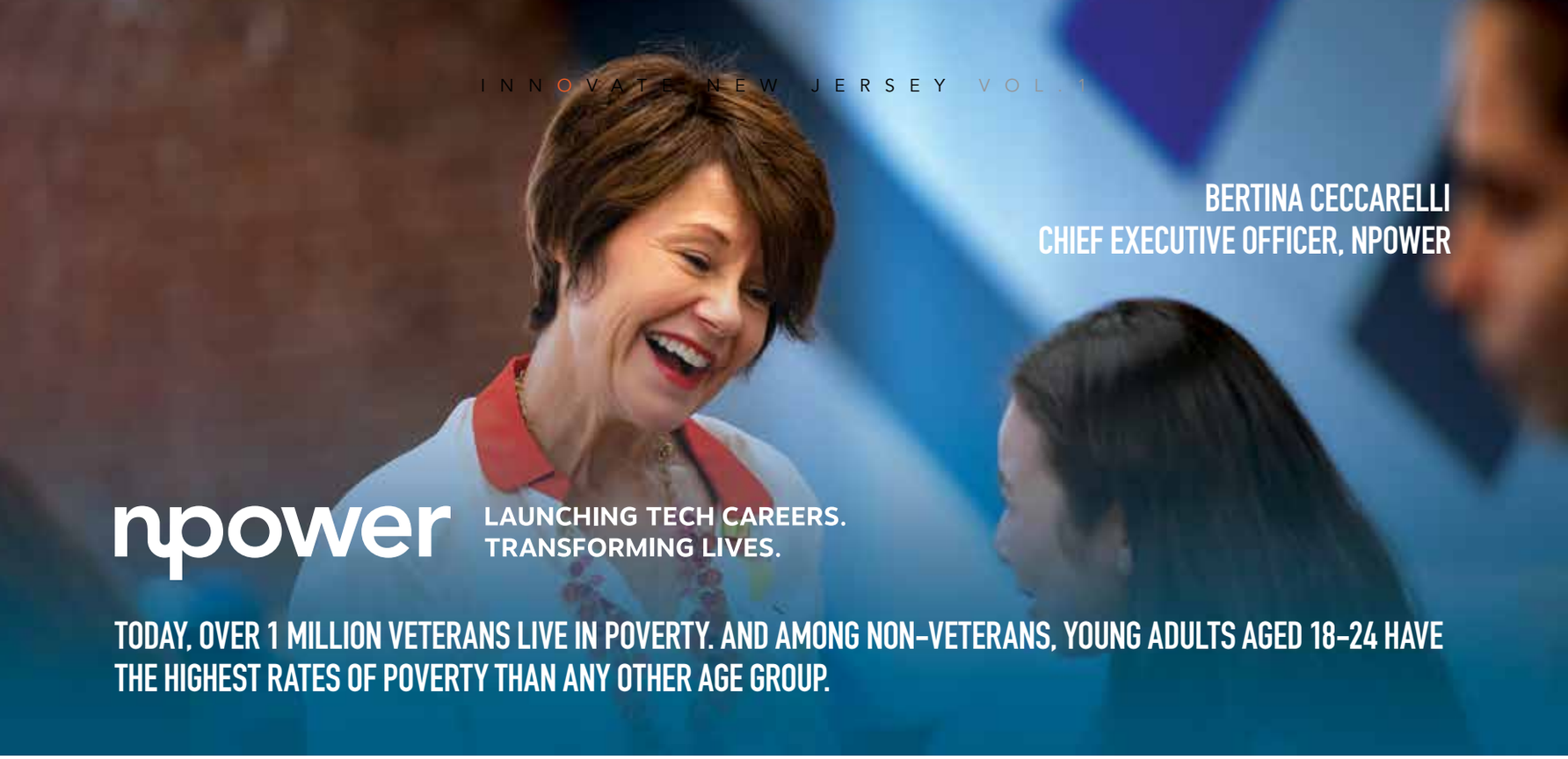
For me, this has been the path to success. Surrounding myself with people that have the ability to learn from the pains of growing a company, the clarity to envision our future, and the chops to take us there.

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BERTINA CECCARELLI
CHIEF EXECUTIVE OFFICER, NPOWER

npower **LAUNCHING TECH CAREERS. TRANSFORMING LIVES.**

TODAY, OVER 1 MILLION VETERANS LIVE IN POVERTY. AND AMONG NON-VETERANS, YOUNG ADULTS AGED 18-24 HAVE THE HIGHEST RATES OF POVERTY THAN ANY OTHER AGE GROUP.

NPOWER IS A PREMIER TECH TRAINING NONPROFIT ON A MISSION TO BUILD PATHWAYS TO PROSPERITY FOR OUR STUDENTS.

At NPower, we are all about ACTION. We meet young adults and veterans where they are. We surround them with coaching, support and love, and they commit to a rigorous 23-week tech training and internship program. We identify and develop resilient talent who become amazing employees at Fortune 100 companies. In the process, we are transforming lives, families, and communities.

Our proven model provides FREE training for the technology skills the industry demands, IT certifications and paid internship experience. We engage businesses, volunteers, and nonprofits in the long-term success of our students. Through wrap-around social service support, we remove the social and emotional barriers hindering our students from obtaining these skills. And our ongoing professional development ensures our students are well-equipped to launch and flourish in a career—not just a job.

Our results speak for themselves. Eighty percent of our graduates land a job in tech or decide to continue their education. Our students are among the most diverse in the industry. 74% of our graduates are Black or Latinx, 30% are women and 40% are veterans. NPower's non-traditional talent is the solution to diversifying your workforce and addressing the domestic tech skills gap.

74% BLACK / LATINX **30%** WOMEN **40%** VETERANS

Quster Bicar is a young mother who was looking to make ends meet for her family, working as a cashier. After completing her Tech Fundamentals training and obtaining her ITF+ and ITIL certifications, she obtained a life-changing opportunity with Verizon as a UX Designer. She has transformed her life through hard work, dedication, and assistance from NPower.

"I knew that I wanted a career in tech but didn't know how to pursue it. I found NPower! Without NPower, I probably would still be working a dead-end job, barely making ends meet, but now I am a UX designer. I am forever thankful!"

QUSTER BICAR
NPOWER GRADUATE
SYSTEM ENGINEER,
VERIZON



For more information about NPower:
Contact: **info@npower.org**
npower.org/new-jersey

npower.org

AT ZELIS, WE ARE PASSIONATE ABOUT WORKING TO REDUCE THE RISING COST OF HEALTHCARE IN AMERICA.

DOUG KLINGER, FOUNDING CEO & MEMBER OF THE BOARD OF DIRECTORS, ZELIS



On a Mission

At Zelis, we are passionate about working to reduce the rising cost of healthcare in America. We are on a mission to help make healthcare more affordable and more understandable for all of us.

We partner with healthcare payers and providers to connect consumers with providers; to ensure claims are appropriate to pay; to enable efficient, effective electronic payments; and to ensure clear, understandable provider and consumer communications.

We use a disruptive pre-payment approach, applying claims cost solutions before a claim is paid to ensure claims are paid appropriately the first time around. We are proud to have helped more than 700 payers save more than $27 billion in network and claims cost since inception; and to have delivered more than $50 billion in annual payments to more than 700,000 contracted providers on behalf of 330+ payer clients, and more than 500 million payment data communications annually.

Guiding the Company's Success

Doug Klinger is Founding CEO and a Member of the Board of Directors of Zelis, a healthcare and financial technology growth company and market-leading provider of claims cost and payments optimization solutions to price, pay, and explain healthcare claims.

Doug has been at the helm of Zelis since it was formed in 2016 by combining four market-leading healthcare and financial technology companies. Doug led the integration of the companies, leveraging entrepreneurial spirit while enabling the companies to scale by leveraging capital, advanced technology, national brand, and distribution. Zelis is built on a foundation of Strong Operations, Strong Financials, and Strong Culture.

With 20 years of experience leading growth companies in the healthcare, financial services, internet, and enterprise software sectors, Doug has helped enable Zelis to reach an ever-expanding market nationwide.

Doug has guided Zelis' rapid development into a market-leading provider of claims cost and payments optimization solutions. Zelis has acquired 10 assets to-date and been repeatedly recognized as one of the fastest-growing companies in New Jersey and a member of the Inc. 5000.

Doug enabled the launch of Zelis Gives Back, an enterprise-wide initiative to support volunteerism and philanthropy by Zelis associates, clients, partners, and investors. Zelis Gives Back includes a Volunteer Time off program to enable Zelis associates to take paid time off to volunteer in their communities.

Doug is an EY Entrepreneur Of The Year® award winner and has been recognized as a Power 50 Healthcare Leader by NJBIZ.

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EXPERIENCE ONE OF NEW JERSEY'S MOST INNOVATIVE UNIVERSITIES.

DR. SUSAN COLE, PRESIDENT, MONTCLAIR STATE UNIVERSITY

New Jersey has long been a destination for talented and ambitious people from all over the world. Its highly diverse population is a rich opportunity for employers, and Montclair State University plays a robust role in providing that population with an excellent higher education in a wide range of fields, with strong and culturally competent communication skills, and workforce readiness.

Over the past 20 years, Montclair State has transformed itself into an important public research university, doubled its enrollment, launched more than 80 new degree programs, hired hundreds of new faculty members, built housing for thousands of students, and added millions of square feet of state-of-the-art instructional and research facilities.

As the state's second largest university, its 21,000+ students reflect the demographics of New Jersey, with more than half coming from underrepresented groups, reflecting the full economic and ethnic spectrum of the state.

While providing an extremely strong base of programs in the liberal arts and sciences in 250 major fields of study from Philosophy to Chemistry and from Education to Nursing, the University also continues to stay at the forefront of emerging fields of study, with recently introduced degree programs in computational linguistics; cybersecurity; data analytics; social research and analysis; language, business and culture; medical humanities; applied mathematics; communication and media; professional writing; product design; and animation and illustration.

Montclair State has done all this while keeping our tuition affordable, providing a welcoming and supportive environment for students, and offering an institutional culture that values partnerships and collaborations with the business community, government, and nonprofit organizations. The University has developed a streamlined management structure and has made effective use of innovative public-private partnerships to build student housing, improve athletics facilities, construct a train station and parking structures, and replace an outmoded energy infrastructure with a highly efficient power plant and microgrid that saves millions of dollars a year and is a national model for campus energy management.

We are always seeking new partners and collaborators. I invite you to visit our beautiful 252-acre campus, where you can enjoy an unrivalled view of the New York City skyline just 12 miles away and experience the excitement of one of New Jersey's most innovative universities.

MONTCLAIR STATE UNIVERSITY

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CRACKING THE CODE: FINDING THE PASSION TO TRANSFORM.

CHAYA PAMULA, PRESIDENT & CEO, PAMTEN



I've always believed that, with anything you do in life, it's important to find your passion. Once you find that passion and set short- and long-term goals, you can transform your dream into a reality. Today's technology gives us the unique opportunity to find and follow our path in more diverse and interesting ways. This allows transforming the workplace, business, and lives on a global level. My passion for technology drove me to co-found PamTen with my business partner, Prasad Tenjerla. PamTen is a place where creativity and innovation are key ingredients to PamTen's success. We instill and encourage curiosity and create a challenging and rewarding environment for our employees. Both our employees and clients take pride in being associated with our company that has a greater purpose.

As our business is growing, we are hiring more skilled people. We observed that there weren't many women applicants for these tech positions. As we researched further, we learned that women only represent 25% of the tech field. Here I am, a successful woman in the technology field. Why aren't there more women in this field that I love? I felt a strong need for increasing the pipeline of talented women. This led me to start our new initiative—SheTek. Its mission is to support women entering the technology field with mentoring, training, and job opportunities.

PamTen is created around the core purpose of giving back. We do this through SOFKIN (Support Organization for Kids in Need) which is a nonprofit that I established over a decade ago to help underprivileged, destitute children in India. We do more than just provide basic amenities—we create loving and caring homes. The children are treated no different than our own children. They are provided value-based education in a secure and encouraging environment that enables them to realize their dreams. PamTen not only provides financial support to SOFKIN, it is also a creating a platform for internships and job opportunities for these children. Both our employees and clients join us in transforming their lives, which gives us all a sense that the world can be a better place.

Through our CSR initiatives, we also provide internships to local university students and participate in many local community programs.

I grew up in a strong community, learning from diverse cultures. This understanding of diversity helped me build and maintain strong business connections. The importance of building connections led me to conceptualize and develop our product, BizLigo (formerly ConnectPro Global), a vibrant community and collaborative platform, which helps businesses to connect, collaborate, and grow.

It's through technology and support of our clients, employees, and business associates that this all comes together. Having a passion to help businesses through technology solutions and supporting women and children has been the driving force behind my success with these initiatives—PamTen, SOFKIN, and SheTek.

Chaya Pamula is the President and CEO of PamTen Inc, a global technology company which she co-founded in 2007. She co-developed the SheTek initiative to encourage and empower women in the technology field. She is also the founder of SOFKIN (Support Organization for Kids in Need) which provides caring, nurturing home to over 100 destitute children in India. She has won numerous awards and is often a speaker at local and international conferences. Her positive approach, energy, and creativity propelled her towards achieving the challenging goals she had set for herself.

PAMTEN™
DRIVEN TO TRANSFORM

chaya.pamten.com
shetek.net
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VALUES FOR A CLIENT-CENTRIC, TRUSTWORTHY BUSINESS

RICHARD GEARHART, ESQ., FOUNDING PARTNER & OWNER

INTEGRITY, CRAFTSMANSHIP, ENTREPRENEURISM



After nearly 30 years of practicing intellectual property law, I've identified three company values that generate trust and are fundamental to a good business relationship.

Integrity: At Gearhart Law, we feel that our clients deserve to be treated with respect and honesty. The firm keeps their best interests in mind when helping to formulate IP strategies, and will advise on the chance of success before the project is started. Our main concern it creating an environment of trust with our clients, treating them in such a way that they feel trust in us is warranted.

Craftsmanship: The Gearhart Law team has a wide range of expertise across a number of technologies, and a depth of knowledge and experience that is applied to every Intellectual Property matter that our clients present to us. Our expertise and knowledge in working with the United States Patent and Trademark office, and with our associates in other countries, allows us to give our clients outstanding service.

Entrepreneurism: Richard started Gearhart Law as an entrepreneurial venture, and over the past thirteen years the firm has grown and thrived. Richard was approached by iHeart Media in 2018 to create and launch a weekly radio show and podcast for entrepreneurs. A year later, the show has featured over 200 speakers and entrepreneurs.

"An effective Intellectual Property strategy is a sound foundation for any business. At Gearhart Law we help you build a custom IP strategy that best protects your business. From patents to trademarks to copyrights and trade secrets, we've been helping entrepreneurs since 2006." —Richard Gearhart

GEAR HART LAW

PASSAGE TO PROFIT
MOVING IDEAS

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LOGIC AND HISTORICAL PATTERNS WIN OUT OVER TIME, IF YOU CAN KEEP A COOL HEAD.

RONALD SALA & DAN HERNANDEZ, SENIOR FINANCIAL REPRESENTATIVES



Money and emotion are uneasy bedfellows. Back in 2007 and 2008, the markets were getting hammered. It was an emotional time for people. The lesson we learned in a big way was that it was our ability to separate these two things, money and emotion, that saved us, and saved our clients.

In '07 and '08, the market went down close to 60% in a 15-month period. People's beliefs got shaken. Anyone who invests money is taught that the market does good long term and to stay the course in rough weather. But that's easier said than done, and we had to work with what clients could tolerate. We were having conversations where clients were down 30%, 40%.

That's when having a little bit of distance from the situation becomes key. We were able to think objectively, long term. We invest in good companies—even if the market is down, the companies aren't going anywhere. We could see that when the crisis was over, the market would bounce back. We couldn't know when, but clients who had faith in a long-term vision were most able to minimize their losses.

The period of time around 9/11 was similar, if shorter-lived. After a week, the average person may have been down 15% to 20%. A cataclysm like that changes a lot about the world. But it doesn't change everything. What it doesn't change is this: Coca-Cola is still in the business of selling soda. But that's easy to forget when you're watching your own account plummet. That's our task—to be able to operate without that emotion.

The flip side is something like the tech boom in the late '90s. Everyone was making money, you could throw dart at a board and pick a winning stock. But like fear, greed is an emotion, and it causes bad decisions, too. You can lose big sums of money if all you're working with is exuberance.

It's the same thing now, with bitcoin and cannabis. Everyone talks about making easy money at parties, but people don't talk about their losses publicly in the same way—people don't say they bought bitcoin and it went down 80% at a party. You have to be smart.

All of this is true on a smaller scale, too. Widows sometimes come to us very soon after their spouse has passed, and want to try to sort everything out, but they're often not in the best place emotionally to do that. We encourage them to grieve before turning to their finances.

A less intense, but much more common example: we specialize in retirement planning, and people these days have to provide for themselves more than ever before. Your job and the government are doing less than ever for you. That's stressful. We help take the stress out of it.

We see the big picture. You know, as horrible as 2007 and 2008 were, four to five years later, the market rebounded, and overall market growth in the last ten-year period is well within the historical norm of 6-7% growth a year. That's a good lesson. Logic and historical patterns win out over time, if you can keep a cool head. As financial advisors, it's our job to do so.

Past performance is no guarantee of future results.

MILESTONE
Wealth Management

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Advisory services offered through Capital Analysts or Lincoln Investment, Registered Investment Advisers. Securities offered through Lincoln Investment, Broker Dealer, Member FINRA/SIPC. www.lincolninvestment.com. Milestone Wealth Management and the above firms are independent and non-affiliated. 09/19

WE HELP CLEAR THE FOG NO MATTER WHAT THE VARIOUS PUNDITS ARE TOUTING, WHETHER ECONOMIC, HUMAN CAPITAL, SOCIETAL, CORPORATE OR POLITICAL.

RICK DIANA, TRINITAS TALENT MANAGEMENT

The Digital World is a contemporary expression to communicate the importance of digital technology, services and tools to communicate on the Internet, smart devices, the Internet of Things and other digital sources. We are barely entering the early stages of the so-called Digital Revolution and its impact on business is unprecedented. Yet, the pace and volume of business grows daily and the effects are profound. Never before has there been a more powerful influence on human behavior, irrespective of country or culture, than the combined effect of digital technologies. The tremendous effects of this shift on society are dramatically changing our leadership responsibilities whether in politics, business, teachers in school, or parents raising children.

From a worker's perspective the impact is significant. Gone are the days where the previous generation of workers would land a good job, dedicate 30-40 years to a single employer, and retire with a pension and a gold watch. Today, it's forecasted that workers will experience at least twelve or more employers during one's career, whether as a conventional "employee" or alternate engagement routes such as a Subject Matter Expert or Freelancer or Independent as fostered by and through the Gig Economy.

Waltzing into an interview with a resume that states where you earned your college degree will not deem anyone "qualified" for a prospective opportunity. On the other hand, these workers have plenty to tackle with current employment demands, continuous learning choices, plus the pressure to achieve relevant marketability. The expectations to refresh competencies and develop new skills are in full force as existing jobs are being replaced and eliminated primarily due to automation. Many recognize the necessity to take on more extensive upskilling and reskilling to regain marketability. Given the amount of effort and time required to keep an individual's skills sharp, one must embark on continuous learning, in-house training, certification upkeep and other professional requirements such as corporate and social responsibility. These activities are extremely time consuming and undoubtedly creep into the



"day job", much needed leisure and a normal night's sleep. The workday has been extended in duration due to our "always on" work environment. The demands are further fueled by mobile habits and our ever present connected Digital World.

When does the information worker find the time to do the tasks necessary to minimize downtime between work opportunities: tasks such as branding and marketing oneself, resume writing and updating, networking and perfecting interviewing skills? These are just a few of the activities whereby the Trinitas Talent Management team can transform careers via a proven and systematic approach with clear and concise guidance. The outcomes? The first is a robust workforce that is more creative, adaptable, innovative and secure within the expanding digital culture. Second, an executable plan that can pave the way toward consistent and repeatable achievement.

One's financial obligations are a continuous journey. Even when a worker is gainfully employed and earning well, introducing uncertainty during a transition period of unknown duration can still lead to financial, family, and stress related concerns. Trinitas Talent Management is engaged with an array of subject matter experts to enable clients a refreshed view of the Gig Economy and one's rightful place in the Digital World. We help our clients to understand and interpret, on a personal or professional level, what the stated or unstated opportunities could mean in simple terms. We help clear the fog no matter what the various pundits are touting, whether economic, human capital, societal, corporate or political.

People are asking:

- What exactly are alternative income opportunities?
- Can I really monetize my unique skills without relying on a traditional corporate job?
- How might I prepare to diversify my income stream in the event of an economic downturn?
- Is the Gig Economy just a term or something I can leverage for my future?
- How can I better serve others in the Digital World?

Today's record employment numbers will not remain forever. It's up to each individual to craft a game plan consistent with one's desired level of employability and marketability. Trinitas Talent Management is here to help these workers not only survive but thrive in the new digital economy. It's time is to work smarter not harder by putting us in your corner.

TRINITAS
TALENT MANAGEMENT

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THE NEW HEALTHCARE PARADIGM

DR. MICHAEL AVALTRONI, DEAN OF THE FAIRLEIGH DICKINSON UNIVERSITY SCHOOL OF PHARMACY & HEALTH SCIENCES



A recent published study described how in 1950, medical knowledge was on pace to double every 50 years. In 2020, this rate is projected to be 73 days. Healthcare providers, then, have at once a huge set of challenges—and an even larger set of opportunities.

Adapting to this new healthcare paradigm means preparing future practitioners to be something they've never been before. There was a time not so long ago when the healthcare practitioner, was trained to have encyclopedic knowledge of facts—about a disease state, the physiologic underpinnings of how the human body works, and the mechanisms of action for given pharmacotherapies. Today, and more so with each year into the future, the new practitioner needs to understand how to utilize complex concepts and apply them to individual patients with an understanding about how that patient's genetics, history, social and economic status and many other complex factors can be navigated to afford that individual the best possible chance for overall health.

We often talk about the need to educate future healthcare practitioners around five core values that apply regardless of the discipline of practice: Think, Lead, Communicate, Advocate, and Implement. These five non-negotiable attributes are the essentials for a practitioner to deliver high-quality care amidst a complex, changing, evolving environment that poses constraints, challenges with access to care, unprecedented knowledge growth, and complex issues surrounding economic and social limitations.

The attribute "Think"—that is, thinking critically—is an unflagging hallmark of health professionals everywhere, but the new healthcare practitioner must also understand how to leverage technology. This includes tools that provide everything from complex genetic profiling and sequencing, to machine learning algorithms that determine best courses of drug therapy, to how to evolve and develop new treatment methods against diseases once thought incurable.

A practitioner's ability to "Lead" is an equally important skill. Patients need a healthcare team whose members lead efforts to advance care and understand their role on that patient-centered team. A few short years ago, Hepatitis C was managed through a lifetime course of treatment. Today, we are seeing our clinical pharmacy faculty and their students leading efforts to manage its treatment by integrating themselves into patient care and ensuring patients are compliant with their medication regimen, are managing any side effects, are doing necessary follow up, and achieving the outcome of full remission. As leaders, these individuals are having a life-saving impact on patients who otherwise would have had little hope beyond a lifetime of disease management.

Advocacy is of critical and central importance in the new healthcare landscape. As costs rise, so do difficult decisions: ones around reimbursement, payment, and access. Health professionals must advocate not only for their patients but for their professions as well. For example, envision a world where a person could have a chronic disease managed by their pharmacist, who works at a community pharmacy alongside a dietician, social worker, and other practitioners who provide comprehensive care with immediate access on a walk-in basis. 93% of Americans live within 5 miles of a pharmacy, so imagine how much impact this statistic could have if pharmacists can successfully advocate to gain greater access as providers.

Communication is key in the new healthcare landscape for a multitude of reasons, including the changing ways people communicate, society's access to information (and misinformation), and the need for patients to understand what they need to do to adhere to treatment plans and improve their outcomes. It is now commonplace for patients to come in with their own diagnoses based upon what they've read online. Because we live in a "soundbite" generation, it has become critically important to assure that healthcare practitioners can communicate effectively, build trust, garner respect, and convey that respect to their patients. Sometimes a subtle or unspoken message from patient to practitioner is the difference between a positive and negative result. In a similar vein, we must understand what effective and "comfortable" communication—in email conversations, tele-medicine, and others—looks like across cultures, populations, and generations.

To aggregate all of the skills, nuances, traits, and details of each of these into a plan is to "Implement." The advent of personalized medicine means building a customizable and effective care plan that assures cost-effective and high-quality outcomes, producing quality of life for all patients across the continuum of care.

Gone are the days of a one-size-fits-all approach to healthcare. We hope that preparing tomorrow's practitioners to face challenges and turn them into new and exciting opportunities will continue to advance patient care to the benefit of all.

FAIRLEIGH DICKINSON UNIVERSITY
School of Pharmacy & Health Sciences
www.fdu.edu

THE HIGH STAKES OF CYBER INSECURITY.

SEJAL LAKHANI-BHATT, CEO, TECHWERXE



Data is the most valuable asset we have today. Without it, hospital systems wouldn't know what medications patients are taking, financial organizations wouldn't be able to verify the identities of those accessing accounts, and businesses would lose insights that lead to better decisions. Even your personal life is ruled by data. TV streaming platforms, smart home devices, and navigations systems all track your data footprint. Why is that alarming? Because all data can be breached.

The biggest challenge I face as the owner of an information technology (IT) company is educating businesses about the high stakes of cyber insecurity in today's connected world, and what they should be doing to protect their data. I equate IT and cybersecurity to life insurance – it's better to have it five years early than be even one day late. As tech leaders, we need to be at the forefront of this education while simultaneously developing innovative ways to protect data.

I foresee the IT industry not only evolving its technology to outpace sophisticated hackers, but also its traditional business model. IT companies must begin to customize their solutions to offer security services businesses need rather than what they think they need. I encourage my team of experts to go into consultations with companies the same ways doctors do with patients. Assess what needs to get done (diagnose), make the recommendation (prescribe), and take the responsibility of holding yourself and your client accountable to following through with the plan (support adherence).

With New Jersey's close proximately to some of the country's largest companies, IT leaders in the state are positioned to transform data-protection strategies. We are changing the cloud's value proposition, enhancing network stability, and securing and driving technology innovations. This is an extremely exciting time to be in the IT industry and I look forward to being part of how New Jersey contributes to its future. Let's get to work.

TECHWERXE

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THE ALL STARS PROJECT'S PERFORMANCE APPROACH IS A KEY TOOL FOR HELPING INNER-CITY YOUTH AND PEOPLE OF ALL AGES TO GROW AND DEVELOP.

SHADAE MCDANIEL, CITY LEADER, ALL STARS PROJECT OF NEW JERSEY





In 2014, I met—and fell in love with—the All Stars Project and its Afterschool Development approach as a new way of engaging poverty. I have always loved to perform—discovering dance as a teenager and growing up poor in Teaneck was a life-changer for me—and I immediately saw the effectiveness of the All Stars' performance approach as a key tool for helping not only inner-city youth, but people of all ages to grow and develop.

What do I mean by "performance"? Think of early childhood, when the developmental power of performance is on full display: young children are enthusiastically supported to play, to pretend, to imitate—to perform—what they don't know how to do. It is how we all learn to speak, to walk, and so much more. As children get older, play, performance, and pretending all give way to more "scripted" expectations. This can be especially devastating for inner-city youth who, without the support to perform and try new things, can get locked into narrow, negative, and potentially dangerous roles.

Many of the young people we work with are in survival mode. So, to be able to partner with them in creating a space in which they can perform outside of their daily life experiences—with boldness and creativity—is a source of constant inspiration and joy.

Across the Garden State, a new coalition of business, civic, and community leaders, and front-line practitioners, academics, and other caring adults is enthusiastically joining our young people to create a New Play for New Jersey. I am honored to be working with thousands of people from all walks of life who share our commitment to break the cycle of poverty and create a more inclusive New Jersey.

At All Stars, everyone performs—and everyone grows! I invite you to join us.

Shadae McDaniel MSW is the City Leader of the All Stars Project of New Jersey. She received her BA from Howard University and MSW from Rutgers University. Over the last 15 years, she has worked with thousands of inner-city youth in the New Jersey nonprofit sector.

ALL STARS PROJECT OF NEW JERSEY

AllStarsProject
all-stars-project-inc-
allstars.org



TRUST AND EMPATHY ARE THE FOUNDATIONS TO A SUCCESSFUL PARTNERSHIP.

CHRIS SUGDEN, MANAGING PARTNER, EDISON PARTNERS

At Edison Partners, we believe that there's no stronger relationship than the one an investor has with an entrepreneur and the management team. Trust and empathy are the foundations to a successful partnership.

There's a reason for that. Mutual understanding is the prerequisite for a great outcome.

You each must work hard to deeply understand one another's goals—which can seem at odds sometimes—as you navigate the growth-to-exit journey together.

Great entrepreneurs often have a vision bigger than money, which is a good thing; you can't change the world without an idea. But that sometimes means an entrepreneur feels like an investor can be too focused on the financials. Entrepreneurs have to understand that we also have a responsibility to our investors.

There's a story I like to tell about Flint Lane, CEO of Billtrust. We were about four years into our investment of Billtrust. Flint and I have a very tight relationship. I was on their board and we knew each other for a long time before Edison invested.

One morning Flint sits me down in a diner, looks across the table, and asks me pointedly, "So is Billtrust no longer important to you?"

I nearly spit out my coffee. "What the hell are you talking about?" I replied.

Flint continues: "You know what, Chris? For four years, you were my go-to and you had lots of time for me. But in the last six months, it feels like you just have other things you're up to. And I can never seem to get enough of your time. And your time is really important to me."

Flint's questioning started with the punch in the nose, but then he—smartly—backed off. What he was really saying: "Because I value your feedback so much, I'm making this statement. Not because I want to tell you I think you're a jerk."

I tell this story to younger members of Edison's team as an example of a healthy relationship. Trust and candid communication are critical to a productive board, investor, and management team relationship. The investor–entrepreneur bond outlasts a lot of marriages; so does your part to keep it healthy.



And Flint? He's still the CEO. Edison exited Billtrust in 2018 with an over 10x return for our investors. My colleague, Kelly Ford, is now on the board, and he and I remain very close.

Chris joined Edison Partners in 2002. He is the Managing Partner and Chairman of the firm's investment committee. He is the leading fintech investor on the East Coast, having led over 25 new investments over the last 17 years.

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The Jennifer Chalsty Planetarium, open since Dec. 2017, is the biggest planetarium in the Western Hemisphere.

REIMAGINING A SCIENCE MUSEUM.

PAUL HOFFMAN, PRESIDENT & CEO, LIBERTY SCIENCE CENTER

Paul Hoffman

Museums began as private collections of artifacts and objects with the high-minded goal of cultural preservation. Historians attribute the world's first museum to the 6th-century-B.C. Babylonian princess Ennigaldi who collected, curated, and displayed numerous Mesopotamian artifacts spanning a period of 1,500 years. In the 16th century, European nobility took pride in creating "cabinets of curiosity," (*Kunstkammer*) or "wonder rooms," private and often quirky collections of important art objects, eclectic artifacts, religious relics, and specimens from the natural world. In 1683, the first public museum opened at Oxford University. The public science museums of the 18th and 19th centuries were encyclopedic collections of scientific curiosities (rocks, fossils, preserved plants and animals). In 1903, the Deutsches Museum in Munich was the first science museum to move beyond static collections and offer interactive exhibits. Visitors to the Deutsches Museum were encouraged to push buttons, pull levers, and immerse themselves in hands-on "laboratory" activities that brought out the wonder and explanatory power of science. The modern interactive science center was born (note: the word "museum" was replaced with the dynamic "center"), and Liberty Science Center, which opened in 1993, is part of this interactive, hands-on tradition.

The pace of scientific discovery today is exponentially faster than it was in the early 20th century. Science centers in the 21st century, unless they are constantly reimagining their exhibition halls—which is a prohibitively expensive proposition—risk becoming stale repositories of yesterday's science and not amazing displays of the science of today and tomorrow. My team and I have been reimagining Liberty Science Center as an "awesomeness factory" (those were the words of an enthusiastic eight-year-old in our elevator), as a showcase for exciting new scientific discoveries and awe-inspiring technologies that will soon be in our lives. We've already created the largest and most technologically advanced planetarium in the Western Hemisphere, in which we feature the latest breakthroughs in astronomy and space science. Now we are adding an increasing number of pop-up demonstrations of new technologies, from personal flying machines to autonomous robots.



SciTech Scity, a 30-acre campus devoted to developing science and tech companies and reimagining K-12 science education, is in the works.

But the best is yet to come. LSC wants to do more than showcase the science and technology of others. We want to actively foster game-changing scientific and technological discovery. Thanks to a donation of 12.5 acres of land from Jersey City, we are building a 30-acre campus called SciTech Scity to launch dozens of science and technology companies and reimagine K-12 science education. See you at the opening in late 2022!

LIBERTY SCIENCE CENTER
WHERE THE FUTURE COMES TO PLAY

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‘INNOVATION HAS NOTHING TO DO WITH HOW MANY R&D DOLLARS YOU HAVE. IT’S ABOUT THE PEOPLE YOU HAVE, HOW YOU’RE LED, AND HOW MUCH YOU GET IT.’

CHUCK NEES, MANAGING PARTNER, BRASWELL NEES GROUP



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Don’t just Invent. Innovate!

New Jersey has a rich history of inventions—the first steam locomotive, baseball, radar, Bell Labs & Thomas Edison’s anything …. Each has proven the test of time as inventions, but how many companies survived the commercial challenges of the S-curve? That time when the novelty, uniqueness, or exclusivity has run out and your customers start looking elsewhere.

Invention is not the same as Innovation. It’s also easy to confuse Innovation with R&D. Even though the terms are often used synonymously, one really has little to do with the other and even less to do with your company’s continuing success. Innovation is a framework of ideals that when embraced will perpetually ensure your company stays relevant and bulletproofs it from disruption.

Innovation is a journey. Invention becomes a by-product.

The late Steve Jobs shared with *Fortune Magazine*, “Innovation has nothing to do with how many R&D dollars you have. It’s about the people you have, how you’re led, and how much you get it.”

Strategy& (PWC) has sponsored a series of studies over decades focused on Innovation and has continually concluded that “R&D spending levels have no apparent impact on sales growth, gross profit, enterprise profit, market capitalization, or shareholder return.”

So, what does matter? What propels Innovation? A company’s Culture!

In my role as Managing Partner at BNG Search Partners, we’ve come to learn that the chief elements of an Innovation Culture include:

- Insatiable customer intimacy and understanding.
- Passion for delivering superior offerings.
- Collaboration and connection throughout the organization.
- Trust and tolerance for failure.
- Fast decisioning. And, action!

So, does that mean that everyone at your company needs to be innovative? No! While embracing the culture, but maintaining the sanity of a hierarchy, Innovation is best supported by key individuals that are placed throughout cross-functional teams, or “Innovation Networks” in a decentralized manner and surrounded by people with complementary skill sets.

In BNG’s view, today’s top performing organizations have Innovation Leaders throughout EVERY function. Finance, HR, Legal, Manufacturing, GTM all have those select people that see it differently, continually improve upon the status quo, and drive value to their most cherished people—their customers!

Located in Summit, New Jersey, BNG helps build its clients’ only sustainable competitive advantage—their Leadership Capital!

MY PROFESSIONAL CAREER IS FOUNDED ON THE BELIEF THAT THE PHRASE 'IF IT AIN'T BROKE DON'T FIX IT' IS ONLY AN EXCUSE FOR A LACK OF IMAGINATION.

BRUCE FLITCROFT, FOUNDER & CEO, TENFOUR



Throughout my life I've been driven to leave the world a better place than I found it; to build something great no matter how difficult. My professional career is founded on the belief that the phrase "if it ain't broke don't fix it" is only an excuse for a lack of imagination.

For over 30 years I've worked in the Information Technology (IT) industry, leading three companies and founding two of them. In that time I've seen all sorts of changes; many of them exciting, but not all of them good. From cyber security threats and increased infrastructure complexity to accelerated obsolescence and data integrity, the challenges of the digital economy are more complicated than most businesses are equipped to handle. And yet IT as an industry initially failed to take a new approach better suited to these obstacles and I failed to keep the courage of my convictions.

On-demand applications and cloud computing started to help businesses adapt, but these new technologies didn't go far enough. Many IT departments are still entangled in the monotony of daily technology maintenance and overwhelmed by growing layers of complexity when they should be focused on creating the products and experiences that will attract new customers. The problem is if technology is the path to success, how can a business most efficiently use its IT resources when they've been preoccupied serving internal customers and "keeping the lights on" for decades?

I've never met a problem I didn't want to solve. Seeing an opportunity and enticing challenge, I shifted my business away from the traditional IT integrator and managed services provider business model to take a radical new approach to companies' foundational technology: IT Infrastructure as a Service (ITIaaS). We asked ourselves, "What if our business customers could gain the freedom to innovate by purchasing not just their software or storage as a service, but all of the IT infrastructure on which they depend?"

With this simple idea we started building something new. We dared to take responsibility for the design, installation, and maintenance of every element of our customers' IT infrastructure, so they can focus less on infrastructure technology and more on the data and applications that drive high value business activities.

As the first ITIaaS provider, our idea stood in opposition to some of the biggest tech companies on the planet. Such an endeavor can be intimidating, but my talented team of like-minded engineers, designers, thought leaders, and marketing professionals never wavered. Since TenFour's founding we've proven time and again that there's a better way to deliver IT infrastructure; that the traditional approach isn't the only approach. As someone who seeks excellence in all things I couldn't be more proud of my colleagues.

As a father, friend, and partner I'd be ashamed to ever tell my family I did nothing important on any given day and luckily I never have to. I believe in the power of simple ideas to not only transform business, but the world at large. That's why I founded TenFour, and that's why I get up every day possessed by the drive to innovate. As we see other companies follow our example, I believe even more strongly in TenFour's mission to liberate business leaders from old ideas and inefficiencies. Let's build something great together.

TENFOUR

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RECOGNIZING THE TRUE NEEDS OF CUSTOMERS IS THE ONLY WAY TO ACTUALLY MONETIZE INNOVATION.

LISA MARKS-CANTY, PRESIDENT & MANAGING PARTNER, NEST GLOBAL SOLUTIONS



Innovation is very important for any company to grow and be successful. However, in order to innovate, a company needs to be able to learn how to monetize its innovation. That means being able to exceed or meet goals by monetizing products, and that happens when companies recognize the needs of the target customers. It happens when they ensure the product not only addresses their needs but can scale to meet that customer's needs in the future.

I learned very early on that a solution should never be in search of a problem. My mother worked on Wall Street, where she climbed the ranks to become an executive at a global bank, bringing new innovation to the world of back-office operations. It's from her that I learned that a solution is only found by solving a specific problem.

Today, data is part of the solution to many different problems. If used in the right way, it can be used to further innovation, find cures to cancer, and help predict catastrophes that can save lives.

It has also proven to be profitable and large corporations are monetizing off data collected. Why? Because those who are monetizing are following the simple economics of supply and demand. They know how to find their data, they know how to analyze the data and they know how to create a need to make someone purchase the data. Selling data has become a sore subject, but one cannot deny how successful it's been—and profitable.

But access to data needs to be done transparently, securely, and ethically. This is one of the reasons I gravitated to a belief that utilizing a distributed ledger or blockchain can assist in an ethical way of monetizing data-driven innovation. While removing the angst around sharing data, you can work on building a strong value proposition and effective business cases around specific problems that you can now address with your specific solution.

Buzzwords and promises based upon them will not last. AI/ML/RPA—all overused.

The companies that will thrive need to provide real solutions that can be implemented to truly add value.

Innovation around an Enabled AI is the next wave. Artificial intelligence is not meant to replace the human; it's meant to enable the human. Faster, quicker, more efficient. The ability to remove manual labor and automate the process is a necessary evolution—however, we cannot remove the person by replacing a machine. Logical thinking and reasoning, oversight, exception handling, and personal dynamics are important for scalability. The next innovation is around the human ability to innovate themselves around the machine. More learning, more training, more thinking.

As an entrepreneur and technologist, I feel the greatest achievement in my life will be utilizing my skills to build and innovate a product that can be used by anyone seeking support, comfort, and information in their fight with cancer—and in the global fight for finding a cure for cancer. I am inspired to do so by my daughter, my son, everyone around me.

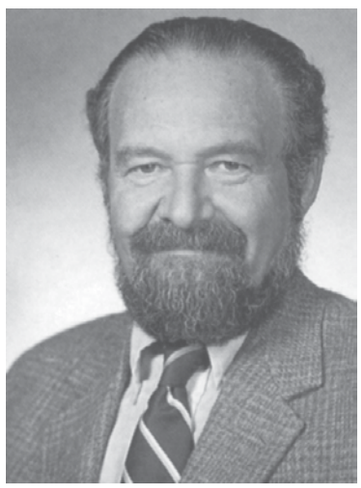
If as much time and energy that has been spent on monetizing off of people's data for profit can also be used for good, then I'll spend my time and energy to continue building technology solutions that can truly make my children's world better in the future.

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YOU CAN'T HAVE EDUCATION IN A VACUUM. IT HAS TO TAKE PLACE WITHIN THE CONTEXT OF WHAT IS HAPPENING THROUGHOUT THE WORLD, AND WHAT IS HAPPENING IN OUR WORLD TODAY IS THAT TECHNOLOGY IS TRANSFORMING THE WAY PEOPLE LIVE AND WORK.

ED COHEN





When pioneering educator and entrepreneurial advocate, Edward Cohen passed away in 2019, the State of New Jersey lost a veritable lion of education and technological entrepreneurship. Over 30 years ago, Cohen understood that to revitalize the State's flagging economy, a fuse had to be lit forging the sectors of higher education, business, and technology-based entrepreneurship. With his roots in the international Foreign Service and an eye toward the future, Cohen's first major success occurred during his tenure as assistant chancellor of higher education, when he took on the mantle of forming New Jersey's system of county community colleges. Among them was a statewide health sciences university, which we know today as the University of Medicine and Dentistry of New Jersey (UMDNJ).

His futurist sensibilities were front and center in 1985 when he personally ushered in the creation of the New Jersey Commission on Science and Technology. With approval from then, first-term Governor Thomas Kean, the new agency sprang from the higher education department, with Cohen as its founding executive director. The fledgling New Jersey Commission on Science and Technology was geared toward the development and oversight of policies and programs promoting science, technology research and entrepreneurship. Known today as the Commission on Science, Innovation, and Technology, the mission remains basically the same, with invaluable participation from Commission members who include business leaders, university leaders, scientists, legislators and representatives of the Executive Director of the Commerce Commission, the Commissioner of Education, and the Governor.

As Cohen explained to *The New York Times*, "In the early 1980s it was recognized that the era of the traditional smokestack industry was drawing to a close and that New Jersey's long-term economic future depended on creating and expanding advanced technological industries. Despite the State's existing strengths in various technological fields, it was apparent that a new strategy was necessary, one that would fuse the previously disparate objectives of economic development and support of higher education. I thought there should be more *weltanschauung* (world view) in our master plan for education. You can't have education in a vacuum. It has to take place within the context of what is happening throughout the world, and what is happening in our world today is that technology is transforming the way people live and work."

He was clearly onto something.

Dedicated to the Memory of Edward Cohen & Contributed by Mario M. Casabona, Commissioner Emeritus NJ CS&T

USING BIOMETRICS TO ENABLE PRIVACY.

BOBBY VARMA, CEO & PRESIDENT, PRINCETON IDENTITY





A series of major data breaches over the past few years combined with growing public distrust over personal-data use has driven the adoption of the European Union's General Data Protection Regulation (GDPR).

The GDPR requires private industry to obtain "unambiguous consent of the individual" before collecting and storing their data. Noncompliance can trigger fines sufficient to financially ruin many companies.

The impact of the GDPR extends beyond Europe. In a global economy, American companies doing business in Europe must comply. Similar regulations in the United States have appeared at the state level.

Most consumers resent the sale of their personal data to support marketing programs but are ambivalent about banks using this same information. For example, when a financial institution alerts an individual over a suspicious credit card transaction, the individual typically appreciates the notice, whether or not the transaction were fraudulent. The same holds true for government, academic, and health-related transactions.

Regulations like the GDPR limit financial institutions' access to consumer data, requiring them to find new means to combat fraud that rely on direct authentication of customers' identities instead of inferences derived from collected personal data. Biometrics provides such direct authentication. Depending on details of the modality, a biometric signature can be discriminating and difficult to spoof.

As biometric authentication replaces data-inferred authentication, additional benefits for privacy protection, security, and convenience will accelerate adoption. For example, fingerprint and iris authentication require subject cooperation and thus automatically comply with the GDPR consent rule. In addition, fingerprint or iris biometrics are collected locally, thereby avoiding a blanket of surveillance cameras that further engenders public distrust.

The GDPR is a harbinger of things to come. Biometric technology offers new approaches for organizations that can no longer rely on access to consumer data.

Bobby Varma is CEO/President of Princeton Identity with over 17 years of experience in the biometric industry. She has a proven record as an executive in driving sales and developing products. Her career includes over 15 years at SRI International/Sarnoff participating in multiple startup companies.

princeton IDENTITY

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HERDING CATS & CODERS



Most people responsible for software projects are CEOs, marketing directors, project managers, and entrepreneurs. Not being on the same page as your development team leads to poor products, cost overruns, and project failures. Herding Cats and Coders will put you on the same page as the techies. This is the perfect book for a non-technical manager, whether working with an outside developer, a development team, or an agency. And to avoid boring you to death by turning this book into a dry, technical treatise, I've kept things lighthearted—and irreverent at times.

If you are a non-technical user or manager who either works with developers or plans on engaging with software engineers to build something, Herding Cats and Coders will help you succeed.

Get it on Amazon today!

gregrossmunro
gregdrm

LET EVERYONE PLAY A ROLE IN YOUR ORGANIZATION'S INNOVATION STRATEGY

ROBERT J. BARDUSCH, SENIOR EXECUTIVE VICE PRESIDENT & COO, VALLEY BANK

Valley Bank is built on a foundation of more than 90 years of history, strengthened by a legacy of local relationship building, exceptional risk management and meticulous credit underwriting. This has afforded us with a reputation of trust and reliability in the communities we serve. But for an organization with a history like ours to continue to be relevant, we need to be innovative. So, we started by first innovating the way we, well, innovate.

Innovation can't be dictated from the top floor. It also can't be done in a vacuum. You can hire amazing people, but if they don't have a full understanding of your business, they will likely fail in providing your company with the innovation necessary for success. That's why it's critical as a leader to create an environment where voices from across your organization can be heard. We call this an "Innovation by All" mentality. And over the last few years this mentality has led to unprecedented changes in our organization's operating model and customer experience.

Challenge people to share their ideas

You need to be open to ideas from your people regardless of their role in the organization. Often, their insight can help you improve your efficiency and, most importantly, create a better customer experience.

We've instituted a number of ways to get people involved in building the Valley of tomorrow. For instance, we've adopted design-thinking methodology to help us put the customer first. Through off-site design-thinking workshops, we bring together people from different departments to design solutions to key customer needs and friction points. You'd be amazed at what a group that consists of a lawyer, home loan consultant, branch manager, compliance officer, information security specialist, and marketer can come up with. These ideas help further our discussions and drive us toward new solutions.

Collaboration and Culture

Innovation doesn't happen by a small isolated group, it grows and propagates through a culture fueled by collaboration, curiosity, and experimentation. To help guide the journey for our organization, we created a group of champions called the Innovation HIVE, which is an assembly of people from a variety of departments across the company.

Together, we discuss and gather knowledge on what will ultimately benefit our organization—from bots that can streamline internal processes to key partnerships with fintechs that could help us reach our goals faster. We challenge each other and, in turn, come to decisions that may not always lead us to the flashiest innovative solution but hopefully the right one.



Believe in "Innovation by All" and your people will believe in it, too

As a company with a storied history, the quest to be innovative can have its challenges. Maintaining core systems, responsibilities to shareholders, increased competition, and market fluctuations are all factors we deal with every day. But if we close ourselves off from new ideas, if we try and lead through an antiquated top-down approach, we'll be just a new case study of a company that was—rather than a company that is and will be.

Valley is a bank that's innovating for tomorrow's customer. And we're doing that by breaking from old habits and inspiring our team to get involved in the creation of our new tomorrow. The possibilities are now endless.

"Innovation doesn't happen by a small isolated group, it grows and propagates through a culture fueled by collaboration, curiosity, and experimentation."

Valley BANK

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CHAPTER 2

FUTURE CITIES & COMMUNITY DEVELOPMENT



"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

—MARGARET MEAD

PRINCETON MERCER REGIONAL CHAMBER (PMRC)

THE PRINCETON MERCER REGION HAS LONG ATTRACTED RESIDENTS AND COMPANIES ALIKE



ELEVATOR PITCH

The Princeton Mercer Regional Chamber is the largest regional chamber in the state of New Jersey. By connecting businesses throughout Central New Jersey, Mercer County, and the Princeton Region for more than 50 years, the Princeton Mercer Regional Chamber of Commerce (PMRC) has proven itself to be Central New Jersey's "Champions for Business."



OUR STORY

A thriving economy, commercial activity, rich cultural scene, ideal geographic location between Philadelphia and New York City, and long-standing partnership with the prestigious Princeton University make the Princeton Mercer Region an ideal place to live, work, and do business. At its center is the Princeton Mercer Regional Chamber.

The largest regional chamber in the state with over 8,000 contacts and over 1,400 members, the PMRC engages individuals, businesses, and communities in a five-county footprint—Mercer, Somerset, Middlesex, Hunterdon, and Monmouth—though membership extends beyond these borders. The Chamber's Board of Directors represents the top business leaders—from Fortune 100 companies to regional and local businesses—and provides strategic direction. The Chamber partners with businesses, employees, government entities, elected officials, educational institutions, and others to promote growth opportunities.



Industry-Leading Programs

Members benefit from engaging and informative programs, featuring annual conferences such as the state's largest conference for women—NJ Conference for Women or the Young Professionals Summit. The Chamber offers over 100 events each year designed to help businesses grow and provide networking opportunities for members. The PMRC has 10 business programs within, allowing members to engage with different industries most pertinent to their companies,







such as the Women in Business Alliance, Real Estate Business Alliance, Princeton-Mercer Regional Convention and Visitors Bureau, Independent Business Alliance, Central Jersey Nonprofit Council, and the Diversity & Inclusion Forum to name a few. The PMRC also hosts the nation's only Albert Einstein Memorial Lecture series, where attendees can meet Nobel Laureates.

Another of the Chamber's programs is the Innovation & Entrepreneurship Program (IEP), which focuses on the creation, development, and expansion of innovative companies and assists entrepreneurs with programs regarding capital formation, business development, expansion, and strategic planning.

Recognizing the immense importance of innovation and entrepreneurship in our region, the IEP introduced the "PitchStop" event in 2019, bringing together startup companies and small-business entrepreneurs to pitch their business proposals to a panel of equity funders. In partnership with Princeton University, Princeton BioLabs, and associated law firms, accounting firms, marketing firms, and consultants, the PMRC provides an award of support services totaling over $20,000 to the winning company.

Promoting Tourism for Economic Growth

The Chamber's Convention and Visitors Bureau (CVB) is the region's official, state-designated destination marketing organization serving more than 2 million visitors annually. As a member of the Chamber, an organization is also a member of the CVB. To learn more about the CVB or regional tourism efforts, visit VisitPrinceton.org.

Mentoring to Help You Succeed

If you are doing business in the Princeton Mercer Region and haven't attended an event sponsored by our Chamber of Commerce, step forward and get involved. You'll soon find out that Membership and participation in the Chamber is a high-value investment in the future success of your business!

New members receive individual mentoring from a Chamber Ambassador and individual membership strategy sessions designed to make sure members get value from their investment of time and money in the Chamber.

Help your business grow and make connections with new opportunities in Central New Jersey.

Visit us online or call us at +1-609-924-1776 for more information and to find out how the Princeton Mercer Regional Chamber can be your Champion for Business!

PRINCETON MERCER
REGIONAL CHAMBER
champions for business

princetonmercerchamber.org



TRI PRINCETON

ELEVATOR PITCH

The cosmetics, fragrances, and personal care products market in the US is the largest in the world and is currently estimated to bring in revenues of around $90 billion each year. New Jersey is a major national focal point for the US cosmetics and personal care industry and houses many of the leading chemical raw material suppliers and finished product manufacturers.

TRI Princeton supports the US, and the wider global cosmetics industry, by providing rapid and reliable product performance and claims testing services. We also help take the field forward with groundbreaking and industry-led research in skin and hair science. TRI Princeton is a not-for-profit research institute with education as a key part of our mission. In addition to our testing services and research, we organize a number of training courses, lectures, and symposia each year. If you work in cosmetics and personal care, and you don't already work with TRI Princeton, please call us to see what we can offer your business.









Resident Mrs. Fox with her den of six cubs pictured here with her youngest taken by one of our scientists, T Evans.

OUR STORY

"Measurements are the key to understanding" is a well-known quote from the famous 19th century scientist, Lord Kelvin. Put more simply, "If you can't measure it, you can't do anything about it!" Core to TRI Princeton's DNA is our long-standing competence in Measurement Science. Our scientists are experts at creating new ways of measuring things on skin and hair. For example, using highly advanced spectroscopy techniques to look at the penetration of actives through the skin, or the changes in skin barrier after exposure to sunshine or pollution. Or, using the latest mechanical testing techniques to investigate the effects of chemical treatments on the internal structures in the hair fiber. Over the years, many of the techniques commonly used in the industry for testing cosmetic products were first created in TRI Princeton; fatigue testing of hair fibers and torsional testing of hair fibers, to name but a few.

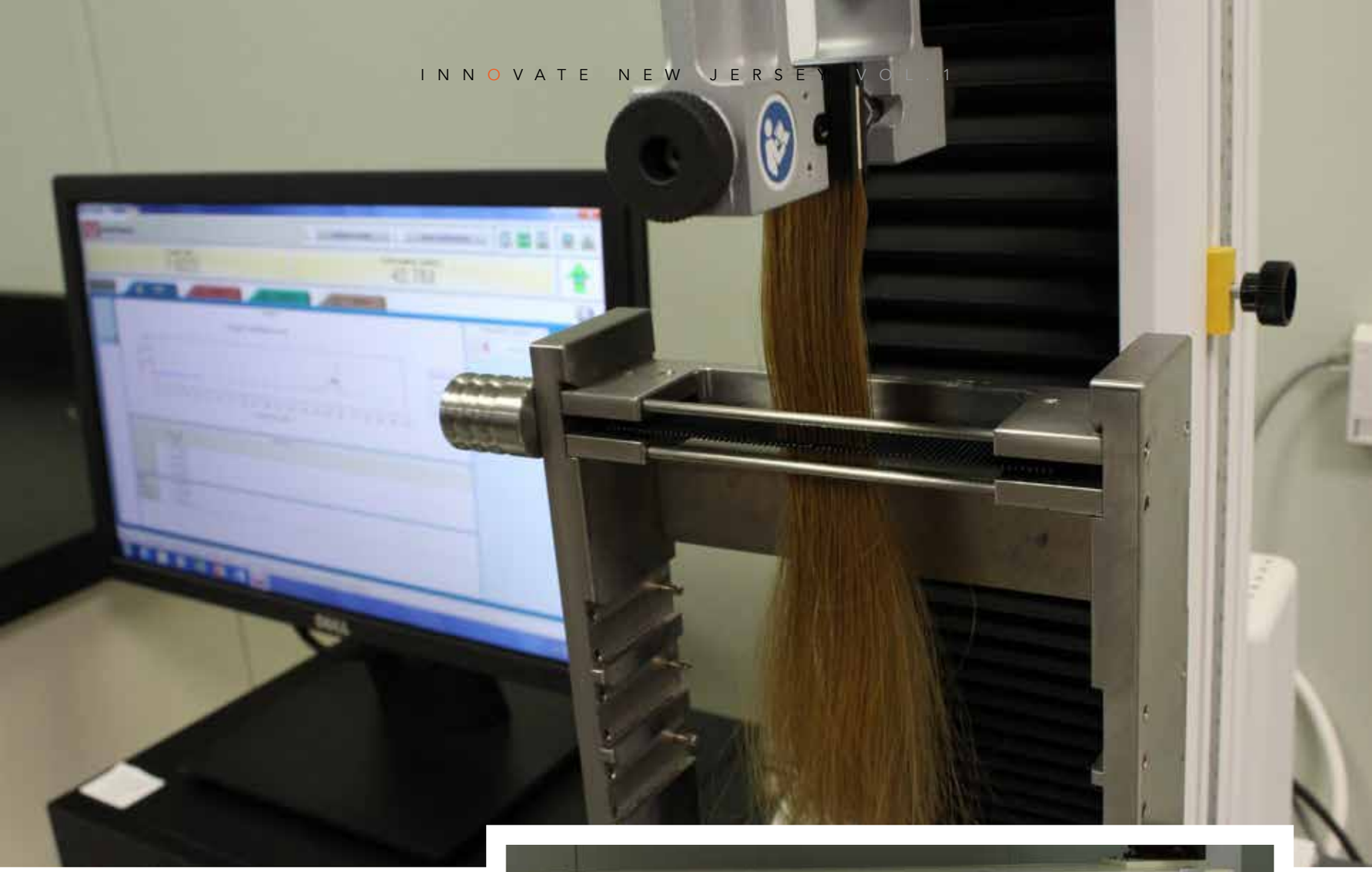
The advantage of this advanced measurement science capability is that TRI Princeton now has a



very wide range of techniques set up that it offers to clients for contract testing. Indeed, performance and claims testing has been a very important source of funding for our basic research and educational programs. TRI Princeton currently performs hundreds of skin and hair tests each year for companies all around the world, many of whom are household names. A TRI report is widely recognized across the industry, and by advertising regulators around the world, as being a reliable and independent assessment of product performance. TRI has a hallmark for supplying quality data for clients to make their claims of product performance.

TRI Princeton is a very precious and unique organization that has been going for now 90 years, and its history is closely related to the history of New Jersey. Going right back to the start, the US Institute of Textile Research Inc. was set up in New York by an act of Congress (published Jun 11, 1930, as Act #329 of 71st Congress) as a not-for-profit organization to support the large US cotton and wool industries. In 1944 the institute set up the laboratory site in Princeton, New Jersey, now occupied by the modern TRI Princeton. The familiar brand name, Textile Research Institute (TRI), was first used around then. The institute built strong links with Princeton University and funded PhD and post-doc students to come and work in the laboratories. TRI Princeton continued as a leading textiles research laboratory until the late 1990s, when the US textiles industry dramatically contracted, and textiles production moved overseas. At this point the board decided to use the expertise in measurement science and fiber science, to focus more on hair fibers, and so TRI Princeton transformed into a cosmetics research laboratory.







So, this legacy explains the funny name. It also explains why TRI Princeton is, to this day, a not-for-profit organization, overseen by a voluntary board of trustees from industry, just as it was in the early days. This is now quite unusual in a world of privately owned testing companies and startups. It also means that, uniquely, our motivation is not profit but to serve the industry in the best way we can. TRI is engaged in International Conferences of hair science along with education on skin and hair, in pioneering research of both skin and hair, and in understanding and helping clients establish the efficacy of their product, readying them for launch to the huge cosmetics industry.

Our legacy also explains why we have a large number of member companies that pay an annual affiliation fee to support us. This is exactly how things worked at the beginning, only now TRI is supported by 21 leading cosmetics companies, including Procter & Gamble, BASF, L'Oréal, Johnson & Johnson, etc. This shows, we believe, how highly companies value having a high quality and truly independent research institute to support what they are trying to achieve.

The real strength in TRI, in the end, is its people. We are very lucky to have gathered an amazing bunch of scientists who are passionate about hair and skin science. In the end, that is what the industry wants. That is our real capital: the brains that we have here.

If you come to talk to us, we will always start by working with you to really understand your needs. This is something that is quite unique to TRI. Clients always get our specialist and independent advice on what might be the right measurements to make. We don't work from rigid menus of tests. Not being driven just by profit, we will give you the best advice we can.

So, if you work in cosmetics and personal care, and you don't already work with TRI Princeton, please call us to see what we can offer your business.

TRI Princeton
RESEARCH EDUCATION SERVICE

triprinceton.org



ALL STARS PROJECT OF NEW JERSEY

ELEVATOR PITCH

The All Stars Project, Inc. (ASP) is an action and thought leader in the emerging field of Afterschool Development, a new way of engaging poverty. Through its free programs for inner-city youth and their families in Newark and Jersey City, the All Stars Project of New Jersey helps people to transform their lives by using the developmental power of performance as a tool for growth—onstage and in life.

OUR STORY

From the first moment the All Stars Project set foot on the streets of Newark, New Jersey, in 1999, the organization has worked to bridge a longstanding and often tense "urban–suburban" divide that has resulted in 20–30% of children living in poverty in one of the country's wealthiest states. The ASP does so through Afterschool Development, which gives youth in poor areas a chance to "perform in new contexts" in order to overcome a lack of opportunity.

Afterschool Development programs introduce young people to adults from different communities who can help them to expand their view of the world and



their capacity to navigate and shape their lives. This kind of development—the capacity to see and act on new possibilities—takes place when people transcend their daily life experiences and expectations. It's a key insight the ASP applies to all of its programming.

Since 2013, many of the new contexts for the ASP's participants have been created at the Scott Flamm Center for Afterschool Development. Located in the downtown arts district and innovation corridor of Newark, the Flamm Center





is a vibrant and popular hub for performance and development, and it brings together people from diverse communities throughout the state. Expanded civic, community, cultural, and corporate partnerships helped to drive ASP's expansion into Jersey City in 2017.

"The Flamm Center, and particularly our increased afterschool programming, has allowed us to intensify our role in Newark's continued renaissance," says Shadae McDaniel, City Leader for the All Stars Project of New Jersey. "We are also proud to be at the forefront of a national Afterschool Development movement of community leaders and front-line practitioners from hundreds of organizations in New Jersey and around the country."

In the last two decades, the ASP of NJ has raised over $24 million from over 3,000 individuals and hundreds of corporations and foundations, among them EY, Fidelity, Goya, Investors Bank, MetLife, Onyx Equities, PSEG, PwC, RBC Capital Markets, and Victoria Foundation, Inc.

"The generosity and enthusiasm with which thousands of adults, including some of New Jersey's most successful business leaders, embrace what we call involvement philanthropy—the building of direct relationships with inner-city youth—has helped to inspire young people from New Jersey's poorest communities to grow in ways they could never have imagined," Shadae says.



The organization's Afterschool Development programs include:

The **All Stars Talent Show Network** (ASTSN) involves thousands of young people ages 5 to 25 in producing and performing in hip-hop talent shows in their neighborhoods and continues to be ASP of NJ's community gateway to development through performance.

In the **Development School for Youth** (DSY), young people ages 16 to 21 learn to perform as professionals through workshops led by corporate executives. In New Jersey, over 1,500 young people have graduated from the DSY and hundreds of companies have sponsored summer internships and generated millions of dollars for inner-city communities.

Operation Conversation: Cops & Kids (OCCK) is an innovative police–community relations program run in partnership with the Newark Police Department that uses performance, improvisation, and conversation to help inner-city teenagers and police officers to cultivate positive relationships with one another. Founded in 2006 in partnership with the New York City Police Department, OCCK has received the CISCO Community Policing Award from the International Association of Chiefs of Police.

Collectively, the programs have involved 20,000 youth and over 4,000 adult volunteers from all walks of life, including some of the state's most successful business leaders.

The All Stars Project, Inc. is a national nonprofit organization, with programs in six cities (Newark, Jersey City, New York, Chicago, Dallas, and the San Francisco Bay Area), headquartered in a 31,000 square-foot performing arts and development center on West 42nd Street in New York City. It is 100% privately funded and works with over 350 corporate partners, 3,400 volunteers, and 20,000 inner-city youth and families each year.

ALL STARS PROJECT OF NEW JERSEY

AllStarsProject | all-stars-project-inc-

allstars.org



The Rita Allen Foundation is supporting the growing field of civic science—efforts to meaningfully connect emerging science with diverse communities. Rita Allen grant partner Public Lab, pictured here, is a nonprofit organization that enables scientists and community members to collaboratively investigate local environmental issues using open-source, do-it-yourself tools. (Photo: Jeff Warren [CC BY-SA])

THE RITA ALLEN FOUNDATION

INNOVATION FOR THE PUBLIC GOOD: THE RITA ALLEN FOUNDATION DISCUSSES PHILANTHROPIC LEADERSHIP AND INSPIRATION

ELEVATOR PITCH

The Rita Allen Foundation, based in Princeton, New Jersey, was established in 1953 and supports pioneering biomedical research, innovative approaches to fostering informed civic engagement, and efforts to strengthen connections between science and society. Here, Elizabeth Good Christopherson, President and Chief Executive Officer of the Rita Allen Foundation, discusses the Foundation's model of a "philanthropic lab," designed to uncover unexpected, potentially transformative ideas in science and civil society at their earliest stages.

OUR STORY

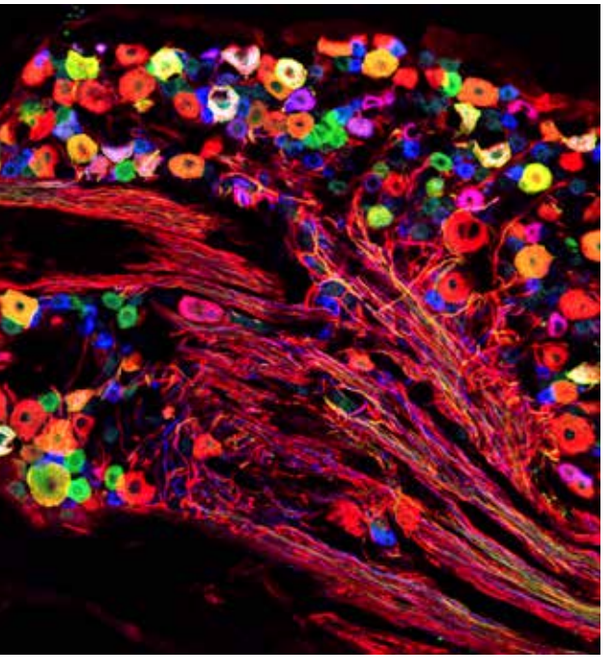
The Rita Allen Foundation has supported early-stage ideas with a big impact. What have you learned about innovation?

Throughout the Foundation's work to support innovative solutions in science and civil society, we have learned the importance of risk-taking and flexible support in pursuit of new ideas. Through our grantmaking, we invest in early-career scientists, enabling them to follow their curiosity to conduct pioneering research, and we invest in social entrepreneurs testing tools for building more inclusive and informed civic engagement.

To have a lasting positive impact, we use a venture philanthropy approach that invests in people and organizations primed to take bold steps into the unknown. Our grants provide risk capital that allow our partners to build new knowledge and networks around complex problems, even when the outcome is uncertain.

For example, Rita Allen Foundation Scholar Luciano Marraffini has spent his career investigating how bacteria fend off invading viruses. As a postdoctoral researcher, Marraffini published landmark research demonstrating how bacterial immune systems called CRISPR work—they disable viruses by slicing their DNA. He quickly recognized CRISPR's potential as a tool for biotechnology and medicine, and many other scientists have built on his fundamental discovery to realize this potential.

Today, scientists are testing CRISPR applications with the potential to relieve devastating genetic conditions like Huntington's Disease, treat bacterial and



Rita Allen Foundation Scholars conduct basic research to understand the underlying mechanisms of biology and unlock transformative new ways of treating and preventing disease. To study the neuronal processes that underlie pain perception, researchers in the lab of Rita Allen Foundation Scholar Gregory Scherrer of the University of North Carolina at Chapel Hill use fluorescent antibodies to label multiple types of sensory neurons. (Image courtesy of Gregory Scherrer Laboratory)

viral infections, and engineer the human immune system to fight cancer. One treatment for sickle cell disease, which causes excruciating pain and shortens lives by decades, is being tested in patients for the first time.

In our results-focused world, it is helpful to remember that the greatest leaps forward rely on collaboration, on knowledge built over time by many, and by steps taken, with curiosity, into the unknown.

The Rita Allen Foundation is a national foundation with collaborators around the country. How does its location in New Jersey contribute to its work?

New Jersey has a rich culture of scientific excellence and civic engagement, shaped by one of the most diverse populations in the nation. It attracts people with initiative and curiosity from around the world—some 22% of New Jerseyans were born outside of the United States. There is a special New Jersey energy, fueled by inclusion and commitment to building a better shared future, that infuses everything we do.



Graduate student fellows, forum organizers, and moderators of the Misinformation Solutions Forum, an innovative event designed by the Rita Allen Foundation using a multidisciplinary team approach to develop tools for confronting misinformation. (Photo: Leigh Vogel)



Rita Allen Foundation Scholars Axel Nimmerjahn, Julie Law, and Sreekanth Chalasani in discussion at the Program's 40th anniversary meeting in 2016. (Photo: Norbert von der Groeben)

There is a world of expertise and inspiration all around us. We can step out the door to find brilliant colleagues at Princeton University, the Institute for Advanced Study, the Princeton Theological Seminary, the Robert Wood Johnson Foundation, and throughout the thriving tech, financial, and pharmaceutical sectors, Rutgers Cancer Institute of New Jersey, the New Jersey Tech Council, and many other outstanding organizations are just down the road.

The Rita Allen Foundation's Board of Directors includes prominent scholars and leaders from New Jersey, including the Honorable Thomas H. Kean, former Governor of New Jersey; Sam Wang, professor of neuroscience at Princeton University; and Robbert Dijkgraaf, director of the Institute for Advanced Study. A number of New Jersey scientists, organizations, and initiatives have been among our grant partners, spurring us to dream and think big. Among these collaborations was joint work with the Center for Disaster Philanthropy and the Council of New Jersey Grantmakers following Hurricane Sandy. Together we partnered to develop The Disaster Philanthropy Playbook—helping communities around the country take a proactive approach to preparing for and recovering from disasters.

What advice do you have for entrepreneurs focused on the public good?

Listen with intent. The power of "we" is about strengthening agency among others and bringing many diverse voices to the design and decision table. Lasting change requires us to build on shared values and co-create a shared vision. It requires time, learning, and hard work by many. In our experience, positive change begins with reaching out across our differences to build relationships.

RITA ALLEN FOUNDATION

ritaallen.org



LIBERTY SCIENCE CENTER

OUR STORY

Liberty Science Center (LSC) is the region's premier destination for science explorers of all ages and a leading provider of STEM education programs. LSC is a 300,000-square-foot learning center located in Liberty State Park on the Jersey City bank of the Hudson River, near the Statue of Liberty.

LSC opened to the public in January 1993, after more than 15 years of community campaigning, fundraising, and planning. The Science Center now houses 12 museum exhibition halls, a live animal collection with 110 species, giant aquariums, a 3D theater, live simulcast surgeries, hurricane- and tornado-force wind simulators, K-12 classrooms and labs, teacher-development programs, and the Western Hemisphere's biggest planetarium—the Jennifer Chalsty Planetarium and LSC Giant Dome Theater. More than 750,000 students, teachers, and parents visit Liberty Science Center each year, and tens of thousands more participate in the Science Center's off-site and online programs.

Through innovative programming and event offerings, the Science Center has expanded its reach to enthusiastic new audiences. A monthly series of evening events for guests 21 and older, LSC After Dark, has gained a devoted following by offering dancing, cocktails, and science-themed fun to young adults. Families with older school-age kids are welcomed to Extreme LSC every fourth Friday night, for such big-kid fun as slime labs, laser tag, mega ball-pit adventures, and outdoor stargazing with the expert staff of the nation's biggest planetarium.

As LSC looks to the future, its physical footprint has expanded to include a new, oversized pavilion that features art and science exhibitions; an enlarged entryway to accommodate its growing crowds of visitors; and a permanent replica fossil dig site just outside its back doors. Even more ambitious, plans are afoot to develop SciTech Scity—a science and technology campus that aims to launch and grow hundreds of startup companies and reimagine K-12 science education.



Liberty Science Center is fully committed to inspiring the next generation of innovators—the kids who will one day cure diseases, discover distant planets, create life-changing technologies, and lead us to a better tomorrow.





OUR MISSION

To inspire the next generation of scientists and engineers and excite learners of all ages about the power, promise, and pure fun of science and technology.

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LIBERTY SCIENCE CENTER
WHERE THE FUTURE COMES TO PLAY



RESEARCH & DEVELOPMENT COUNCIL OF NEW JERSEY

GROWING STEM. ADVANCING INNOVATION. IMPACTING THE WORLD.

The Research & Development Council of New Jersey is the oldest organization in the state supporting innovation, ensuring that the environment is positive for continued success in science, technology, engineering, and math, or STEM. The Council was founded in the 1960s, driven by the concept that collaboration among industry, academia, and government is an essential part of maintaining an innovative society. The Council has established several programs that provide for this collaboration and an emphasis on STEM, which is critical in a faster, more technology-driven society.

The 30+ member organization consists of representatives from industry, academia, and government. Among these representatives, collaboration is the key principle in their participation, in addition to developing strategies that maintain a strong New Jersey STEM talent pool to build on the state's legacy of innovation and drive the innovation economy.

2019-2020 Members

- Avantor Performance Materials
- BASF
- Bristol-Myers Squibb
- Casabona Ventures
- Honeywell International
- ExxonMobil Research & Engineering Company
- IBM
- Janssen R&D LLC
- Kean University
- Lexicon Pharmaceuticals
- Liberty Science Center
- Merck & Co., Inc.
- Montclair State University
- New Jersey Department of Environmental Protection
- New Jersey Department of Labor & Workforce Development
- New Jersey Economic Development Authority
- New Jersey Institute of Technology
- New Jersey Tech Council
- Nokia Bell Labs
- Novartis Pharmaceutical Corporation
- Princeton Plasma Physics Laboratory
- Princeton University
- PSE&G
- Rowan University
- Rutgers, The State University of New Jersey
- Sabinsa Corporation
- Siemens
- Stevens Institute of Technology
- Stockton University
- Stryker
- US Army Futures Command, CCDC Armaments Center

The R&D Council's program portfolio includes:



Thomas Alva Edison Patent Award. The Council annually awards its Thomas Alva Edison Patent Award to New Jersey–based inventors to promote the incredible research done throughout the state. Patent nominations are reviewed by a panel of accomplished STEM professionals who evaluate the patent's significance, novelty, utility, and social, commercial, and economic impact. Winners are celebrated at the annual fall Edison Patent Awards Ceremony & Celebration. The evening highlights the broad array of research undertaken in both the public and private sectors of the state. This includes research ranging from pharmaceuticals and robotics, to medical devices and satellite software systems.











Merit Scholars. For over a decade, the Council has selected its Merit Scholars from New Jersey community college students who are excelling in a STEM-related major and are in need of financial support. Merit Scholars receive a scholarship award sponsored by the Council's membership and over the summer are invited to one of the Council members' research facilities for a daylong conference that includes panels on New Jersey higher education opportunities, stories from STEM professionals and former scholars, as well as a facility tour. Merit Scholars also connect with Council members on internship, mentorship, and job opportunities. There are close to 200 alumni of this program.

The Governor's STEM Scholars. Bolstering the State's STEM education and career pipeline, the Governor's STEM Scholars (GSS) is a public-private partnership among the Research & Development Council, the Governor's Office, the Department of Education, the Office of the Secretary of Education, industry*, and higher education.

GSS aims to strengthen public policy areas, such as the environment, economy, and education. It is designed to immerse high-achieving STEM students in grades 10 through the doctoral level in New Jersey's vast STEM economy by introducing them to opportunities in government, academia, and industry.



In partial fulfillment of the program's requirements, scholars attend symposia with thought leaders from these three sectors. Scholars also visit companies throughout the state, and attend "in conversation with" intimate fireside chats, master classes, and other events with STEM thought leaders. Working in teams, the scholars produce a scientifically viable STEM research project. Undergraduate and graduate scholars mentor high school students on these yearlong projects that explore innovative solutions to issues in fields such as cybersecurity and biopharmaceuticals.



Scholars present their work to members of the New Jersey State Senate and Assembly during STEM Month, and to a panel of judges at the end of the academic year. The teams compete for "best research project award" and a "civic award." As judged by the Governor's STEM Scholars Advisory Council, the "civic award" winners show that their work made a difference either increasing student or citizen access to STEM, improving educational outcomes, and/or by generally acting as exemplary STEM citizens in New Jersey.

Scholars graduate at the end of the academic year with a certificate signed by the governor and president of the Research & Development Council, and a Joint Senate and Assembly Resolution. The program has also received accolades from US senators and members of Congress, as well as the media. *ROI-NJ* News has flagged GSS as a "program to know" in 2020. In five years, GSS has graduated 350 scholars. The program continues to grow and diversify and is now 60% female.

* Industry partners include The Allergan Foundation, Bristol-Myers Squibb, Celgene, PSEG, RBC Capital Markets, Becton Dickinson, Janssen Pharmaceutical Companies of Johnson & Johnson, Hackensack Meridian Health, Novartis, Novo Nordisk, SubCom, and The Schumann Fund for New Jersey.

rdnj.org

NEW JERSEY STEM
PATHWAYS NETWORK

IMPROVING OUTCOMES IN STEM LEARNING AND WORKFORCE DEVELOPMENT

AN INITIATIVE OF THE RESEARCH & DEVELOPMENT COUNCIL OF NEW JERSEY

The **New Jersey STEM Pathways Network (NJSPN)** is a strategic public-private alliance defining and guiding a STEM vision for cradle-to-career pathways in New Jersey. The NJSPN aims to attract, cultivate and retain a 21st century workforce in New Jersey, ensuring the state remains a top global competitor in STEM industry and continues its rich history of innovation. It originated out of the Office of the Secretary of Higher Education in 2014 and has been led by the Research & Development Council of New Jersey since 2017.



The NJSPN is structured to impact STEM at the state, regional, and local levels. At the state level, the NJSPN brings together STEM leaders to improve outcomes in the areas of computer science, early learning, teacher recruitment and training, and workforce development. At the regional and local levels, the NJSPN supports New Jersey's five STEM ecosystems, all of which are part of an international community of practice of nearly 90 STEM ecosystems. New Jersey's five STEM ecosystems include Delran STEM Ecosystem Alliance; Hunterdon, Somerset, and Mercer Tri-County STEM Ecosystem Consortium; Liberty STEM Alliance; Newark STEAM Coalition; and South Jersey STEM & Innovation Partnership.

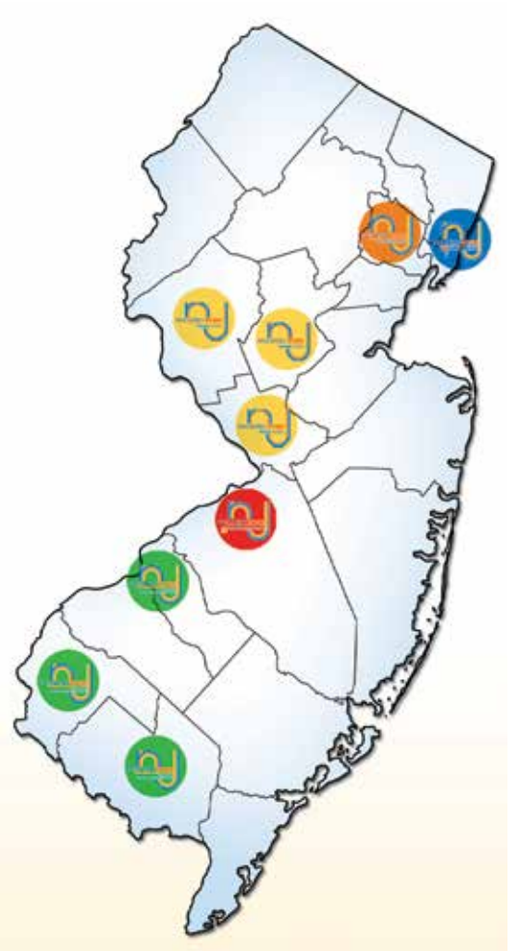
NEW JERSEY STEM LEARNING ECOSYSTEMS
Delran STEM Ecosystem Alliance

NEW JERSEY STEM LEARNING ECOSYSTEMS
Liberty STEM Alliance

NEW JERSEY STEM LEARNING ECOSYSTEMS
Newark STEAM Coalition

NEW JERSEY STEM LEARNING ECOSYSTEMS
HSMC STEM

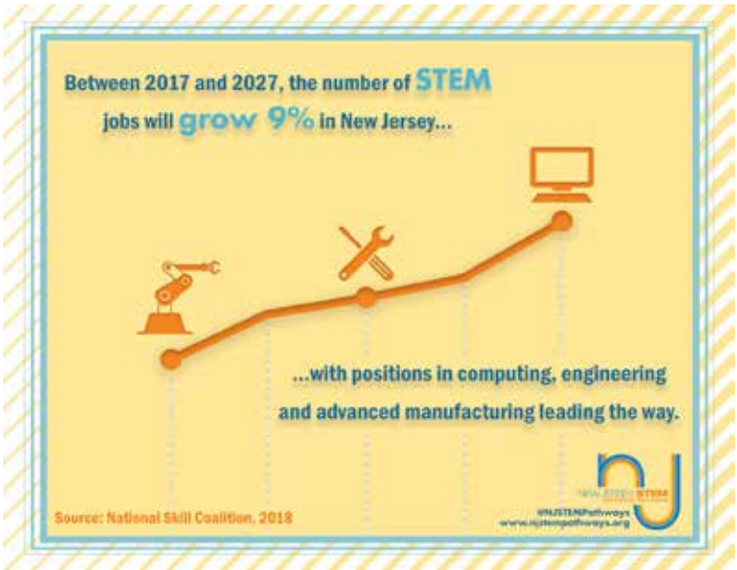
NEW JERSEY STEM LEARNING ECOSYSTEMS
South Jersey STEM & Innovation Partnership



An annual event in March, **NJ STEM Month** is a celebration co-hosted by the NJSPN and the Research & Development Council of New Jersey designed to highlight the Garden State's STEM and innovation accomplishments. Each year, this month is recognized by both gubernatorial

NJ STEM MONTH





proclamation and legislative ceremonial resolution. In support of NJ STEM Month, the NJSPN provides mini-grants to support STEM programming around the state, selects winners for a collection of STEM awards, and spends a day at the New Jersey State House with a STEM delegation that speaks to policymakers and their staff about the important work in STEM education and workforce development. NJ STEM Month annually impacts thousands of learners across all the state.

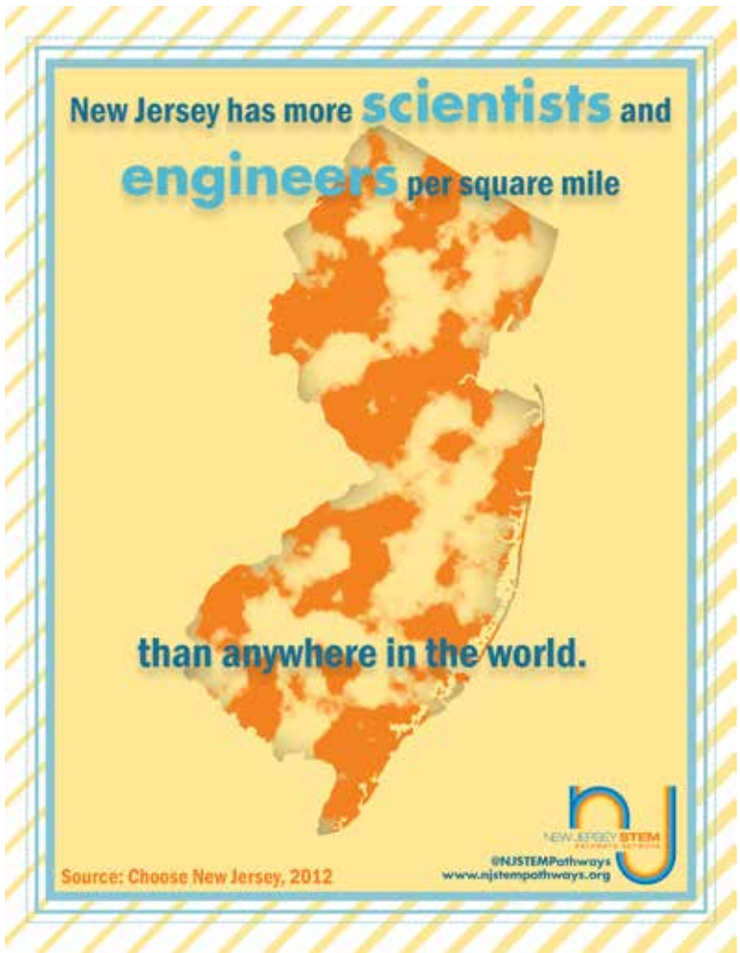
NJSPN launched the **New Jersey STEM Data Dashboard**, an online tool that provides school district and state-level statistics for several key STEM indicators of success. Serving as a hub of publicly available secondary, postsecondary, and labor market data related to STEM in New Jersey, the dashboard was developed to inform educators, parents, students, policymakers, and other stakeholders with data on STEM education and workforce development indicators of success from across the state. It is an initiative led by the New Jersey STEM Pathways Network that uses expert research from the John J. Heldrich Center for Workforce Development. The dashboard is free to use and is available on www.njstempathways.org.



The NJSPN created the state's first-of-its-kind **New Jersey STEM Strategic Advisory Board**. This board of STEM employers and philanthropists will act as a unified voice to guide the statewide STEM vision by defining and sharing STEM education and workforce strategies with state leaders to drive successful outcomes; utilizing data to measure and scale impact throughout STEM programs across New Jersey; and developing public awareness and issue advocacy campaigns that drive excellence and innovation in New Jersey's STEM economy.

The NJSPN leads an array of communications efforts to distribute STEM information including its STEM Events Calendar, STEMinars webinar series, STEMTales blog, infographics, weekly NJSPN e-blasts, and Twitter chats.

The work of the NJSPN has been generously supported by the Overdeck Family Foundation, BMS, Novartis, Ørsted, PSEG Foundation, and Siemens.



#NJSTEMMonth
NJSTEMPathways

njstempathways.org

giveback

ELEVATOR PITCH

Give Something Back (Give Back) provides college scholarships and mentoring to students who have faced economic hardship and other adversities such as foster care or the incarceration of a parent.

OUR STORY

The Give Back Difference

There are scholarships. There are mentoring programs. Give Back is both. And, our model is groundbreaking.

Our Scholars

Give Back scholars are academically motivated and resilient. Most are first generation college students who come from families below the poverty line. A special outreach is given to students who have experienced heightened social risks such as foster care or the incarceration of a parent.

Investing in Futures

Every Give Back scholar receives a full scholarship that covers college tuition, fees, and room and board, lifting the heavy financial burden associated with higher education.

More than Money

We select scholars early—as soon as ninth grade—so they benefit from college readiness programs, campus visits, financial aid workshops, test preparatory classes, and social events. Scholars are required to take a rigorous course load, remain in good academic standing, and demonstrate strong character.

Mentoring is Integral

A pillar of our program is our volunteer mentors who support, challenge, guide and hold their scholars accountable throughout high school. Learn how you can become a mentor by visiting our website: www.giveback.ngo/mentors





Powerful Partnerships

From our college partners to valued high school counselors, strong partnerships are critical to our success. We rely on the expertise of our community partners to serve as an extension of our team. Learn more about our valued partners by visiting our website: www.giveback.ngo/partners

Give Back's Unique Financial Model

By utilizing government financial aid, in-state tuition and subsidies from our generous college partners, the Give Back financial model maximizes the number of scholars who can attend college at one of our valued partner schools.

How it All Adds Up

Give Back selects a partner college and provides a large, upfront contribution to the school.

The college can use the contribution as unrestricted dollars for four years before our scholars ever set foot on campus—typically earning interest.

In exchange, the college generously fills the rest of the financial gap so that tuition, fees, and room and board are covered for the scholars.

A written partner agreement outlines that the college will reserve a designated number of spots for Give Back scholars at a deeply discounted cost. This way we do not make promises we can't keep, despite rising costs of college or future economic downturns.

How Do We Know it Works?

Give Back alumni are succeeding. With a 91% graduation rate and 100% employment rate, Give Back's method is proven effective. Over 50% of our scholars return as mentors, and many have become doctors, attorneys, executives, teachers, and more.

To date, we have prepaid for over 1,500 scholars to go to college, an upfront investment of over $35 million.

beyond

ELEVATOR PITCH

Beyond strives to simplify operations, reduce costs, and streamline payments for owners of small and midsized businesses across the country. Every client is provided with the reliable, flexible, and secure business solutions they need, in a clear, transparent manner they can trust. We are committed to the highest levels of technological innovation, contract terms, and customer service—earning our clients' business every day. Every employee is provided with the vital tools, resources, and compensation needed to achieve success.

We will deliver results, tell the truth, and make a difference through our determination to transform the business world. Good enough is not nearly enough. We go beyond.



OUR STORY

Beyond was created in 2017 by Robert O. Carr, a prominent businessman and philanthropist whose track record of success reflects his deep belief that "doing the right thing" for clients and employees ultimately produces the best bottom-line results. Carr has brought on a team of experts in the industry to build a world-class company.



Our commitment to transparent, customer-first service is spelled out in the Beyond Promises: 10 principles setting out the company's commitment to fair treatment, plain language, and full disclosure, with no hidden fees and no unexpected surcharges or arbitrary pricing changes.

Beyond designated the nonprofit Give Something Back as a founding partner and beneficiary. Since Beyond's founding, we have assisted with Give Back in providing college scholarships and mentoring to students who have faced economic hardship and other challenges such as foster care or the incarceration of a parent.

By investing in the minds and futures of smart, capable young people, Beyond is building a well-prepared workforce and contributing to a growing economy—which creates greater opportunities for our clients and for our company.

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NEW JERSEY HOSPITAL ASSOCIATION

IN PURSUIT OF A HEALTHIER NEW JERSEY



ELEVATOR PITCH

The New Jersey Hospital Association, founded in 1918, has a long tradition of supporting the state's hospitals, health systems and healthcare providers across the entire continuum of healthcare. But as the organization enters its second century, its focus extends outside hospital walls and into the community.

OUR STORY

Research from the National Institutes of Health finds that 84 percent of health outcomes are attributable to a combination of socioeconomic status, health behaviors and physical environment. Clearly, good health is a social and community issue as much as a healthcare issue.

The shift toward recognizing these social determinants of health is taking shape in New Jersey, with partners from the healthcare community, government, social services, community groups and faith-based organizations working to address these issues.

CHARTing Health Factors

At NJHA, a new data center called the Center for Health Analytics, Research and Transformation, or CHART (www.njha.com/CHART), is taking a deep dive









into data to learn more about the health challenges facing New Jerseyans. Recent reports have examined the impact of rising drug costs, the reach of vaping across New Jersey and management of chronic conditions.

CHART's analysis found that the three poorest counties in New Jersey—Cumberland, Essex and Atlantic—had the highest rates of patients with chronic conditions presenting in hospital emergency departments. The use of the ED shows that these individuals didn't have sufficient access to the primary care services they needed to manage their illness. Digging deeper, the zip code analysis showed a disproportional impact on African Americans, as well as correlations with unemployment rates and access to food and transportation services.

CHART also has created a vulnerable communities database, allowing users to explore a variety of health and socioeconomic indicators by zip code to help identify areas for targeted interventions to improve health.

Investing in Social Determinants

In another innovation in social determinants of health, NJHA has partnered with the New Jersey Housing and Mortgage Finance Agency to promote hospital investment in supportive housing in their communities. HMFA in 2019 committed $12 million in equity, to be matched by participating hospitals, to develop housing opportunities for our most vulnerable community members. That commitment of public dollars is an important first step in recognizing the need to support this growing role of healthcare providers in helping community members achieve maximum health.

Data shows that those experiencing housing instability are more limited in their access to preventive health services, more likely to delay filling prescriptions and more likely to be hospitalized with longer lengths of stay. This initiative will provide sustainable housing along with wraparound support services to help them manage their health needs.

Envisioning the Future

The influence of social factors on healthy communities is well-documented. The next step is creating models of care to support this pivot to community-centric care. NJHA is developing just such a model through its Partnerships Transforming Health, or PaTH. PaTH seeks to improve care and outcomes through integration and coordination of services for people in their homes and communities.

Consider, for example, a senior citizen recently discharged from the hospital who lives alone without any additional support like a visiting nurse. Under PaTH, NJHA is creating a single point of contact for residents to connect with an array of healthcare and other support services. Health navigators in the community will coordinate between those service providers and individuals to support their needs in ways that are both high-tech and high-touch.

The goal is simple: to improve health by addressing the underlying social needs of vulnerable populations and eliminating the frustration many people experience navigating our complex health system.

"Our vision is for a system that brings all partners together to create an environment for good health where our residents live, work and play," said NJHA President and CEO Cathy Bennett. "As I see these projects taking root at the community level, I truly believe New Jersey can be the innovator to make it happen."

To health!
NJHA
New Jersey Hospital Association



Cathy Bennett
President & CEO

njha.com



INSTITUTE FOR LIFE SCIENCE ENTREPRENEURSHIP

WHO WE ARE

The Institute for Life Science Entrepreneurship (ILSE) is a nonprofit 501(c)(3) organization located on the Kean University campus, established in 2014 by a team of respected executives and entrepreneurs to accelerate life science discoveries to improve human health, including new medicines, devices, and transformative technologies. ILSE is a hub for hands-on entrepreneur support and company formation, with internal expertise in drug discovery, diagnostic and device development, genomics, bioinformatics, microbiology, microbiome, immunology and inflammation, antibiotic and antifungal R&D, and a vast network of external advisors, consultants, and research providers.

OUR STORY

ILSE has three business units that support entrepreneurship and startup companies in different ways: a research institute, a life science company incubator, and a business accelerator. These functions are interdisciplinary and draw on the expertise of the management team who come from the life science industry, and of the extensive global consulting network that spans the full spectrum of R&D and business operations.

ILSE performs original research, contract research for clients around the world, and collaborative research with our partners. We are also a startup accelerator, helping companies at every stage of their life cycle. ILSE is a CARB-X accelerator and member of their Global Accelerator Network, and provides the following support:

- **Pre-award**
  - Scientific rationale, competitive landscape, development strategy and budgets
- **Post-award**
  - Assess business and administrative needs
  - Development: key performance indicators, milestones, and timelines
- **Operation and Coordination**
  - External contracting, protocol development, study monitoring, and report generation and review
- **Administration, Finance and Business Support**
  - Startup support: incorporation, finance, and budgeting
  - Investor support and introductions; pitch and negotiations
- **Training, Education, Networking and Programming**





PARTNERSHIPS

Partnerships are central to ILSE's business model. In addition to CARB-X, we have a long-term collaboration with the American Type Culture Collection (ATCC) to develop tools and new products, utilizing our proprietary bioinformatics approach. We are also a charter member of the New Jersey Academic Drug Discovery Consortium, working to advance drug discovery research with Hackensack Meridian Health and universities including Montclair State, NJIT, Princeton, Rowan, Rutgers, and Stevens. Kean University is a major partner as well. In close collaboration with Kean faculty, we have created internships and employment opportunities for students and research collaborations with ILSE members. Lastly, we have worked with over 50 academic and industrial researchers and entrepreneurs around the world to create companies and develop novel technologies. In many cases, we have performed research to develop the science and technology further on their behalf.



"Since its inception, ILSE has played a critically important role in New Jersey's ecosystem. Our team of industry experts have deep expertise in R&D, business development, and entrepreneurship."
—Dr. Keith Bostian, CEO, ILSE



PROMOTING INNOVATION

At ILSE we are proud of our accomplishments in entrepreneurship. We currently house eight (8) companies in our innovation center, employing over 35 people. Two additional companies have successfully graduated. Through direct and indirect support, we have helped these companies raise over $12 million in grant funding and over $20 million in private capital.



ILSE's accomplishments in the past 3 years include supporting 3 companies at the IND stage and assisting a 4th company in receiving an FDA drug approval. We have served as principal investigator on SBIR grants and other funding, and served as sub-awardee to provide administrative, finance, and HR support.

LOCATION

ILSE is located in the New Jersey Center for Science, Technology and Mathematics building on Kean University's campus in Union, New Jersey, at the epicenter of the NJ Life Science ecosystem. In fact, 75% of the more than 225,000 life science workforce in the metro region works within a 25-mile radius of ILSE. Further, we have easy access to the Garden State Parkway and the New Jersey Turnpike and are adjacent to the Union Station stop on New Jersey Transit, which is only 25 minutes to and from NYC's Penn Station.



"Whether addressing grand themes of antimicrobial resistance and translational neuroscience, or hands-on company building and entrepreneur support, ILSE's unique business model, combining a cutting-edge research institute and an innovation center, positions New Jersey to build off its incredible legacy of innovation."
—Dr. Thomas Richardson, President, ILSE

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ILSE
INSTITUTE FOR LIFE SCIENCE ENTREPRENEURSHIP

NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY (NJEDA)

NEWARK, NEW JERSEY, IS A CITY ON THE RISE! A VIBRANT INNOVATION HUB IS FORMING IN THE WALKABLE, TRANSIT-ACCESSIBLE CITY, AND IT SHOWCASES WHAT FUTURE CITIES AROUND THE GLOBE CAN LOOK LIKE.





ELEVATOR PITCH

At the New Jersey Economic Development Authority (NJEDA), we recognize the important role that the technology, education, and arts sectors play in this transformation and are proud to support numerous enterprises in their efforts to reinvigorate the Newark community and transform New Jersey into the State of Innovation.

NEWARK'S STORY

In 2018, Newark joined London, New York, and Philadelphia—to be a provider of LINK, the world's largest and fastest free public WiFi network. Kiosks throughout the city offer free WiFi, charging stations, free phone calls to anywhere in the United States, real-time information about city streets, and much more. These amenities will run over Newark Fiber, the city's 26-mile, high-speed, fiber-optic network.

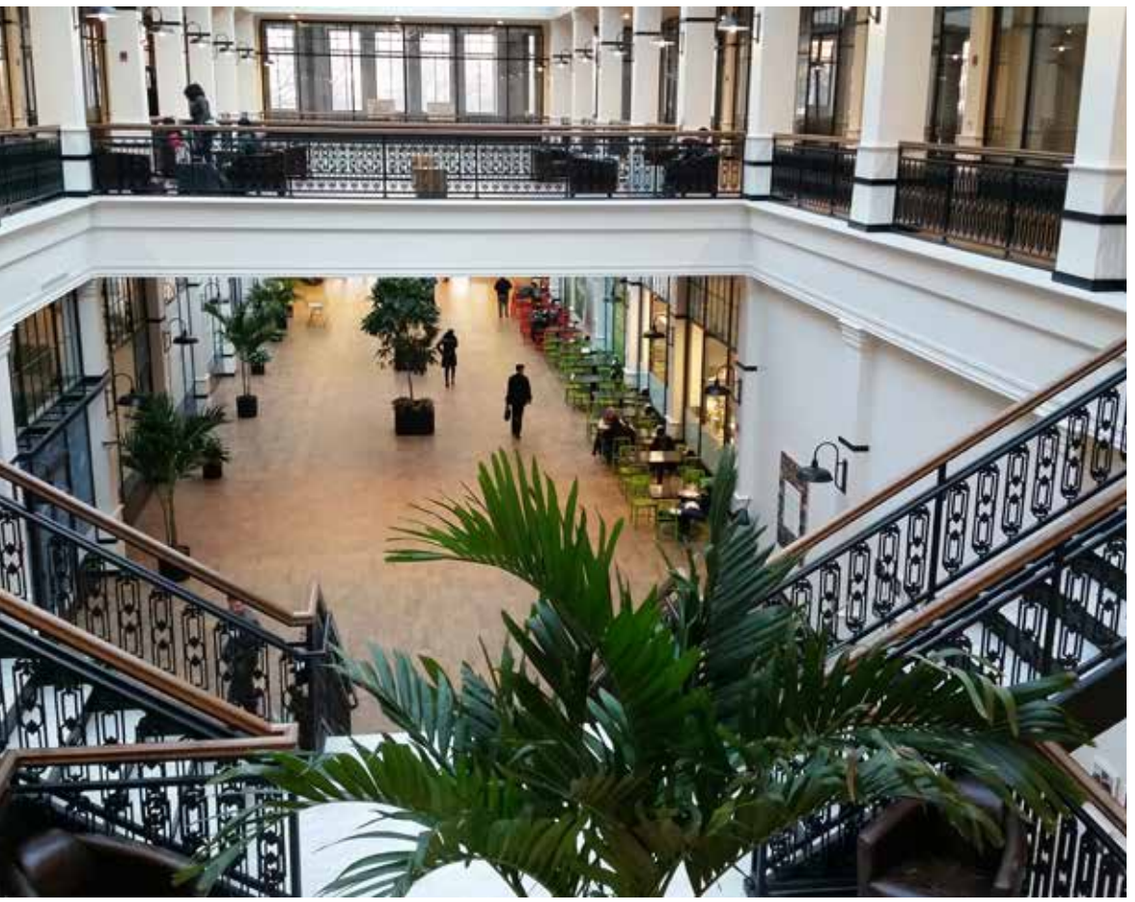
Military Park, located in the heart of downtown Newark, serves as a gathering space for the Newark community and its visitors. After many years as an underutilized space, Military Park now attracts children, adults, local residents, office workers, and students from far and wide. The revitalized town square sits at the intersection of some of Newark's most exciting academic-corporate partnership projects. These recent developments are helping Newark, which is known to be one of the most technologically connected cities in the nation, lead the charge in transforming New Jersey into the State of Innovation.

The redevelopment of the historic Hahne & Company department store building has revitalized a long-vacant property and invigorated the surrounding community with more than 75,000 square feet of retail space, 160 residential units, and 100,000 square feet of commercial, community, and office uses. The building serves as a hub for artistic and technological innovation, helping to support local entrepreneurs and attract local residents and visitors to the neighborhood.

Inside the renovated complex, Newark entrepreneurs can work together, exchange ideas, and promote innovation at co-working space Launch Pad, which spans approximately 44,000 square feet of space on the second floor of the Hahne & Co. building. Just across the hall, dozens of employees of the innovative fintech company Credibility Capital are hard at work. The company occupies 8,000 square feet of second floor office space after relocating from Manhattan two years ago. The Hahne & Co. building is also home to digitalundivided, a social enterprise that fosters economic growth and empowerment in communities through training and supporting Latina and female entrepreneurs of color. digitalundivided moved its headquarters to the Hahne & Co. building from Atlanta in 2019.

Its restoration completed in 2017, the Hahne building is also home to some of the most impressive academic projects in Newark. Rutgers University's 57,000-square-foot Express Newark facility includes a 250-seat auditorium, as well as studio and gallery space for campus art initiatives and community partnerships. It serves as a link between Newark's academic institutions and the local community.

Nearby to the Hahne building, the New Jersey Innovation Institute, an affiliate of the New Jersey Institute of Technology (NJIT), is a not-for-profit corporation focused on providing private enterprises with the necessary tools for innovation to stimulate economic development. Rutgers and



NJIT represent some of the best that Newark's academic institutions have to offer their local community.

A few blocks away from the Hahne building, One Theatre Square is a 22-story residential high-rise, representing a type of construction that Newark has not seen in the past five decades. The building serves as an urban lifestyle destination for residents, illustrating Newark's transformation into a 24/7 live-work-play community.

Directly across from One Theatre Square, at the northeast corner of Military Park, the nonprofit New Jersey Performing Arts Center (NJPAC) has helped revitalize the arts and entertainment scene in the city of Newark. NJPAC is the anchor cultural institution for the local community and the state of New Jersey.

Several blocks from Military Park, Audible.com is the fastest-growing private employer in Newark. Their building headquarters is an aesthetic feast seated in the heart of city. Once a historic church, the building, which serves as the company's international headquarters, is now an 80,000-square-foot state-of-the-art technology center. This transformation represents the heralding of a new age of technologic innovation in Newark—with the necessary architecture to match. The company has worked with city leadership to fund and lead the creation of Newark's free public WiFi network spanning the Washington Park and Military Park neighborhoods. Audible is a frequent collaborator with Rutgers–Newark and other civic and cultural institutions, working in tandem to transform and innovate the local community. In 2019, Audible opened its Innovation Cathedral, a former 80,0000-square-foot church that was restored and repurposed into an innovation hub. Audible describes the Cathedral as a cornerstone of Newark's burgeoning innovation ecosystem.

Also nearby, Newark Venture Partners (NVP) is an early-stage venture capital fund investing in business-to-business technology companies. NVP's work continues to catalyze the technology ecosystem in the City of Newark, helping to solidify Newark's burgeoning reputation as one of the most connected and innovative cities in New Jersey. NVP also offers NVP Labs, a 12-week bridge-to-seed accelerator, for companies at their earliest stages. Each accelerator cohort culminates to a "Newark Venture Partners Demo Day," where graduating startups showcase their businesses to investors and New Jersey's innovation leaders.

One of New Jersey's greatest assets is the diversity of its people, and Newark is a microcosm of this diversity. Even so, there is more work to be done to ensure entrepreneurs of color and other underrepresented groups have access to the capital and other resources they need to be successful. In late 2019, Newark hosted NJ Connect, the State's first-ever summit designed to connect minority-, women-, veteran-, and LGBTQ-owned businesses with roughly $1 billion in public and private sector contracting opportunities. Later in the year, the NJEDA held its inaugural New Jersey Founders and Funders Diversity Roundtable in Newark. Public sector leaders, members of academia, investors, and entrepreneurs discussed steps the Garden State could take to foster a more equitable, diverse innovation economy. The NJEDA also participates in annual Women of Color Connecting summits. Hosted by Newark-based Institute for Entrepreneurial Leadership, the day-long events are designed to help break down long-standing systematic barriers that female entrepreneurs of color face every day.

The NJEDA was also a sponsor of Newark Tech Week, which celebrates innovation in Newark and its vibrant technology community. The week was hosted by =space, one of several Newark co-working spaces that offers collaborative environments to a diverse population of entrepreneurs and startups. In addition to Launch Pad, digitalundivided, and =space, family-owned 3rd Space is among the city's many co-working spaces.

Another innovation-centered transit hub is taking shape 30 miles south of Newark in New Brunswick, home to Rutgers University's main campus. Governor Phil Murphy has proposed the creation of The Hub, envisioned to bring the best ideas from New Jersey's universities and entrepreneurs together with affordable commercial space, world-class mentoring, venture capital, and top talent. At full build-out, The Hub is expected to be over four million square feet of mixed-use space and will support research experimentation and commercialization through targeted programs to spur the growth of startups and drive innovation for established corporations.

NJEDA
ECONOMIC DEVELOPMENT AUTHORITY
njeda.com

NEW JERSEY INNOVATION INSTITUTE (NJII)



OUR STORY

Disruptive technology is transforming every business sector. Healthcare, defense and homeland security, breakthroughs in gene splicing, cell therapies, smart cities, manufacturing and so much more are redefining the core competencies that have anchored industry for over a century. If you are not a disruptor, you are likely to be disrupted—so how can you position your company to meet the challenge?

New Jersey Innovation Institute (NJII) is here to help you master change. We combine your company's talent with that of emerging companies, entrepreneurs, and the best academic minds. Our unique approach to Innovation as a Service is a customizable suite of tools and techniques that will keep you ahead of your competitors. Here are a few examples ...

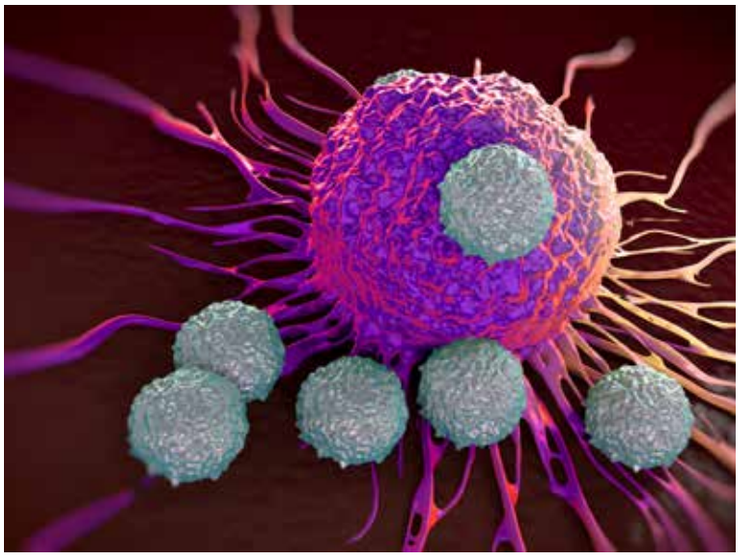
NJII's Healthcare Delivery Systems iLab has been instrumental in helping the healthcare industry develop electronic health records (EHR) that contain comprehensive patient information including diagnoses, treatments, medications, immunizations, and potentially life-threatening allergies. The idea is to share this electronic information among medical service providers through a process called interoperability. Of course, with laws like HIPAA (Health Insurance Portability and Accountability Act) on the books, it is vital that security provisions are put in place to safeguard the privacy of medical information.



The sharing of patient information among healthcare professionals results in improved patient outcomes because the focus is on the patient and not paperwork, tests are not duplicated because providers are "speaking" to one another, and costs are reduced. A recent technological development is the Master Person Index that securely connects and shares patient information under the New Jersey Health Information Network, technology managed by NJII.



NJII test of an unmanned aerial vehicle ready for launch at Cape May, NJ.







NJII's Defense and Homeland Security iLab is leading the way in the application of Unmanned Aerial Systems in the areas of transportation, environment, infrastructure and disaster response.

In the aftermath of Hurricane Harvey, NJII was involved in the use of UAVs to conduct aerial inspection of cell towers that were knocked out of service and unable to support much-needed wireless communications. The towers requiring immediate attention were identified for ground crews to repair, including those that would have to be reached by watercraft. Beyond their aerial inspection capability, and because UAVs can remain airborne for extended periods, they can also serve as temporary cell towers when outfitted with the appropriate equipment.

NJII's Cell and Gene Therapy Development Center, will among other things be undertaking the manufacturing process for new T cell cancer treatments on behalf of major biopharma companies and treatment centers. With more than 240 immuno-oncology treatments in development, the demand for manufacturing facilities is predicted to be intense in order to meet the needs of patients.

According to NJII's Senior Executive Director, Biotechnology & Pharmaceutical Innovation, Dr. Haro Hartounian, "The importance of the manufacturing process in these new cell and gene therapies cannot be overstated. While there are certain processing steps that are common in the manufacturing cycle, there can be minor variations that depend on the individual patient's type of cancer. This adds considerable complexity and challenge to these breakthrough treatment modalities and the need for innovative approaches to manufacturing."

New Jersey Innovation Institute
An NJIT Corporation

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njii.com

VENTURELINK @ NEW JERSEY INSTITUTE OF TECHNOLOGY

THE UNIVERSITY'S COMMUNITY BUSINESS INCUBATOR SUPPORTS STARTUPS WITH VALUABLE SPACE AND SERVICES.





The VentureLink cafe area is designed to encourage interaction and collaboration.

ELEVATOR PITCH

From desks to offices and coaching to mentorship, VentureLink is the home for entrepreneurship and innovation in Northern New Jersey. With 110,000 square feet of usable space, VentureLink is the largest startup incubator in New Jersey.

VentureLink houses three options to support entrepreneurs of all types: the brand-new co-working floor, private office and growth floors, and wet lab and sciences floor.

OUR STORY

About VentureLink@NJIT

Dubbed as the "Physical Home of Entrepreneurship at NJIT," VentureLink hosts a number of programs for both student and community entrepreneurs. The building is home to four distinct programs of which members can take advantage.

In addition to the private office space, the recently renovated first floor is home to an 11,500-square-foot, modular, open-desk co-working space. The program can support offices for any size of early to growing team.

Learning the Entrepreneurial Core: LinkUps Workshops

The heart of the programming at VentureLink is the LinkUps Workshop series. Including topics such as "Building Your First Sales Plan" and "How to Shop For a Lawyer," the 15-20 workshops held per year teach budding entrepreneurs how to start and how to build their company.

This workshop series is free and open to the public. Anyone in the area can join and learn how to start their own venture.



Startups need a place to start. CoWorking and incubation space is perfect for small teams looking to grow.

Open Coffee Club: Professional Networking

On the first Wednesday of the month, VentureLink hosts Open Coffee Club – Newark. The concept was created and open sourced by Saul Klein, venture capitalist and co-founder of Skype. In this relaxed and social environment, people make the professional connections that are vital to all entrepreneurial pursuits.

Open Coffee Club – Newark is co-hosted with the Brick City Meetup and has seen angel investors, vendors, students, professors, venture capitalists, and technologists all interact over coffee and bagels.

Jose Espinoza, an NJIT information technology alumnus, is CEO of Big Magic Inc., a health-technology company that helps healthcare practitioners polish their online presence. He appreciated the networking afforded to him through Open Coffee Club. "I met an investor here that introduced me to other relationships that have helped push our business forward," he said, adding that he liked getting together with other tech-ecosystem stakeholders with similar interests.

Making Connections: Social Series

One of the most important benefits of startup incubators is the connections entrepreneurs make with each other. VentureLink sponsors a number of events throughout the year to build the connections among the founders-in-residence.

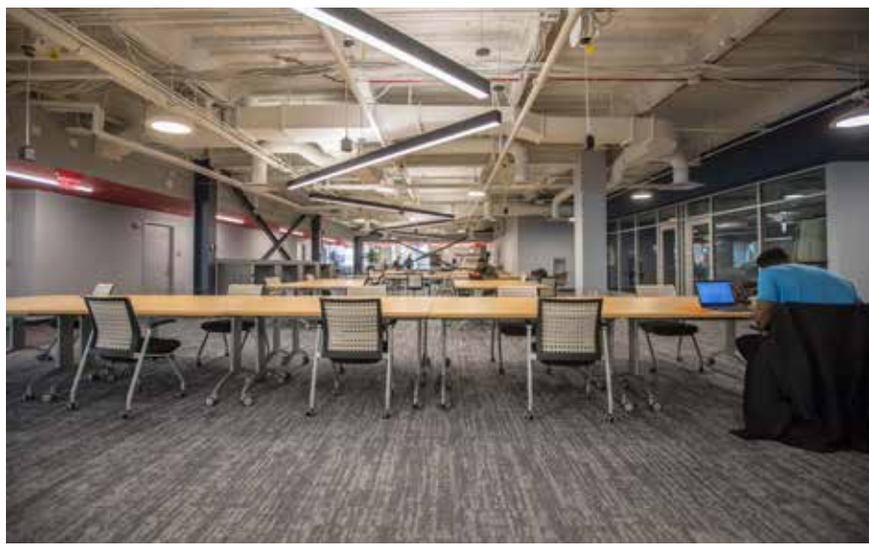
These social events are always changing. Some of the highlights include Food Truck Fridays, Founder's Happy Hour, and Entrepreneur's Lunch.

Our brand-new kitchen-lounge space was designed specifically to support and encourage the natural interactions that make startup incubators great.

John Vito d'Antonio-Bertagnolli, another NJIT alumnus and CEO of Oculmotor Technologies, a vision therapy technology company, says that Making Connections: Social Series is "far and away the most useful startup-oriented



All VentureLink members get access to huddle rooms, conference rooms, and privacy booths to make their business as successful as possible.



VentureLink's brand new 11,500-square-foot open coworking space is open for student-entrepreneurs as well as being open to the broader community.

event that I've ever attended. It's a chance to meet fellow entrepreneurs, who all have incredibly rich and varied experiences, and discuss you and your startup, as well as them and theirs. We're all going through the same growing pains, and it is invaluable to be able to commiserate with and ask for advice from people who are in the same boat as you."

Entrepreneurs to Experts: Mentorship Program

No one starts alone. VentureLink manages a robust mentorship program to ensure every entrepreneur gets the support he or she needs. Supplied with seasoned entrepreneurs and industry mentors alike, the VentureLink mentorship program connects founders with the advice that will lead them to success.

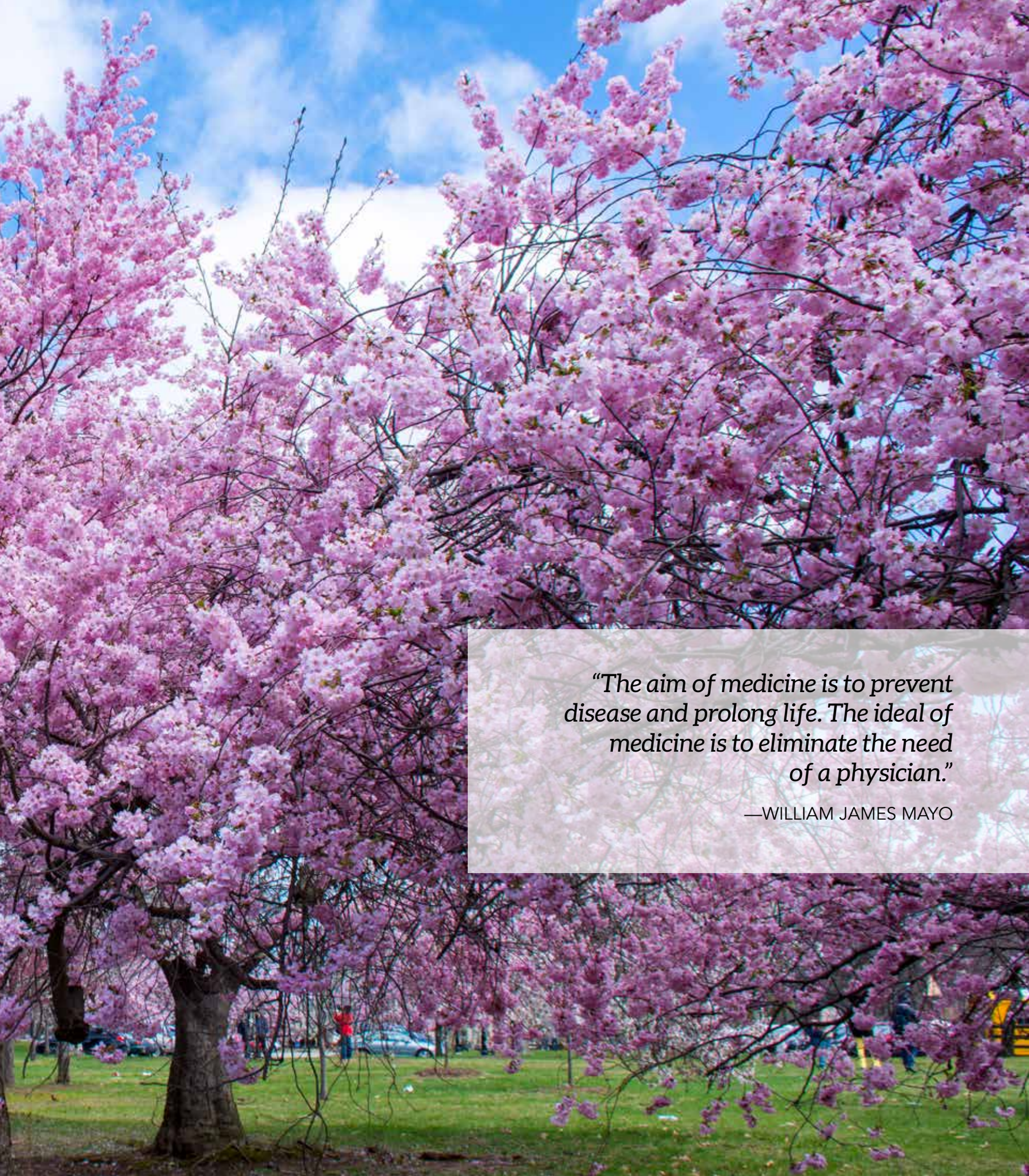
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VentureLink
Your Ideas, Realized@NJIT



CHAPTER 3

HOSPITALS & HEALTHCARE SERVICES



"The aim of medicine is to prevent disease and prolong life. The ideal of medicine is to eliminate the need of a physician."

—WILLIAM JAMES MAYO



ZELIS

ZELIS IS A HEALTHCARE AND FINANCIAL TECHNOLOGY GROWTH COMPANY AND MARKET-LEADING PROVIDER OF CLAIMS COST AND PAYMENTS OPTIMIZATION SOLUTIONS TO PRICE, PAY AND EXPLAIN HEALTHCARE CLAIMS

Zelis delivers integrated network analytics and access, payment integrity, electronic payments and claims communications for payers, healthcare providers, and consumers in the medical, dental, and workers' compensation markets nationwide.

Zelis is headquartered in Bedminster, New Jersey, with other key locations in Atlanta, Georgia; Clearwater, Florida; Overland Park, Kansas; and St. Louis, Missouri.

WE ARE ZELIS

Zelis was founded in January 2016 with the combination of four growth companies focused on claims cost solutions and electronic payments.

We spend more than $3 trillion a year on healthcare in America. At Zelis, we believe that we all pay about 1/3 more for healthcare than we should. Each year, about $1 trillion is spent due to errors, waste, fraud, and abuse. And, we spend even more on the $500 billion of paper-based payments to providers which can be converted to electronic payments.

We've brought together some of the best leaders in the industry and invested in leading-edge technology to help make healthcare more affordable and more understandable for all of us.

Our disruptive approach begins by working in the prepayment window, before claims get paid to ensure claims are paid appropriately the first time around.

Zelis is purpose-built to eliminate the stress points in the claims life cycle. With Zelis, payers get the information required to build the networks their members demand; claims get paid appropriately; payments are delivered faster, more accurately,









and on the terms providers prefer; and, healthcare is made more understandable for providers and consumers.

Our proprietary claims editing solution encompasses more than 18 million customizable edits sourced to national coding standards, making them reliable and defensible. More than 85% of the time, we identify additional network cost, claims cost, and payments cost savings that other companies are unable to find. We help save payers an average of 60% of the cost of making healthcare payments by converting from paper-based payments to electronic payments.

Zelis has helped more than 700 payers save more than $27 billion in network and claims cost since inception. We've delivered more than $50 billion in annual payments to more than 700,000 contracted providers on behalf of 330+ payer clients, and more than 500 million payment data communications annually.

We're building a single, integrated solution that brings everything together. We are Zelis.

MILESTONES

- Zelis was recognized as a Great Place to Work-Certified™ company
- Zelis has ranked on Inc. 5000, an annual list of the fastest-growing private companies in the US, nine times
- Zelis was the No. 1 fastest-growing private company in New Jersey in 2017, No. 4 in 2018 and No. 19 in 2019, according to NJBIZ
- Zelis CEO Doug Klinger was recognized as an EY Entrepreneur Of The Year® winner
- Zelis CEO Doug Klinger was named a Power 50 Healthcare Leader by NJBIZ

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MSP INC.

THE TRIAD™ BINARY DATA REPRESENTATION BREAKTHROUGH

ELEVATOR PITCH

Licensable Triad Dataspace™ solves e-Data interoperability, aggregation, and privacy issues. Triad™ enhances query speed by creating one, universal binary representation for cloud-SAN repositories. Triad™ solutions meet HIPAA and GDPR privacy requirements. MSP offers clients a sustainable competitive advantage in cloud SAN storage and other healthcare markets!

OUR STORY

Medical Strategic Planning, Inc. (MSP) was founded in 1992, and has worked with Triadics, LLC. since 2013 to implement Mr. Einstein's famous advice – "We cannot solve our problems with the same thinking we used when we created them." Now text, integer, floating point, waveforms, and image data types can all be expressed in a single, double-blind encrypted, analytics-ready, universal, binary representation, called a Triad Dataspace™.

Triad™ supports a record of transactions that can be associated with a peer-to-peer network of depositors, each of whose submitted e-Data is owned and separately controlled by its depositor(s).

Figure 2 is an actual Triad™ encryption of multiple records submitted. Try to decrypt it! If the original information used to create the Triad™ representation can't be decrypted, that original information remains protected and unexposed. Triad™ can be configured to be part of a Trusted Exchange Framework (TEF), exchanging CCD and FHIR compatible healthcare information. Triad™ encryption is storage footprint efficient compared to conventional representations (see Figure 3). Triad™ has other novel features described below, which any company can leverage and utilize through a royalty or leasing B2B arrangement with MSP.

Near-Real Time Query, Search, Record Location

Triad™ makes even complex query processing consistently fast regardless of data mass size; so fast that near-real time alerts can be generated as new information is being assimilated into the data mass. With Triad™, queries are always a matter of calculation rather than mass storage examination. Near-real time encrypted query-by-calculation is a major Triad™ advance; one not dependent upon faster processors, but only upon improved information representation. Triad™ can invoke predetermined alerts or launch applications based upon desired outcomes. Instances of desired outcomes are clustered, and the combinations of attributes that created them are catalogued. Since Triad™ updates its own "schema" (Figure 1) as new data is encountered, Triad™ representation is always analytics-ready. Now advanced analytics and pattern detection can be performed in a single repository; no need to decrypt, duplicate and transfer e-Data to a separate analytics repository. Triad™ is one, hyper-secure, integrated solution for storage and analytics. The larger the data mass, the more powerful the analytics become.



Figure 1: Isolation and separate stored-encryption of identity information



Figure 2: One, universal, binary, double-blind encrypted, queryable e-Data format

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Figure 3: Reduction in e-Data footprint from 4 to 2000 times

Test File Description	# Records	# Fields	SQL File Size (KBytes)	7Z File Size (Kbytes)	7Z Reduction Ratio	Triad File Size (Kbytes)	Triad Reduction Ratio	Triad Gain over 7Z Reduction
Test File 1	30	4	0.95	0.47	2.021	0.188	5.07	2.51
Test File 2	250	4	6.78	1.52	4.478	1.09	6.22	1.39
Test File 3	1,000	4	103.00	31.00	3.323	3.265	31.55	9.49
Test File 4	1,000,000	19	45,225.00	8,484.00	5.331	23	1,966.30	368.84

Note: SOURCE files contained only Text and Numeric Data types, no JPEG, DICOM or other image data types

Information Privacy

Personal identifiers can appear in incoming data streams. These may include genomic markers, fingerprints, DOB, birthplace, address, age, SS numbers, Medicare number, patient ID number, driver license number, passport number, phone numbers, and credit card data. When they do, they are excluded from third-party queries, thus enhancing data privacy protection.

Storage Efficiency/Cost Reduction Advance

The larger the data mass, the more cost-effective storing it as a Triad™ e-Data representation becomes. Triad™ makes reducing storage footprints in commercially-available, cloud SANs practical for the first time, since no inflation or empty storage space is required in the SAN to perform analytics.

Figure 3 reveals that expressing information in a Triad™ representation can achieve from 2.5 to 369 times smaller footprint than if it were compressed by 7Z. Triad™ representation is a resolution pyramid, in which low-resolution artifacts are reduced in a manner that is more efficient than any of today's commercially-used methods. The comparison of Triad™ to 7Z validates that reported results were not manipulated to optimize e-Data size reduction and occur across a wide

range of file sizes. Triad™ by its nature, is a bit-lossless reversible representation. Restoration of the originally-submitted data structure is only performed when stored eData is being returned to its depositor (or their authorized designee) as a report (or as a restoration of backup data originally submitted). Upon request, within a Triad™ SAN only, Triad™ eData can be transformed back into its original content, or alternately output in a different metric system and unit of measure (if requested). Triad™ thus supports computer-to-computer interoperability—becoming a computer information "Rosetta Stone" of sorts.

As shown in Figure 5, one bay of 10 Triad™ racks can contain up to 600 10-Terabyte hard drives. This storage would cost around $200,000 for hard drives, but occupy only 15 square feet of data-center floor space! Using conventional data types, each bay could host up to 6 Pedabytes of information, but using Triad™ universal, binary format, the storage capacity is extended to at least 24 Pedabytes, up to 12 Exabytes, depending on the mix of data types stored (refer to Figure 3). Hosting 12 Exabytes of incoming numeric and textual information requires only a couple of storage bays that could be housed in one, 10'-by-40' (400 SF) data center. Total build cost could be less than $3 million using "Commercially-available, Off-the-Shelf" (COTS) components. Heating, A/C (backup) power, and other operating costs are greatly reduced.

How Could MSP Achieve This?

Breakthroughs don't always come from big companies. Sometimes they come from individuals working in homes or garages (for example, Bill Hewlett and David Packard, Nikola Tesla, Thomas Edison, Einstein, Henry Ford, Elon Musk, Hedy Lamarr, Howard Hughes, and others). By partnering with Triadics, LLC, (Las Vegas, NV), a pioneer in Triad™ for non-commercial applications, MSP now brings the Triad™ advance to healthcare and cloud SAN repository markets; empowering savvy companies and the average American to take control of their personal information and protect it from continued breach, malware and ransomware cyberattacks. Triad™ fits many business models; a couple of which are discussed below.

1. Precision Medicine (Lifetime Health Record) Storage and Analytics

Is Triad Dataspace™ the long-sought Interoperability "Exit Ramp" for Precision Medicine's Lifetime Medical Record, public health, population health, RHIOs, epidemiological studies, and EHR/PHR data aggregation? Triad Hyper-Secure Data Bank™ (HDB) can accept, aggregate, and analyze information from computers that use a mix of different (textual, numerical, and image) datatypes, including vital signs waveforms and medical images submitted as (CCD XML-tagged data, CSV, JSON, DICOM, ODBC/JDBC) formats and various metric systems. Triad™ is incoming-data metric agnostic—supporting databases output in Imperial or MLKS systems)!

2. Enhanced Image Recognition Possibilities

Triad™ bit-lossless image storage is only 2-3 times smaller than storage in Jpeg 2000 format; however, Triad™ can detect and catalog image sub-content. That allows Triad™ to support "query by image-patch." A user picks an "image patch" (say a "coin lesion" in a chest X-ray) from one image and Triad™ analytics locates all similar patches in all other images across an entire image repository. Image-patch query augments conventional meta-data query, based upon human-assigned tags or keywords. This Triad feature is applicable to radiography, nuclear, SPECT, PET, MRI, pathology, and hematology imaging, and is useful for finding anomalies in medical vital signs and repetitive waveforms, such as ectopic beats/arrhythmias in ECG strips.

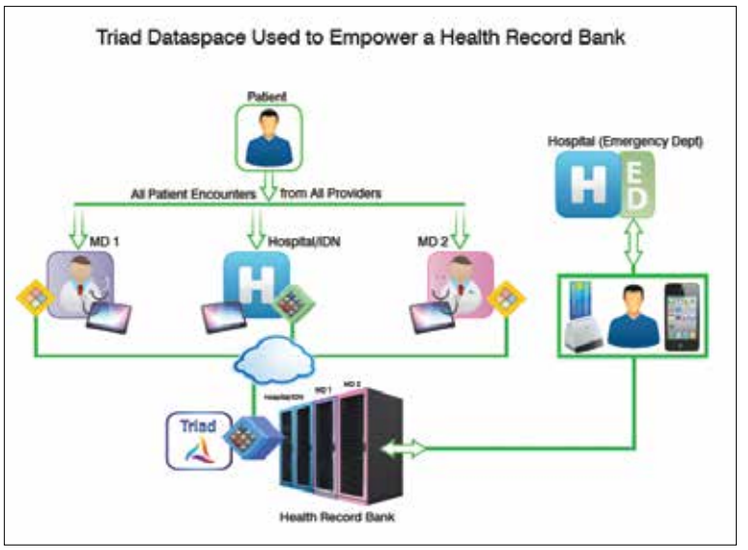


Figure 5: Triad HDB™ implemented with BackBlaze cabinets and racks in SAN datacenter



Backblaze Server Racks shown above hold up to 60 Western Digital 10-Terabyte drives, providing a storage capacity of 600 Terabytes per rack. Each bay can hold up to 10 racks or 6 Petabytes per bay. Applying Triad™ universal binary representation (depending on information type) extends storage capacity from 4 to 2000 times, extending each bay's storage capacity from 24 Petabytes up to 8 Exabytes at a storage cost of $225,000 per bay.

Triad™ Roll-Out And Implementation

Companies that currently market information technology products or services for healthcare, and are seeking a sustainable competitive advantage that they can offer to their clients—have found it. Companies can license use of Triad™ as part of their own products. Angels or VCs can also utilize Triad™ to enhance new ventures. A Triad Hyper-Secure Data Bank™ (HDB) could initially be used as an inexpensive, off-site, backup repository; but once fully populated, could add an analytics GUI to leverage Triad's™ advanced analytics capabilities. To explore such opportunities, contact MSP today.

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Medical Strategic Planning, Inc.

CAREGILITY

USES ITS VIDEO COMMUNICATIONS PLATFORM TO INCREASE ACCESS TO PATIENT CARE





L-R: David Galas, Kyle Stephens, David Galas, Daniel Calabrese, and Aleksey Wilson

ELEVATOR PITCH

It's no secret that the healthcare industry is in a constant state of flux. From rising treatment costs to chronic health crises, there's a need for more agile and effective care modalities to bring care teams closer to their patients in real time. Complexities and inefficiencies come from a breakdown in communications, often worsened by long distances, disconnected care centers, and staff shortages.

OUR STORY

In 2019, Caregility was launched with products and services to close these gaps. Leveraging its 35 years of expertise in video communications and collaboration, and eight years of experience in clinical environments as part of its parent company, Yorktel, Caregility is focused on enabling the fastest path of care for patients to connect with the right caregiver and treatment plan. Through its UHE Communications Platform, Caregility connects clinicians with patients anywhere—inpatient, outpatient, or in their homes—with the tools to remotely provide timely and effective care, often superior to more traditional care methods.

"We are excited about the new products and services we've developed for the healthcare market, with the mission of providing better care for patients and ultimately better outcomes," says Ron Gaboury, CEO of Caregility. "Healthcare providers are embracing what we have developed so far, and we are confident that they will be even more impressed in the years to come."

The company's central value is to enable the right level of care for patients from the right clinician with the right data at the right time and in the right location. Calling these the Five Rights of Patient Access, Caregility has built a portfolio of products and services that can deliver on these rights today. At the core is UHE, a comprehensive, HIPAA-compliant video enablement platform which connects all patient and clinician environments into one universal network. Attached to the network are Caregility's Access Point of Care Systems which are video-enabled and located where patients are (inpatient: ICU, acute, ED; post-acute: hospitals, rehab, nursing homes; outpatient: urgent care, clinics, homes) or where clinicians are (hospitals, clinics, offices, operation centers). To round it out, Caregility services ensure the highest availability of the platform and the Access Point of Care Systems so that communications are always on and available whenever and wherever the doctor needs to see and treat the patient.

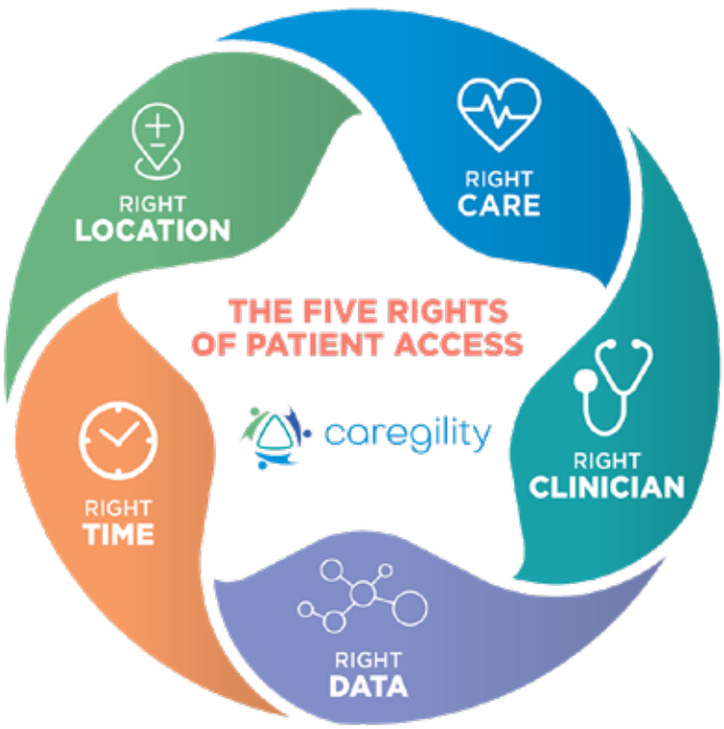
Caregility is a new name and company, but with a long history in healthcare and delivering complex video communications solutions that are intuitive, reliable, and easy to use. Their focus—to facilitate virtual communication and collaboration, person to person, regardless of device or location—already makes them a trusted partner to many of the nation's largest and most respected healthcare organizations. From acute care settings, patient homes, or hospital ICUs, Caregility is poised to transform the healthcare industry.



Mike Brandofino, President & COO and Ron Gaboury, CEO



L-R: Sudhir Ahuja, Scott Andrus, Judi Pulig, Jim Custer, Mike Brandofino, Sr., Pete McLain, Ron Gaboury, Kelly Harman, Gerald Frederickson, and Michael Brandofino, Jr.





caregility
Changing the Point of Care

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TELIGENT

WE DEVELOP, MANUFACTURE, AND MARKET PHARMACEUTICAL PRODUCTS FOR USE BY DOCTORS AND PATIENTS IN THE UNITED STATES AND CANADA.

OUR STORY

We are a dynamic group of about 250 employees based in New Jersey, Toronto, Canada, and Tallinn, Estonia. Our brand new Product Development and Manufacturing complex is in Buena, New Jersey, approximately 45 minutes from Philadelphia and is now the first pharmaceutical manufacturing facility to have sterile injectables and topical prescription drugs manufactured under one roof.

Our Quality, Regulatory Affairs and Operations colleagues work closely with our Product Development team to achieve consistent and rapid regulatory approval in the countries where we operate. Our Commercial team sells our portfolio of topical medicines and hospital-based sterile injectable products across the globe with a focus on the US and Canada.

We are energized about what we are accomplishing at Teligent today as we continue successfully executing on our goal to be a market disruptor in the generic drug space. We believe in taking ownership, driving execution, and making smart, quick decisions.

We are passionate about our science, and are committed to building a diverse pipeline of topical, injectable, complex, and ophthalmic projects. It's a powerful, uniting force that magnifies what we could do on our own. The Teligent spark empowers us to dream of a brighter future, to envision our work having a deeper impact on improving others' lives, and to build something that is bigger than ourselves.















Jason Grenfell-Gardner
President & CEO



Damian Finio
CFO

Teligent

teligent.com

ADMERA HEALTH

ADMERA HEALTH, HEADQUARTERED IN SOUTH PLAINFIELD, NEW JERSEY, IS A DNA SEQUENCING COMPANY PROVIDING LABORATORY SERVICES TO THE HEALTHCARE SECTOR WITH THE GOAL OF IMPROVING PATIENT OUTCOMES THROUGH MORE ACCURATE DIAGNOSIS AND PRECISION TREATMENT.



ELEVATOR PITCH

By leveraging next generation technologies and advanced bioinformatic tools, Admera Health develops a range of molecular tests that help doctors predict a patient's response to medication, accurately diagnose life-threatening conditions, forecast the course of a disease, or individualize treatment to have maximum effect against cancer. The broad scope of their internal R&D work and network of collaborators gives Admera an edge in translating genomic insights into new molecular tests, while the expanding scale of their operations helps lower the cost of genetic sequencing services. These dynamics enable Admera to offer their novel, personalized genomics to more people across the continuum of patient care, which is at the heart of their mission.





OUR STORY

In 2012 Admera Health was spun out of GENEWIZ, a DNA sequencing laboratory that provides research services to biotech organizations, when an opportunity to serve clinicians with advanced molecular diagnostics was identified. Since then, Admera's business strategy and core competencies have focused on three areas of highest unmet clinical need: cardiovascular disease, cancer, and adverse drug events/reactions. Admera's product portfolio addresses these needs with the following next-generation sequencing (NGS) based tests:

- PGxOne™ Plus is a pharmacogenomics test that provides insight into how a patient's genetic disposition links with their likely response to certain medications. This genetic report provides clinicians direction in selecting safe and effective drugs for patients the first time—and avoiding trial and error approaches. Considering the harmful and costly outcomes associated with adverse pharmaceutical events (costing $30 billion annually in the US), coupled with high utilization rates (55% of Americans regularly take one or more prescription medicines), PGxOneTM Plus has the potential to deliver enormous benefit to the health care system.
- The Cardiovascular Test Portfolio (CardioGxOne™ and AtheroGxOne) helps doctors diagnose, stratify risk, and guide patient treatment for a range of inherited cardiovascular conditions—structural disorders, vascular issues and abnormal heart rhythms—that can be difficult to clinically assess and potentially life threatening if left unrecognized and treated.
- The Oncology Test Portfolio (LiquidGx™ and Solid Tumor Profiling – OncoGxOne™, OncoGxSelect™) analyzes a patient's tumor to help doctors select appropriate therapies and gain insight on a patient's chemotherapy tolerance. While cancer persists as one of the leading causes of death worldwide, the need for more precise and actionable insights to accurately diagnosis and treat this disease remains as pressing as ever.

In addition to clinical services, Admera's Biopharma Solutions group offers customized lab services to biotechnology companies, academic centers, and medical research facilities looking to develop new diagnostic tests or discover novel drugs. Biopharma Solutions also partners with outside research centers on developing new indicators of disease progression (biomarkers), better tools for chemical analysis (reagent kits), and novel approaches for processing biological data (bioinformatics).

Admera is building its future on translating genomics science into impactful solutions for patients, physicians and life science organizations. This success was recently recognized by *Inc. Magazine*'s Annual List of America's Fastest-Growing Private Companies—the **Inc. 5000.**

Admera's three-year revenue growth of 855% ranked 511 among 5,000 of its peers. This remarkable growth places Admera 45th in the health industry nationwide, 12th in the state of New Jersey among all industries and No. 1 as the fastest-growing healthcare company in New Jersey.

Admera Health is proud of this achievement and remains committed to its mission to bring personalized medicine—and greater health insights—to more people, worldwide.

admera health | Inc. 5000

admerahealth.com

MEDPRO WELLNESS

DRIVING INNOVATION IN THE HEALTHCARE INDUSTRY BY SCALING 1-TO-1 PATIENT SUPPORT



ELEVATOR PITCH

MedPro Wellness, a pioneer in the population health management space, provides a unique blend of healthcare services and technology to drive medically relevant outcomes for patients, employees, and consumers of health products.

Deploying an innovative "Patient-Engagement-as-a-Service" model, MedPro Wellness works with health systems and corporate partners to not only improves lives, but also help lower long-term costs by driving better compliance with evidence-based protocols.

THEIR STORY

Launched in 2013, MedPro Wellness' founders realized that while tech-based innovations were widely available in the healthcare industry, they did not reflect the unique needs of participants. The one-size-fits-all model and lack of a "personal touch" often resulted in fatigue, frustration, and failure. Recognizing that no single technology or process can supplant the human touch, they knew there had to be a better way to deliver personalized care at scale.

Understanding that the most critical component to better health is changed behavior, MedPro Wellness sought to do things differently. By meeting individuals where they were, with customized programs, they were able to effectively drive engagement - and results. Three distinct pillars: engaging at the right time, with the right means of communication, and the right solution are at the forefront of the company's success today.

Developed as a complement to traditional physician-based health care, MedPro Wellness aims to provide meaningful support in treating the whole person. Taking into account each participant's unique personality traits, motivations, and social determinants of health, MedPro Wellness creates truly 'bespoke' wellness experiences. Individuals are empowered to manage their own health and wellness journeys through plans customized to reflect their specific goals. With a focus on small, incremental steps, MedPro Wellness offers manageable solutions to various health issues including sleep, stress management, nutrition, exercise, weight management, smoking cessation and chronic condition management. Psychology, technology, coaching and physician















MedPro Wellness Co-founders and Managing Partners, Clark Lagemann and Tim Aumueller

oversight keep individuals engaged and accountable in achieving measurable, long-term health outcomes.

MedPro Wellness' virtual care team includes a wide range of health and medical professionals who are further trained and certified in other disciplines. The additional credentials, and training in the latest behavior change techniques, allow for a more positive and engaging experience for participants.

A flexible, mobile-powered approach allows support to be deployed when needed, via text messaging, email, phone calls and wellness challenges, making patient commitment and results much more probable. MedPro Wellness' innovative back-end system, the Coach+ Platform, is built to super-charge care teams with tools and workflows designed to give one health specialist the reach of 10, increasing efficiency and lowering overall costs without reducing efficacy.

From their beginnings as a physician-based wellness program, to the integration of best-in-class technology solutions, MedPro Wellness has stayed true to its core beliefs that small, gradual steps ultimately lead to life-changing results. The company's shared philosophy that better health and wellness is an attainable goal for every single person is what motivates their team each day.

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MEDPRO
WELLNESS

PRINCETON IDENTITY

PRINCETON IDENTITY'S PATENTED BIOMETRIC TECHNOLOGY OFFERS THE MOST SECURE AND CONVENIENT SOLUTIONS FOR ORGANIZATIONS TO STREAMLINE SECURITY, INCREASE THROUGHPUT, AND CONTROL COSTS.



ELEVATOR PITCH

Our solutions are ideal for authentication in markets such as campuses including universities and large enterprises. The company's multimodal biometric solutions employ distinctive iris and facial recognition technologies designed for accuracy and convenience.

OUR STORY

For many students, college is an away game, a real-life obstacle course to run without parental supervision in their transition to adulthood. Parents of prospective students assess campuses and staff, seeking a safe yet open environment for their young adults. Such an ideal environment challenges administrators to balance the need for an open campus with parental expectations for comprehensive security. Biometric solutions from Princeton Identity (PI) promote security by offering seamless, contactless, high-assurance identity management starting in physical access control. PI solutions extend further to applications that provide logical access, optimize student retention, and ensure academic integrity.

Pushing identity beyond simple access control

Princeton Identity (PI) provides a path to high-assurance identity management starting with seamless access control that universities can deploy quickly. Initially, students and staff use contactless biometric readers to conveniently enter campus buildings, dormitories and athletic facilities. As students get used to and adopt biometrics, these access control systems naturally transition to logical access where students biometrically glance for library or cafeteria transactions, for access to the campus network, or for secure final exam check-in.

The true value of PI's biometric solution emerges as colleges expand biometrics to detect and predict patterns of life. Specifically, a large network of physical and logical access points generates data that feed emerging technologies. Artificial Intelligence (AI) using access-control information can harness biometric data to determine aberrations in normal movements and transactions of







students and staff on campus. Significant deviations to normal patterns can prompt early intervention or proactive investigation. The advanced use of this biometric data can help support student retention, increase campus safety, and enforce academic integrity.

Getting started: Two examples of low-hanging fruit

Athletics

Athletics are an integral part of the college experience for many incoming students, whether casually or as intercollegiate athletes. To streamline access to athletics facilities, PI systems replace ID checks, codes, and cards with a contactless, token-less biometric glance. PI recommends starting with biometric readers on team facilities and/or recreation centers where athletes don't have to carry identification for high-assurance access, then expanding to all athletic facilities such as gymnasia and pools. PI's high-throughput biometric readers process hundreds of entries per hour.

Laboratories

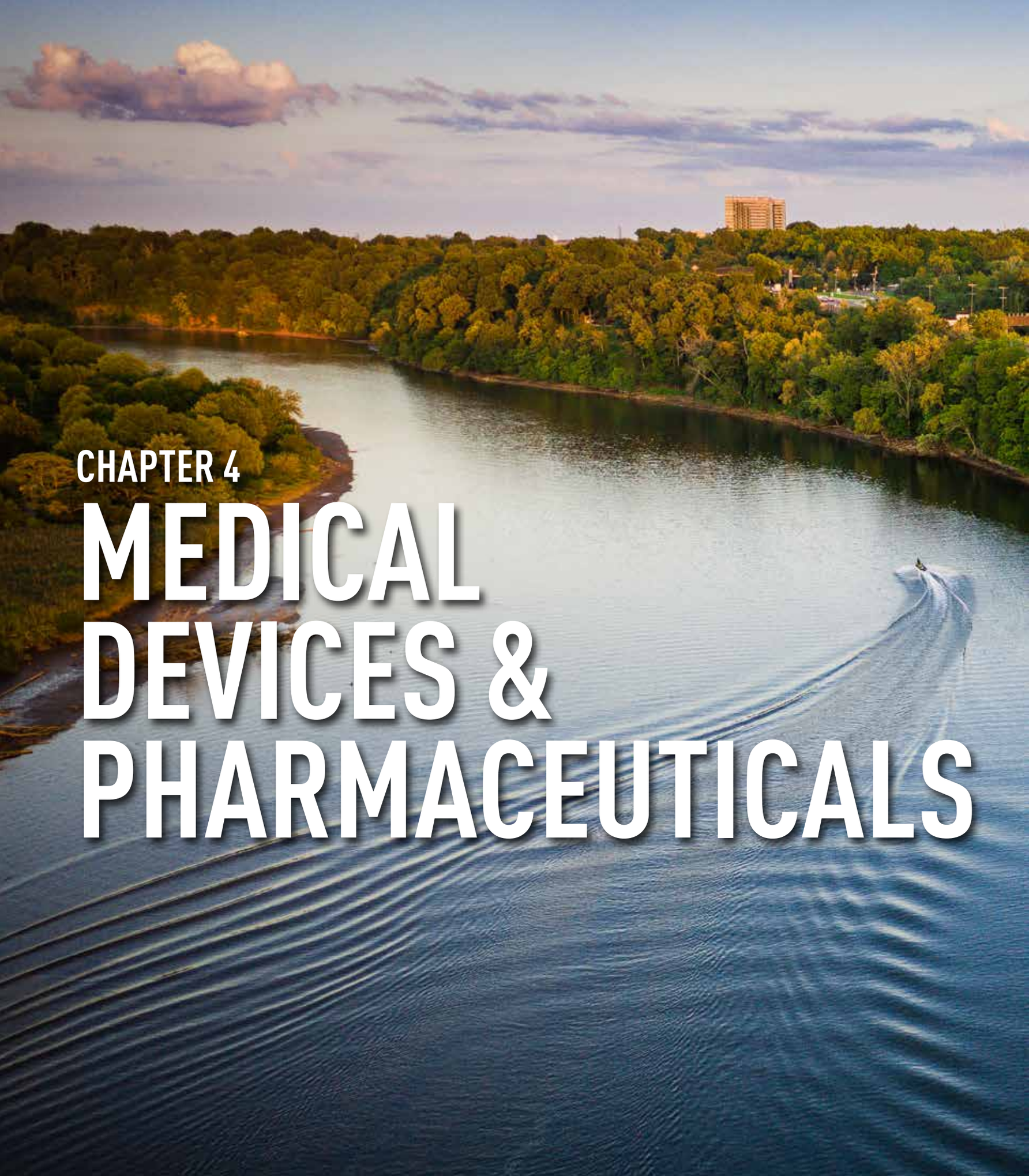
Science, engineering, medical, and datacenter buildings contain valuable, restricted, sometimes controversial and potentially dangerous samples, materials and equipment. Users of PI systems benefit from contactless identity management using biometrics while avoiding the need to remove gloves or masks or fumble with identification. PI biometric systems ease access to laboratories and materials supplies with a simple glance toward doors and cabinets, replacing traditional cards and codes. Enterprise users can transition card readers on exterior doors and elevators to biometric readers to ensure security throughout the common spaces of an entire building or enterprise.

Summary

Adoption of biometrics is a fast, safe, and convenient way of providing high-assurance access to students, staff, and employees on campuses. PI biometric readers start off securing a single room and then transition to campus-wide solutions with future opportunities to improve student well-being and academic success. Princeton Identity has several universities who have installed these solutions, and we continue to expand our footprint for campuses, including universities and large enterprises.

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CHAPTER 4

MEDICAL DEVICES & PHARMACEUTICALS



"The only way to discver the limits of the possible to go beyond them into the impossible."

—ARTHUR C. CLARKE



molex



L-R: Thomas Strasser, Ashish Vengsarkar, Kathleen Coviello, Peter Lee, Doug Busch, Clark Smith, and Jefferson Wagener. Kathleen is NJEDA's VP Technology & Life Science Investments and Clark Smith is the Lead - Venture Manager for the Technology Sector at NJEDA.

ELEVATOR PITCH

Molex creates global connectivity with fiber-optic pipes that transmit data the world over. We are the glue that holds networks—and people—together.

OUR STORY

The greatest product you've never heard of was designed in Bridgewater, New Jersey, in 2005 by a company named Nistica. The product was the fiber-optic switch. It's both simple and difficult to describe the impact the fiber-optic switch and its wavelength selective switching (WSS) have had on the world. Simple, because WSS is ubiquitous—it forms much of the infrastructure of today's internet. The difficulty stems from the scale of WSS, which is both massive and miniscule.

"What you don't see when you order something on Amazon is the data collected from multiple data warehouses across the globe, nor do you see the way those datasets come together through fiber-optic pipes," says Ashish Vengsarkar, GM and VP of Molex Wavelength Switching Solutions and Nistica leader. "We are the ones who build and maintain those fiber-optic pipes."





Venture-backed in the beginning, Nistica also received support from the New Jersey Economic Development Authority in the form of lab space, contacts, and funding. In 2018, Lisle, Illinois–based Molex acquired Nistica to be the nucleus of a planned center of technical excellence in New Jersey. In the fall of 2019, the company unveiled a new state-of-the-art, 30,000-square-foot lab space to do just that.

Ironically, the products created in this spacious technical center are incredibly small. A single optical fiber is the width of a human hair, yet it contains about 100 channels, or wavelengths. Each of those channels can transmit enough data to conduct over 2 million simultaneous FaceTime conversations. Nistica technology and expertise provides the ability to look inside those fibers and decide which of the 100 or so channels can be used to transmit without any failure from origin to destination—say from New York to San Francisco—and which need to be rerouted—perhaps to Kansas first—in order to drop a few subchannels and continue on without failure.

"In the early 2000s, when fiber-optic switching became necessary, it resembled an old-fashioned telephone switchboard," Ashish explains. "But today, we have the ability to automate the optical network. We have devices the size of your smartphone that can automatically add or drop channels as the wavelength travels—from any origin to any destination in the world."

"Our highly innovative team takes extreme pride and great satisfaction in helping our customers drive innovation in areas where optical technology provides them with a competitive advantage. We have enabled fiber-optic travel not only terrestrially but also under water, creating the first-qualified, highly-reliable, Wavelength Selected Switches deployed along the bottom of the ocean. Our WSS solutions are designed to ensure network optimization and maximize uptime," says Ashish.

Molex is a part of Koch Industries which is based in Wichita, Kansas, and is one of the largest private companies in America, with estimated annual revenues as high as $100 billion, according to Forbes. Molex has a rich history of bringing together innovation and technology to deliver electronic solutions to customers worldwide.

The Molex acquisition of Nistica is a critical part of its formula for continued success. Nistica's New Jersey–nurtured capabilities, expertise, and proven technologies combined with Molex's optical product portfolio, global engineering, and manufacturing platform positions Molex uniquely to deliver complete fiber-optic solutions to customers worldwide.

"We're proud to be an innovator and part of a global company capable of high-volume production," Ashish says. "Our spirit of innovation is stronger than ever, and it gives us the ability to anticipate future network needs. We'll continue to use our heritage of innovation and expertise to develop the technologies of tomorrow—our mandate is to innovate."

molex.com

AMICUS THERAPEUTICS

ELEVATOR PITCH

Amicus Therapeutics is a global, patient-dedicated biotechnology company focused on discovering, developing, and delivering high-quality medicines for people living with rare metabolic diseases.



OUR STORY

With one rare disease medicine globally commercialized for Fabry disease, an investigational enzyme replacement therapy (AT-GAA) in late-stage development for the treatment of Pompe disease, and a robust gene therapy pipeline and growth platform for lysosomal storage disorders, Amicus Therapeutics is committed to changing the lives of people with these life-threatening conditions.

What we do today has its roots in 2005 when the employees of Amicus crafted a belief statement that would encompass our core values. It reminds us of the reason we do what we do and outlines the fundamental beliefs that are crucial to understanding the passion and commitment behind Amicus. We are proud to stand by this set of standards that showcase our bold nature and driven personalities.

We believe ...

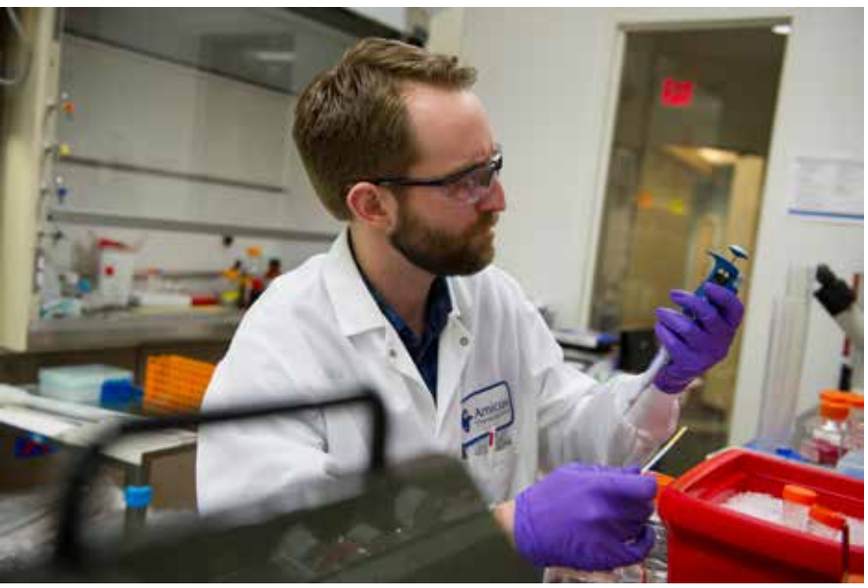
... In the Fight to Remain at the Forefront of Therapies for Rare and Orphan Diseases
... In Our Future to Build Long-term Value for Our Stakeholders
... In Each Other to Foster Teamwork and Respect for Each Individual's Contribution



Beyond our mission statement, we are guided by the programs we invest in, each of which must meet three key characteristics. It has to be in the rare diseases for a devastating disorder, the technology has to have the potential to be first in class or best in class, and the clinical data must be able to provide meaningful benefit for patients. As we pursue treatments for rare metabolic disorders, we maintain a personal and compassionate focus on patients, their caregivers, and families.

"This personal and direct relationship with patients embodies the culture of our organization and drives what we do very passionately every day," says John F. Crowley, Chairman and CEO of Amicus. "Every biotech company says it's focused on patients, but at Amicus we do it in a different way. You see it when you go to our offices around the world where we have pictures of patients with the diseases we treat accompanied by narratives about their struggles, identities, and lives."

Currently in Amicus' development pipeline are therapies for Fabry, Pompe, and Batten disease. In addition to these clinical programs, we have the ability to leverage our biologics capabilities and platform technologies to further expand our pipeline.







For example, the company is developing a gene therapy portfolio of intrathecal AAV programs for neurologic lysosomal disorders through a license agreement with The Center for Gene Therapy at The Research Institute at Nationwide Children's Hospital (NCH). Amicus also has a broad gene therapy collaboration with the Gene Therapy Program in the Perelman School of Medicine at the University of Pennsylvania (Penn).

Amicus' dedication to patients goes hand-in-hand with a deep dedication to ethics and compliance. Acting with integrity and complying with law ensures that everything we do for patients meets the highest standards of safety and professionalism.

"As colleagues, we respect and trust each other," says Patrik Florencio, Amicus' Chief Compliance & Risk Officer. "As friends, we go the extra mile to support each other in our mutual corporate objectives. And this cuts across all departments. It is that support, and understanding that compliance is a shared responsibility, that makes Amicus so special and its commitment to ethics & compliance so meaningful."

Looking to the future, we want to engage in a journey of learning, adjustment, and focus. Fulfilling our vision requires extraordinary science, aligning priorities, and building a team of great people, and our passion unites us as we remain committed to helping those in need.

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GO!FOTON
MEDICAL OPTICS

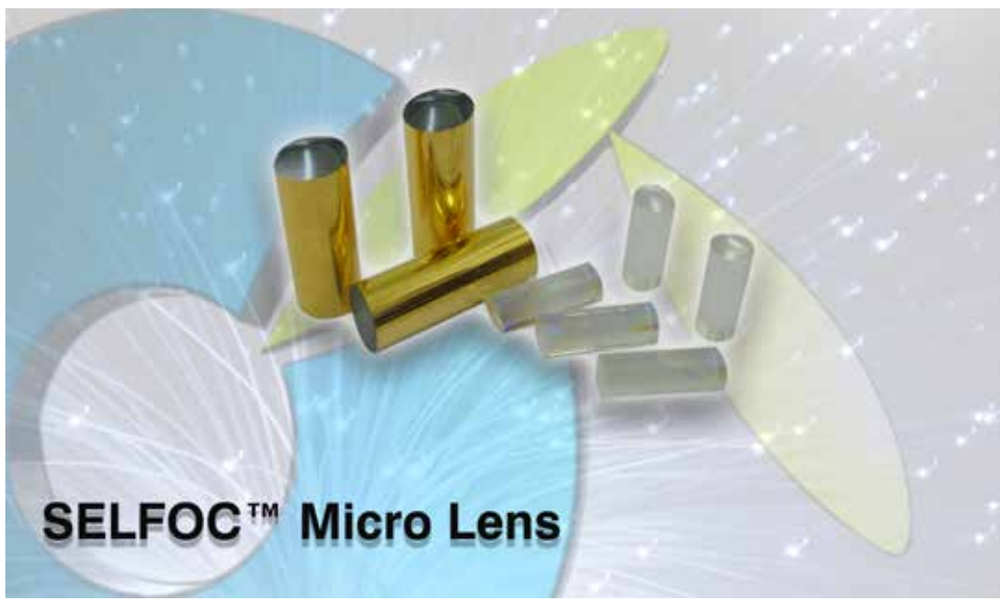


ELEVATOR PITCH

Go!Foton provides lenses and optical probes for a variety of biomedical and life sciences markets. These range from general endoscopy to specialized applications such as cardiac ablation. Over the past decade, however, two significant areas of focus have emerged.

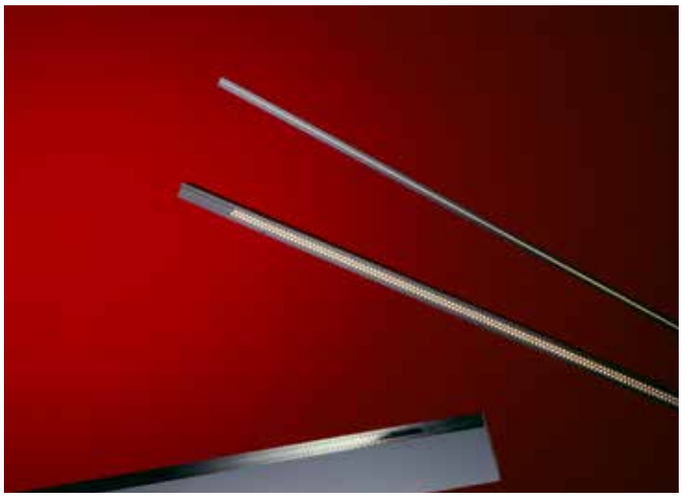
OUR STORY

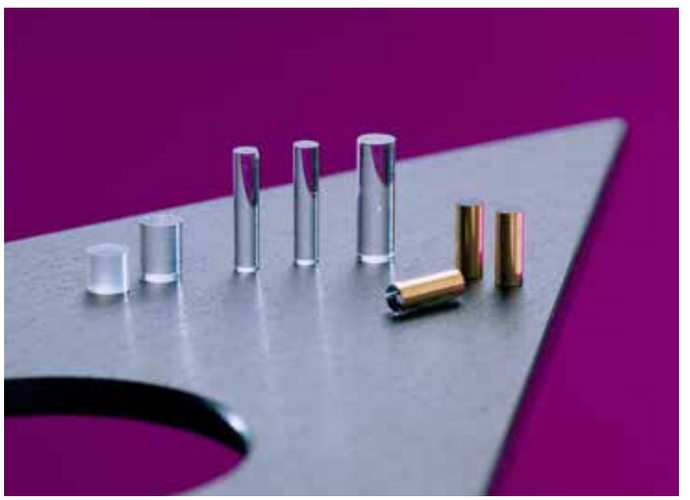
In the clinical medicine domain, Go!Foton supplies probes to Optical Coherence Tomography (OCT) medical equipment makers. OCT is widely used in ophthalmic diagnostic devices for non-invasive













scanning of the retina and optic nerve, but examination of other regions of the body often requires disposable insertable probes. Using harmless infrared light instead of X-rays, these probes rotate at very high RPMs to produce detailed digital images of the subject tissue.

Because OCT probes are not reuseable, the ability to produce them at high volumes while maintaining the exacting quality standards necessary for OCT diagnostic applications presents a dual challenge. At Go!Foton, we've met both: our OCT probes are manufactured in our own state-of-the-art facilities and feature our own self-focusing gradient index (GRIN) lenses coupled with a patented prism design to furnish precise and repeatable beam characteristics.

Go!Foton's other major life sciences initiative empowers cutting-edge neuroscience research utilizing fluorescence microscopy. By enabling video capture of firing neurons this technique can be used to locate areas of activity in the brain, thereby allowing researchers to determine which loci are engaged in the accomplishment of a specific task. The ultimate goal of such research is to decipher neural circuits – the various collections of neurons and synapses that each perform distinct functions.

Similar research with mice and other small animals is also helping to revolutionize the understanding of brain function. Lenses developed by Go!Foton specifically for this purpose are a key component of the tiny single photon and two photon microscopes that facilitate experimentation.

As a pioneer in optics innovation for decades, Go!Foton is constantly seeking new opportunities to expand our leadership positions both in biomedical optics and the use of optical imaging in the life sciences.

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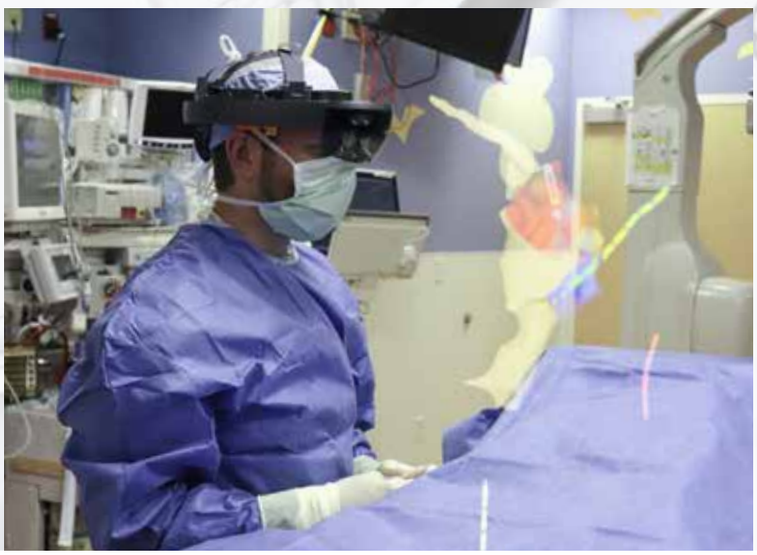
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hsd

innovation & idea development

Designing the Future of Healthcare











Focused Innovation lives in NJ

HS Design, an ISO 13485 certified Medical and LiveScience product development firm located in the center of NJ's Pharma Belt, focuses on front end innovation and user-centered design. Built around the technology of Edison and Bell Laboratories, leading institutions of Rutgers, NJIT, Stevens and Princeton, renowned healthcare providers such as MSK, RJW and more, HSD has developed a deep expertise in medical technology innovation. We are the experts in designing for all clinical situations, diagnostics, home, and digital healthcare technologies.

For over 40 years, HSD has been dedicated to collaborating with world-class corporations, institutions, researchers and clinicians in designing the medical devices of the future. Our curiosity to uncover unmet user needs and simplify complex technologies keeps us passionate about what we do. HSD provides innovative solutions to the most complex design problems in Medical, Healthcare & Scientific environments. Our efforts directly benefit our clients, their patients and healthcare providers.

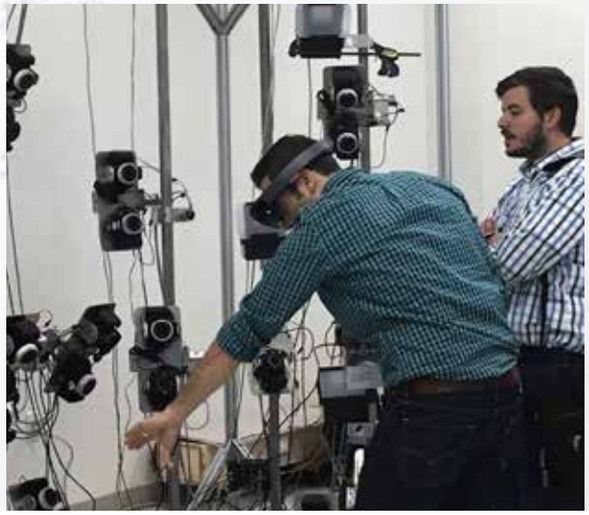
STAY CURIOUS!

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Entrepreneurial Leadership

Our personalized approach to problem-solving, coupled with a certified design process, has catapulted our product design solutions to national, award-winning, recognition. Our collaborative approach to product development speeds time to market, increases profitability and most importantly improves patient care. Whether an innovative start-up or a seasoned healthcare provider, HSD's experienced medical device development team quickly adapts to the challenges of your specific goals.

- Contextual Research & Usability Studies
- Industrial Design
- User Experience & Interface Design
- Human Factors Engineering
- Mechanical & Electromechanical Engineering
- Software & Electrical Engineering
- System Engineering
- Prototyping & Technology Transfer

avantor™

Setting science in motion to create a better world





As the world demands solutions for increasingly complex medical conditions and diseases, scientific organizations face greater pressure to build momentum and develop breakthroughs. Today's biologic drugs are providing revolutionary treatment options for many of these medical challenges.



Avantor® is moving science forward

Scientific breakthroughs rarely happen on their own. Moving science forward demands exceptional expertise and constant innovation. From discovery to delivery of mission-critical products and services, Avantor is a trusted global partner to customers in the life sciences, advanced technologies, and applied materials industries.

The world's leading biopharmaceutical, medical device, and diagnostic companies, as well as those in the education, research, aerospace, and semiconductor industries, rely on us to help them accomplish their missions.

Our more than 12,000 Avantor associates are passionate about setting science in motion to create a better world

We share enthusiasm for innovation, excellence, and achievement. We never settle for the status quo. Whether we are collaborating with our customers to advance science or solve multifaceted problems, we help them reach their goals more efficiently and effectively.

Take biopharma for example. Whether it's a vaccine, monoclonal antibody, recombinant protein, cell and gene therapy, or small molecule treatment, the largest biopharmaceutical manufacturers depend on us to quickly and confidently move through research and production. From the small-scale bench to pilot plant and full commercial manufacturing, our products, services, and expertise enable our customers to bring new treatments to patients faster and safer.





Innovation close to home and across the globe

Our state-of-the-art Bridgewater, New Jersey, Innovation Center showcases how Avantor is making breakthroughs, making a difference, and empowering associates to make a mark. Here, customers can collaborate with biopharma researchers to address current and emerging challenges in biopharmaceuticals, biologics, and cell and gene therapies, resulting in data-driven answers that bring new solutions.

This center, which opened in 2017, is one of nine research and applications facilities where we conduct both proprietary and customer-specific development activities. These facilities, along with our more than 200 manufacturing, distribution, and sales centers, are strategically located to support our global customers.



Beyond biopharma, we serve ...

Healthcare

Our solutions are helping to protect and improve patients' lives. Avantor serves an array of healthcare needs with advanced materials including high-purity silicones, proven diagnostic solutions, and nutraceutical products. And, we have the regulatory expertise to assist medical device companies in obtaining product clearance.

Education & Research

The education and academic research community makes a vital contribution to science, continually expanding the frontiers of our knowledge. Avantor has a long history serving the education research community, supplying laboratory solutions that help catalyze innovation.

Advanced Technologies & Applied Materials

Whether in the extremes of space or in the nanoscale world of semiconductor fabrication, advanced technology materials from Avantor play a crucial role in the world's most demanding applications and environments.

Avantor Services

Our Services business supports major biopharma, pharmaceutical, educational, and industrial research organizations with lab, clinical, and production services, helping them transform their operations and solve intricate challenges. In the process, we've returned hundreds of thousands of hours back to science, enabling customers to reach peak efficiency.

Collaborating for the future

We're proud of our associates and how, together, we are moving science forward to create a better world—from facilitating groundbreaking discoveries to delivering novel therapies, devices, diagnostics, and other scientific breakthroughs.



"It's an exciting time for developing drug therapies. The most important goal of the Bridgewater Innovation Center is to combine Avantor's talent and capabilities with customer insights to drive strategic projects that we know will have major impacts on the future.

"For example, bringing advanced products like cell and gene therapy to market will address the challenges that life science companies face. And, the number of companies involved in cell and gene therapy is growing.

"Avantor is well positioned to integrate advancements that propel innovation forward. Our center is a key element in the process."

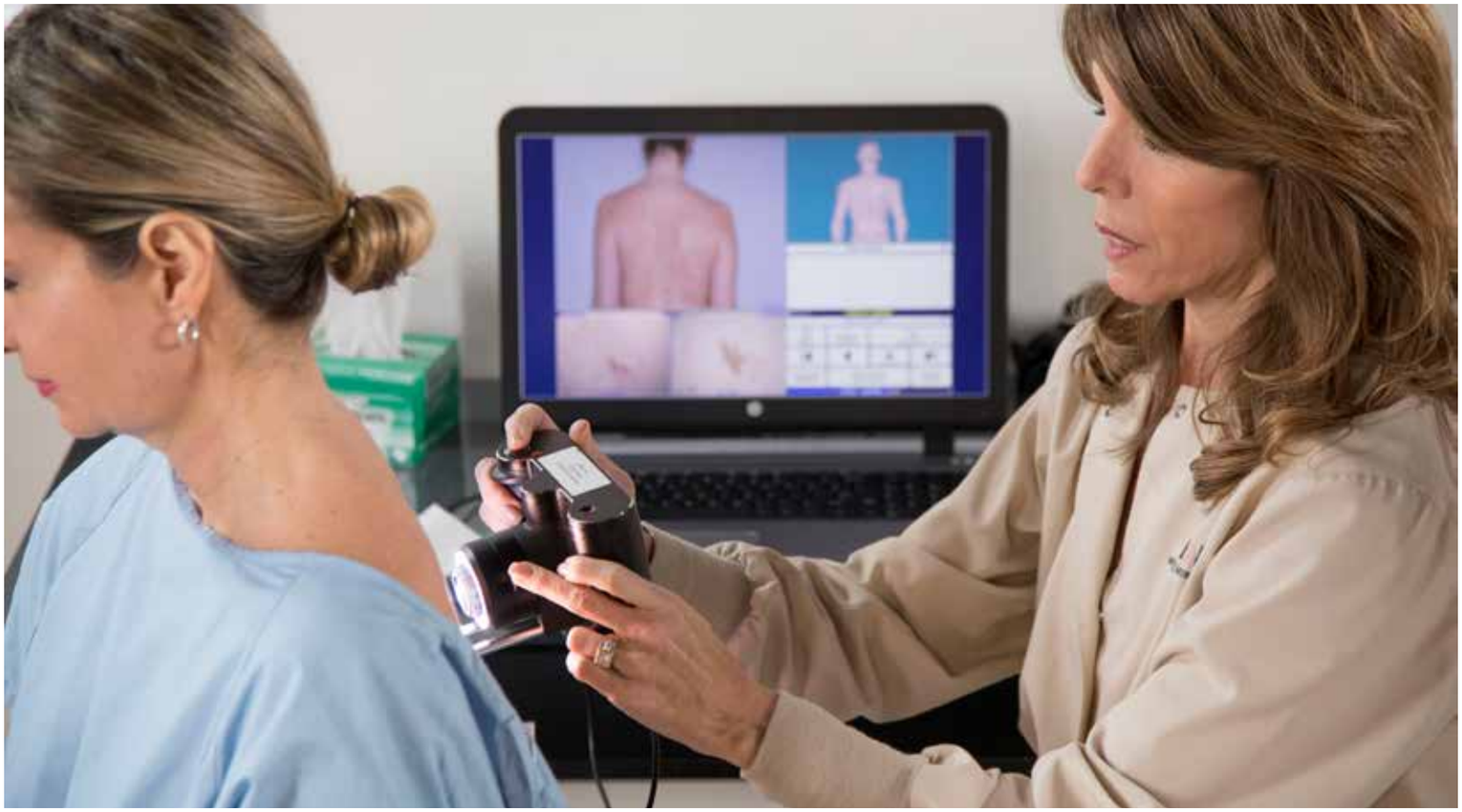
Nandu Deorkar, PhD, MBA, Vice President, Bioprocess Research & Development for Avantor

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MOLESAFE

COMBINING TECHNOLOGY AND EXPERTS TO SAVE LIVES



ELEVATOR PITCH

At MoleSafe we pride ourselves on being an innovative, caring company that makes life-saving skin surveillance technology available to anyone at risk of skin cancer. Our goal is to protect and improve their quality of life.

We are the leader in our field and take pride in building long lasting, ongoing relationships, and supporting medical professionals to provide the highest level of patient care.

OUR STORY

We all enjoyed the sun growing up. Time at the beach, outdoor sports or just catching some rays in the backyard. And most of us didn't use sunscreen and got sunburnt regularly. That's one of the primary reasons more than one in five of us will be diagnosed with skin cancer before we reach age 70[1].

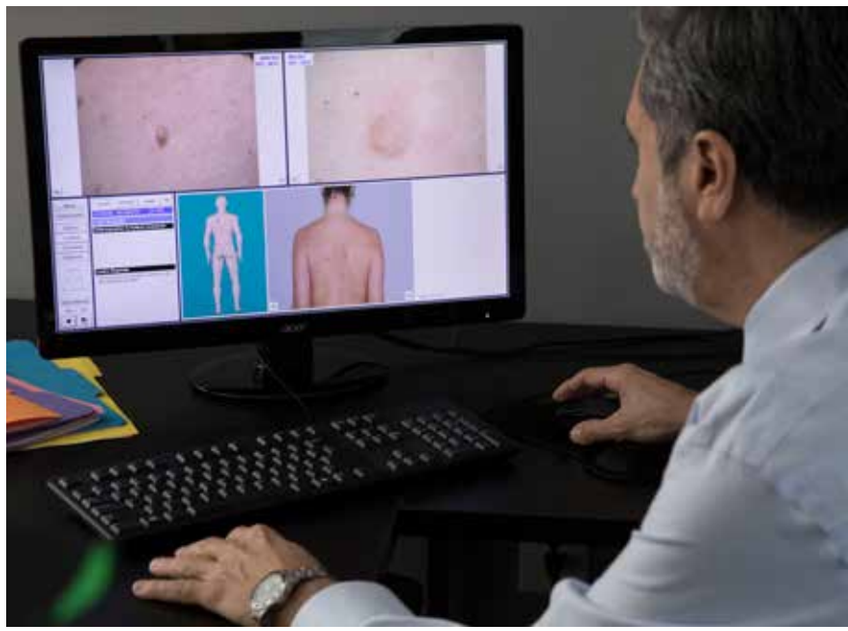
You can't undo the skin damage from 20, 30 or 40+ years ago. But you can make sure you catch developing skin cancer as early as possible.

MoleSafe is set to improve the way skin cancer is diagnosed. Did you know that there are more incidences of skin cancer every year than every other cancer combined[2]? Developed over the past 20 years by a team of dermatologists, MoleSafe's Skin Surveillance Program is a comprehensive skin documentation system designed to expose layers of skin lesions not typically viewed during a regular exam by a doctor or dermatologist.

The easiest way to identify skin cancer is to identify change.

A MoleSafe screening provides a complete mapping of the patient's skin as well as detailed benchmark images. Our Skin Surveillance Program produces high-resolution clinical and dermoscopic images of individual moles/lesions and





creates a profile of your skin that is monitored, by your dermatologist and through future screenings, for any changes in your lesions over time. After each screening all images are reviewed by a board-certified dermatologist who is also a pigmented lesion expert and the referring physician and patient each receive a comprehensive diagnostic report.

MoleSafe allows physicians to identify skin cancers earlier when survivability is highest, and treatment costs are lowest.

Serving New York and New Jersey for over 8 years, MoleSafe is now embarking on bringing its lifesaving technology and access to skin cancer experts to physicians and patients nationwide. Recently opened Skin Surveillance Program centers in Orlando and Los Angeles are the beginning of a 60 market expansion over the next few years.

Continuing to Innovate

MoleSafe recently introduced the MyMoleSafe Provider Portal. The Provider Portal, which MoleSafe provides for free to each referring physician, provides the physician with desktop/tablet access to all of his patients' images, diagnostic reports and allows him to easily use the images to compare what he sees on the patient today to past images. Again, identifying change early.

MoleSafe is at the forefront of innovation in diagnosing skin cancer. We are continuing to examine exciting and new imaging technologies to enhance the efficiencies and quality of our program. We are also developing Artificial Intelligence (AI) technologies to enhance our program; focusing on training, identifying high-risk demographics, and supporting our pigment lesion experts in their diagnosing of patient images.

References:

1 *Stern, RS. Prevalence of a history of skin cancer in 2007: results of an incidence-based model. Arch Dermatol 2010; 146(3):279-282*

2 *Cancer Facts and Figures 2019. American Cancer Society. https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2019.html.*



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CHAPTER 5
TECHNOLOGY



"You can't solve a problem on the same level that it was created. You have to rise above it to the next level."

—ALBERT EINSTEIN

4.0 ANALYTICS, INC.

DEVELOPING SOLUTIONS TO SIMULTANEOUSLY PROVIDE A COST-EFFECTIVE MEANS OF OPTIMIZING VEHICLE HEALTH WHILE REDUCING CARBON EMISSIONS



Mark L. Scotland, CEO & Co-founder





Gloria J. Cowart, EVP & Co-founder



Donovan



Howard



The 4.0 Analytics Team



Jonathan



Steve

ELEVATOR PITCH

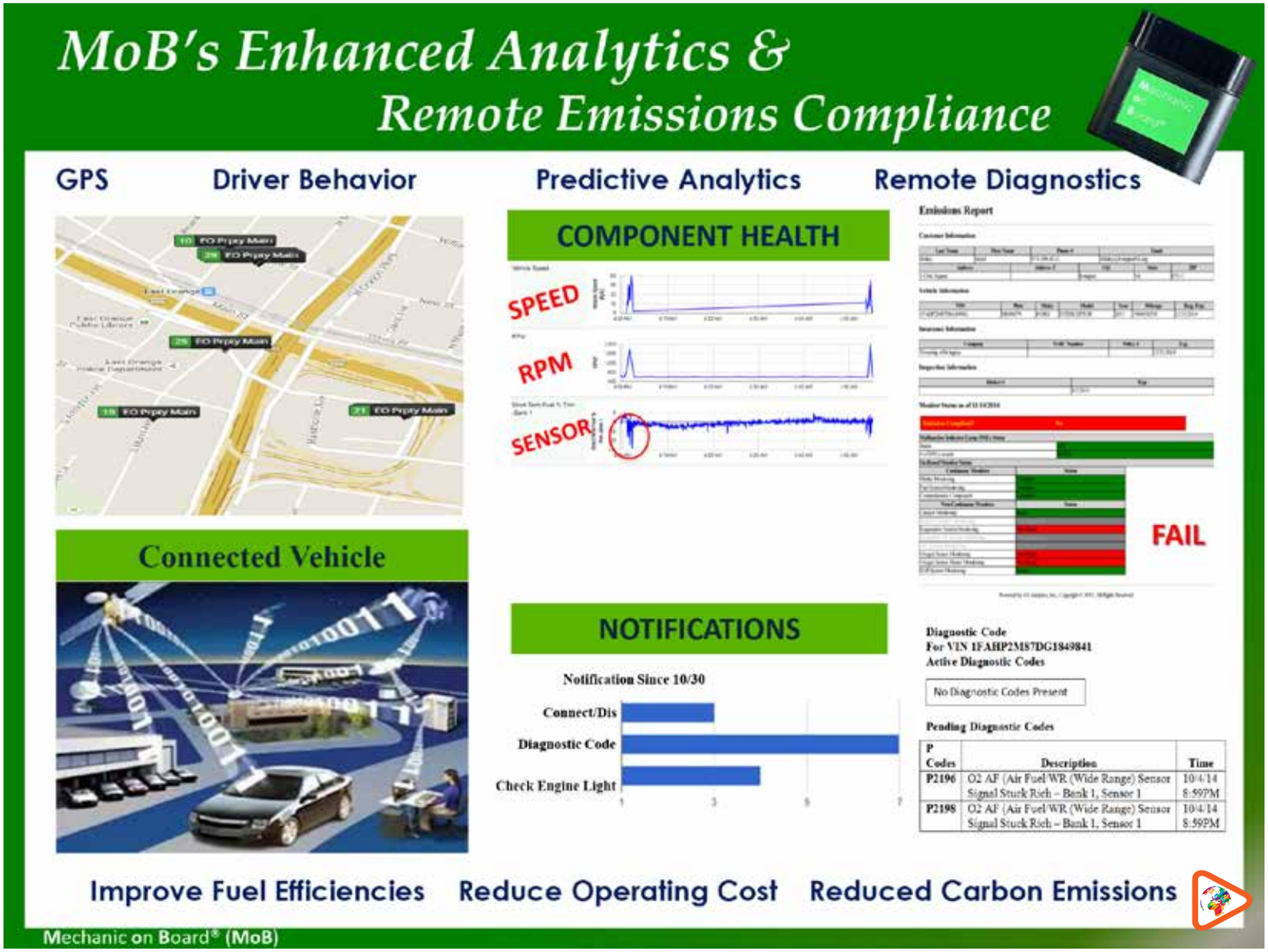
4.0 Analytics, Inc. (4AI) is a software and data analytics company specializing in vehicle engine and emission system diagnostics using wireless technology. 4AI developed Mechanic on Board® (MoB) technology to assist fleet owners and motorists optimize vehicle engine efficiencies while also reducing operating costs and carbon emissions. MoB technology can be applied to over 250 million vehicles in the USA and over 1 billion globally.

OUR STORY

4.0 Analytics, Inc. (4AI) is a software and data analytics company in the wireless connected vehicle segment who developed Mechanic on Board® (MoB) technology for commercial fleets and motorists. MoB brings the power of software, Internet of Things (IoT), mobility, Big-Data & Remote Analytics to optimize vehicle engine and emission systems to lower operating costs and reduce carbon emissions. Using proprietary algorithms and a wireless interface device that plugs into a vehicle to transmit data, MoB enables real-time monitoring of the vehicle's health while in-operation, converting the data into actionable alerts (along with requisite in-depth diagnostic data) to avoid expensive failures and stranded vehicles/owners. The result is better fuel efficiencies, lower maintenance costs and increased vehicle life, for a high return-on-investment. MoB also enables next generation remote diagnostics and emission testing and compliance thus eliminating the need, cost and inconvenience of manual emission testing. The resulting cost savings impact to taxpayers and governmental agencies could reach billions annually.

One of 4AI's core goals is having a measurable "social impact" in reducing carbon emissions on a global scale by focusing on optimizing existing fossil fuel vehicles which are currently a top source of green-house-gas (GHG) emissions. 4AI has demonstrated the ability to assist fleet owners with a technology and system that provides a return-on-investment through fuel and maintenance cost savings while simultaneously reducing carbon emissions. Although supportive of the Electric Vehicle (EV) market, even EV experts and supporters acknowledge fossil fuel vehicles will be dominant for many decades. Since the world is currently experiencing the devastating impact of Climate Change, a priority must be placed on viable solutions that can be implemented today as future solutions evolve.

4AI has established a public-private partnership model for reducing carbon emissions within communities by creating VERGZ™, a voluntary emission vehicle "Green Zone" initiative adopted by communities who have local government



support. The initial goal is for government fleets to lead by example by adopting MoB technology on a percentage of their own fleet vehicles and then encourage and incentivize private sector businesses with vehicles to voluntarily participate. Since MoB provides a strong ROI, additional government incentives would encourage even greater participation, hence greater emission reductions.

This new "fleet greening" process has proven effective and less costly than "traditional" fleet greening methods of only replacing a scrapped (end of useful life) vehicle with a new vehicle. MoB technology can be deployed on close to 100 vehicles, based on a fleet's characteristics, for the cost of one new vehicle. The VERGZ™ Green Zone initiative represents a cost-effective solution which can be implemented across the spectrum of both fleet and consumer vehicles internationally. The potential impact on reducing global carbon emissions is significant.

4AI impacts the public and private sector ecosystem by opening new employment opportunities for multiple skill levels within the Automotive Aftermarket (marketing, management and sales); Mobile Auto Repair technicians; Auto Inspection Facilities; Fleet Management; Tech Support Call Centers; System Dashboard Management; Data Analyst; Software Developers; Technical Trainers (computer and auto repair); System Installations.

4.0 Analytics, Inc.

4-0analytics.com

KAIZEN SECURE VOIZ

TOWARDS A SECURE AUTHENTICATION

ELEVATOR PITCH

Kaizen Secure Voiz aims to be the first choice for organisations looking for fool proof authentication and customer experience management. Kaizen has launched a global software product: Voice biometrics. This is less intrusive and highly accurate, to assist large enterprises manage customer delight.

How much is too much? We have seen that few authorities in the US abhor facial recognition systems. It may be needed for crime fighting but does this intrude on privacy? And does this operate in a grey area with poor governing norms? Can we have a less intrusive technology for preventing identity theft, frauds, phishing etc? In a 2018 study, it was reported that 60 million American identities were wrongfully acquired. So, biometrics plays an important role in mitigating identity theft, fraud and financial crimes.



OUR STORY

Kaizen voice biometrics operates on a mathematical reference point for each voice, called voice print. Accurate authentication is done through a contact centre or app, using short utterances of the customer, matched against the reference voiceprint. It has high 'liveness' over remote channels like phone and rejects mimicry attempts and pre-recorded voices, making it very secure. It is not physically intrusive, offers the lowest cost compared to all other biometrics like iris scans and fingerprints. It can be integrated with IVRS, banking apps, CRM and utilised across channels including live-agent and mobile. One can speak in any language and use any text as a cue. Our biometric engine is independent and shall consider the logical parameters of the human voice.

Many industries such as banks, insurance companies, police authorities, federal govt agencies, airlines, manufacturing and healthcare are keen to implement voice biometrics. This helps them validate credentials of customers faster over many channels, prevent fraud and provide customer delight. Enterprises also wish to protect end user privacy, as part of GDPR. Kaizen Secure Voiz does not store audio recordings at any stage, safeguarding user data.

Kaizen has early adaptors for this technology in the USA and other geographies. Case study with deployment details and a customer site visit can be organized at short notice.

Applications of voice biometrics in various industries

- Fraudster Detection in Contact Centres
  - We can build voiceprint using a passive source of recording and alert the 'fraudster's call' to an agent on-line or after the call to stop the process
  - Prevention of frauds through MFA [Multi Factor Authentication]
- Biometric log-in to network
  - Instead of a fixed password, which can be shared, the voiceprint based additional security can protect the data and n/w from hazards of Phishing, Trojan etc.
  - Use it for loan origination, ATM based transactions, authenticating vendors in ATM management, treasury payments, CBS
- Telephonic Interviews verification
  - Proxies are common in remote interviews. This can be prevented by capturing the voice print of the candidate and compared when the person reports for interview or job
- Password re-set without violation of GDPR, ISO 27001 and other compliances
- Pensions payment
  - Provide easy phone based, 100% accurate authentication for pensioner/retired persons. Replace expensive physical visits to banks. Save money by preventing wrong pension credits to deceased pensioners
- Time and attendance system
  - Use a combination of voice, face or both with fingerprint devices. Ensure capture of real time attendance of field force or verification agents or employees. Use geo-tagging app to automatically register date/time stamp with latitude-longitude
- Remote verification of callers (instead of PIN)
  - Only Biometric tool that does not require any special device or tool to verify/authenticate a caller without PINs
  - Deploy it in IVRS/contact centre/app, fast validation of callers, saves money on contact centre agents time

KSV's voice biometrics is able to offer a very accurate and complete suite of products that address many different use cases in an IVR, Mobile Apps, and Contact Center. From active IVR authentication to passive detection, KSV has many years of experience and successful deployments, with close to 10K users enrolled in its systems worldwide. Some of its features such as UBM calibration, language independent phrases for active authentication, and creation of a single enrolment to access from any channel, allowing enrolment in an easy-to-use mobile app are easily scalable.

Use case oriented product portfolio

KSV offers a full suite of voice biometric products for IVRS , contact centres and Mobile applications .Our Voice Biometric product performs Customer authentication in an active and automatised IVR environment, whilst Passive Detection does the same in a passive environment with blacklist identification and customer-agent free speech. On top of this, KSV has a mobile version with the option of smartphone interaction based authentication.

Universal Background Model (UBM) - Calibration

KSV offers the "UBM-calibration" feature in both active and passive authentication. The capability of getting calibrated scores from Biometric engines is a key factor in order to carry out a successful deployment. Thanks to our proprietary algorithms, both active and Passive Detection have the ability to "learn" about user characteristics and adapt scores to that new environment. This makes KSV's voice biometrics the easiest product to deploy and the one that maximises success probabilities in a real-life environment.

360° authentication & mobile enrolment

KSV's product allows performing active authentication from any customer channel (including smartphone, IVR or web access) with a single enrolment. The enrolment can be carried out in any of channel and then used in others. This feature permits for the first time ever to carry out simpler enrolment, which was the main failure point of deployments, using a mobile app.

Voice Biometrics Specialisation

KSV is a technology provider that is fully focused on providing Voice Biometrics solutions and that is able to offer a complete family of products tuned and customised for many different use cases. This is the result of several years of research and complete source code control of all its product categories.

Scalability

KSV's voice biometrics is a fully scalable product thanks to its flexible and agnostic SW architecture that includes state-of-the-art components, that allows to reduce dramatically the database accesses, and the capability to integrate with the vast majority of DB Providers, from the simplest (SQLite) to most complex (Oracle or SQL Server). The system can grow to handle millions of users and hundreds of thousands of transactions per hour.

Language independency

KSV's voice Biometric product provides true language independent technology for both passive and active authentication. In active/text dependent authentication, our product supports any language by default with no need of any specific language tuning thanks to its unique acoustic approach.

Anti-spoofing

KSV's voice biometrics offers true anti-spoofing capabilities as part of its product portfolio. This feature detects replay attacks transparently with accuracy higher than 97% and no need of any additional request to end users besides standard verification. This proprietary technology is backed up researchers from IIIT-B india and a patent is filed.



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Your Voice, Your Security!



MAESTRO TECHNOLOGIES

DATAOPS AS A SERVICE IN TRENTON, NEW JERSEY

ELEVATOR PITCH

Maestro Technology provides ease of access and proximity to talent, skills, and resources in the emerging Technology Corridor of Trenton, New Jersey. Its socially conscious and innovative culture is complemented with learning escalation for its employees. Through its proactive training programs that cultivate and empower the employee, it benefits the internal and external corporate culture and ultimately the business-client relationship. This is our commitment as timely relevance as a best practice service to our clients. The additional benefit is creation of local jobs in Trenton with onshore access for clients across the United States.

Innovation Story: DataOps As A Service

The Onshore Insourced DataOps As A Service model provides savings to clients at multiple levels while maintaining and delivering on client-centric Service Level Objectives. Every business experiences its own journey depending on the maturity of their existing digital services which could involve building a toolbox for technology platform eliminating and automating redundant processes and engineering or simplifying ways around technology adoption. This path requires a shift away from product delivery and transactions and focus on end-user, the human component keeping information security and compliance in check. Through its understanding of needs, capabilities, adoption, migration, and security, Maestro manages to deliver a DataOps Center of Excellence in its native state as a service to its clients, thereby helping them optimize processes and enhance product delivery.

This is achieved through a culture of collective ownership, collaborative efforts, continuous experimentation, and deliberate Research and Development.

Our work begins in pre-production and follows through Continuous Integration, Continuous Deployment with Continuous Resilience (CI/CD/CR). The workflows are automated creating a continuous pipeline built upon the client's demands and needs with keywords repeated as a Mantra—People, Process, Technology.







Maestro has always been on the lookout for the next big thing in the forefront of the Technology Innovation. Back in the day, Maestro was one of the first Internet Service Providers in downtown Manhattan opposite the New York Stock Exchange and kept evolving. Data is compared to oil as a currency that has been shifting industry into a revolution creating multiple ways of monetization. Maestro team of data engineers, scientists, project managers, and operations personnel understand the data journey from multiple sources, volumes, velocity, and veracity extracting wisdom and delivering decisions. While competition is trying to catch-up, Maestro Technologies has been providing integrated processes and set of tools to support DataOps as a Service to many of its clients already.

We leverage tools for success based on the projects and use our experience to customize DataOps Solution for each client. Day-to-day management is offered using standardized processes and practices. Standard practices are used to migrate data and apps to cloud. Integration and analytic tools are used to manage workflow.

Once a common application platform is created, multiple clients can be hosted and treated as different lines of business. As the platform matures, DataOps as a Service can be offered across other industries with captive resources in New Jersey. The service innovation mushrooms across other lines of business and across other industries and economies of scale can provide another level of financial innovation.

OUR STORY

Maestro Technologies Inc. originally started as an ISP in 1993 in NYC by two Wall Street friends that reinvented itself into an innovative Software Solutions company. Headquartered in Trenton, New Jersey, Maestro assists businesses to implement data management solutions through game-changing, emerging technologies in Big Data space. The record-breaking pace of data growth continues to increase along with tools and technologies that keep the industry abreast and world markets in check. There is constant pressure to extract valuable insights from data thereby widening the gap for companies trying to catch-up while competing to be relevant. As the cycle of data adoption may vary, Maestro, who understands data as a most precious currency, sees an opportunity.





Maestro builds that bridge between new market trends and business needs and drives it through the execution of progressive thought leadership guided by its ability to construct flexible, resilient, economic and intelligent data assets for its clients.

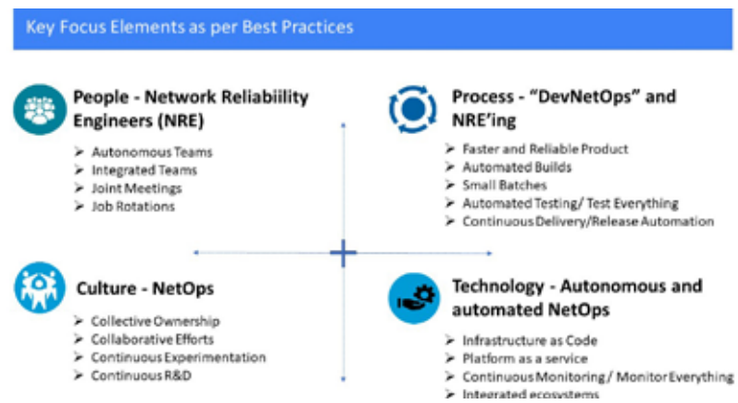
Maestro offers Data Management Services such as assessment, design, development, infrastructure maintenance, deployment of IT solutions, project management, and cloud migration.

With a specialized approach to client relationships and personalized service, Maestro continues to execute upon the most diverse and complex requirements. Maestro's creed is old fashioned: achieve success through a combination of innovation and automation while inculcating the culture of integrity and respect. Maestro treats each client as an extension of their own team rather than act as an outsourced consultant, providing deliverables with full transparency and ownership. Competence is built in-house with the highest standards keeping a great emphasis on emerging trends in the Industry.

Maestro does the heavy lifting.

Beyond work ethics, the subject matter experts, and the Solutions Practice Maestro team diligently works towards *re*building a community and *re*vitalize the technology footprint in New Jersey's capital. Maestro challenged itself in 2017 and promised to create jobs in the Capital City. The state of New Jersey responded, recognizing the initiative and awarded Maestro with support to help navigate towards that goal. In 2018 Maestro purchased and moved offices to an 85,000-square-foot "The Corner Historic" building and named it SMART Applications Innovation (SAI) Center. The SAI Center is fast becoming the "Innovation Hub" of Trenton, run by an accomplished team of technologists who serve private and public sectors as well as the communities in which they operate. This downtown HQ is at the center of Maestro's vision. The building is known for being the site of the first public reading of the Declaration of Independence on July 6, 1787. This site also hosted George Washington and his family when en route to New York City to his inauguration ceremony, taking the oath as our nation's first president. The One West State Street landmark originated as a homestead into the 1730s before transitioning into City Tavern in the late 1700s and becoming a bank throughout the 1800 and 1900s.

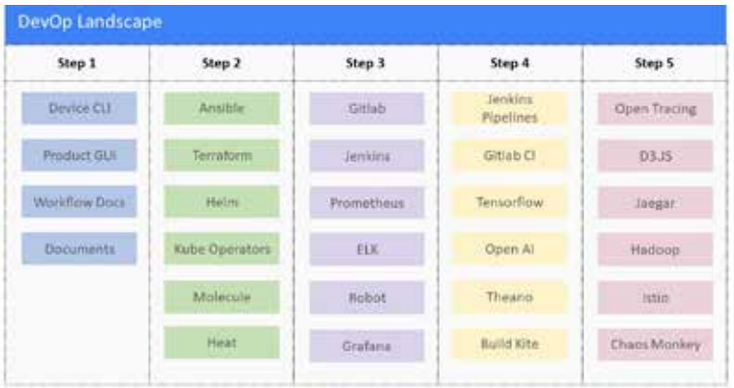
Maestro HQ is building a thriving culture for developers, incubators, nonprofits, media professionals, policymakers, and educational institutes and is hosting meetups, events, and conferences, driven through public and private partnerships. With this unison, the future is bright for the City of Trenton and Maestro is grateful to be part of its urban redevelopment efforts.

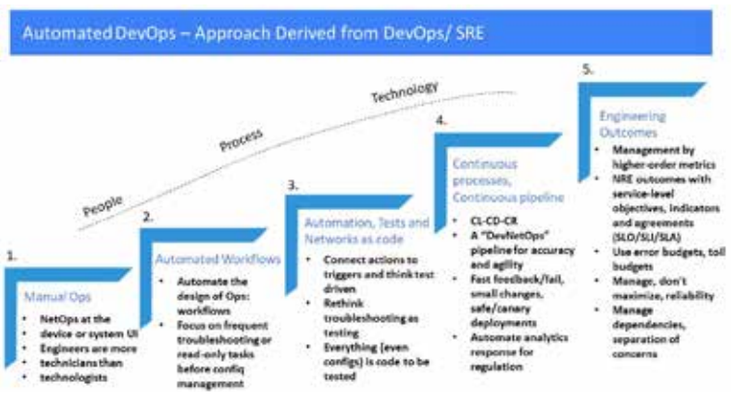


As of this publication this year, Maestro delivers facility readiness for training, advancement, and product development. The strategic goal is to empower local and state agencies by offering creative ways to help companies grow independently and obtain the solutions they need to be successful. Since moving its HQ to Trenton, Maestro Technologies has helped welcome its new Mayor, Reed Gusciora, to the Capital City, organized various technology events, conferences, and host monthly meetups for the community.

In the print, Trenton business communities along with Maestro's efforts to make Trenton an attractive destination for technology companies were fairly recognized when CompTIA (world's leading technology association) ranked Trenton as No. 18 "Tech Town" in the nation. The resurgence of Trenton and surrounding areas are being led by growing businesses and economic development communities led by Maestro Technologies and its team of innovators. The company's mission is to build a better tech community in the state of New Jersey by attracting and retaining world-class talent and fostering long-standing client relationships while developing unique solutions and creating inventive tools.

For the past 10 years, Maestro has been a vital partner to major organizations like Microsoft, Oracle, Cloudera, IBM, and Google. These leading organizations have shared their vision, technology roadmap, and commitment to finding the right solution that moves the tech industry forward. Empowered with these relationships and its drive and passion, Maestro is en route to become a known and preferred provider of DataOps, Cloud Services, DevOps, Cyber Security, AI, and Solutions. The dedicated Maestro team diligently cultivates each opportunity to foster long-term relationships via its culture of integrity and mutual trust.









While building a committed New Jersey brand, Maestro prides its state by being listed as one of the top 500 fastest-growing companies in the United States by *Inc. Magazine* three years in a row. Maestro was also named a finalist in 2017 NJBIZ Business of the Year, which celebrated New Jersey's most dynamic businesses and their leaders who share a commitment to professional excellence, business growth, and support for the community. Recently, Kamal Bathla was honored as the 2018 Immigrant Entrepreneur of the Year by Einstein Alley and the Asian Indian Chamber of Commerce (AICC). He was also nominated for EY Entrepreneur of the Year 2019. As Maestro Technology grows, so do the opportunities in the state of New Jersey. While Maestro is making Trenton and New Jersey proud, Bathla's leadership team is applying their leading-edge expertise in software architecture to big data, machine learning, blockchain, IoT, and cybersecurity solutions. To that end, Bathla is quite passionate about transforming Trenton into the Innovation Capital of New Jersey, providing thought leadership towards technology-centric programs.

What is being done in Trenton NJ by Maestro can be replicated by anyone in any other city seeking help from small or mid-size business leaders. The innovation is in building that culture of collaboration and economic development through public-private partnerships. Imagine a landscape where businesses invest in the cities by mobilizing the ecosystem. Cities benefit through local job creation and building a secure environment through tax revenue, and businesses enjoy the fruits of the expanded marketplace through mutual agreements. Companies provide services to the cities as and when needed developing the workforce ready for local engagements. With the help of technology and learning resources abundant intelligent population can be trained for repurposing and redeployment that may have become unfortunate victims of unemployment due to multiple trends and shifts in the industry. Getting involved with relevant contributions is the most important gift that entrepreneurs can offer—that is how success must be measured, disrupt your landscape and become the change.

Kamal Bathla, co-founder and Managing Director of Maestro Technologies, has built a company that uses data, various platforms, critical analyses, and robust and transformational ecosystems to navigate and bridge the "gap" between need, trend, budget, and timelines. Together with governance and provenance, Maestro provides a broad array of IT solutions ranging from the development of intelligent process optimization to data visualization via building infrastructures, dashboards. Maestro client-centric custom solutions and products enhance efficiency and close the loop on data insights in the ever-growing need for Big Data ecosystem and landscape.

MAESTRO
The way to conduct IT™

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MSP INC.

EMERGENCY PREPAREDNESS PLANNING & STAFF EDUCATION

ELEVATOR PITCH

How prepared are Individuals, Hospitals, Skilled Nursing Facilities, Churches, and Adult Communities to sustain operations during an extended "Incident of Regional (or National) Significance" lasting from 3 months to a year, or more? MSP identifies hazards and cascade failures from newer threats and helps improve HVA so clients can enhance resilience.

OUR STORY

To be licensed, all healthcare facilities must have a state-reviewed Emergency Preparedness Plan (EPP) that explains how to shelter in place and continue to care for patients/residents during emergencies. But how well does that EPP cover the newest cyber-threats or extended-duration crisis events that are becoming more frequent today?

The FBI reports that the greatest risk that America now faces is from cyberattacks; yet in some EPP Hazard Vulnerability Assessments (HVAs), cyberattacks are not mentioned or are rated as an "unlikely risk." Risks of disrupting operations are often scored in EPP as "Minimum (1), Moderate (2) or Maximum (3)," and considered static; however, their impact can change as crisis duration extends. Was the EPP built on the assumption that an emergency will last for ... a week, a month? Will the EPP still work if the emergency lasts 3 months, 6 months, or a even year?

In spite of emergency power circuits and healthcare backup generators, most hospitals don't consider long-term power losses (of three months to a year) in their EPP, nor how they can mitigate dependencies on third parties during extended crisis situations. Power failure can cause water, light, heat, and transportation failures, yet these vulnerabilities are rated independently. Because a failure of one system can cause a cascade failure of dependent systems, these interdependencies must also be accounted for in the HVA calculation, including their event horizons (the catastrophic failure threshold).



Chemical & Biological Attacks Are Growing



2018/2019 Multinational Ransomware Attacks



Great Kobe Earthquake



School and Mass Shooting Attacks Are Growing



Coming US Economic Collapse

A full-scale cyberattack that disrupts the regional electrical power grid will in time cause transportation and communication failures, which in turn will cascade to food and water shortages. The event horizon at which catastrophic failure is reached should be calculated and known in advance, as well as a task list to mitigate or delay it if possible. An HVA needs to show hazards as a "Risk Surface" of shelter, access and resources, and not just as a simple 2-dimensional table of independent vulnerabilities. Power was disrupted for up to one year after Category-5 Hurricane Maria devastated Puerto Rico. Fifty percent of the island's population did not have power after six months. Does the EPP have contingencies for when the EPP initial assumptions fail or expire? How actionable is the EPP really? Many EPPs are reviewed with staff only once a year, and table tops may also be sparse, but if the switchboard gets a call today threatening a bomb or shooting event, is there a Crisis Application that pops up on an operator's screen that guides the operator through the conversation? What happens if a threat comes in during times when outside calls are diverted to the answering service?

Creating an EPP framework (without detailed tasks and limited dry runs), won't work well during an actual emergency. In a real crisis, there's lots of adrenaline and unless responses are "practiced and second nature," decisions will be less than optimal. Does your EPP team have a mental health coordinator? How many are on the mental health team?

Natural events are increasing in intensity and duration. Category-5 storms (173 MPH winds and 10-40-inch rainfalls) are becoming more frequent; as are man-made and terrorist events. Does the EPP plan adequately cover cyber, chemical, biological/Hasmat, nuclear events, and terrorist attacks?

Staff Family Crisis Training Reduces Staff Absenteeism

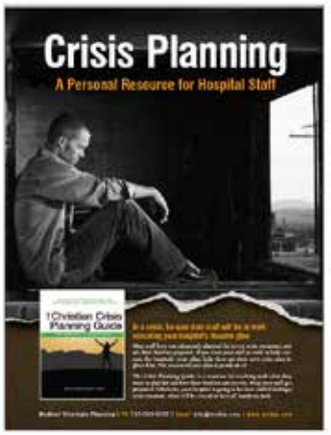
Experience shows that staff absenteeism is higher when families of staff aren't adequately prepared for a crisis. Does the EPP include actions to prepare staff families to survive crisis situations? MSP's Crisis Planning Guides can help healthcare provider's get staff families prepared.

MSP publishes four different Crisis/EPP Guides; one for Individuals, a second for Hospitals, a third for Churches, and a fourth for 55-Plus Adult Communities. These Guides are available as 8-1/2" by 11" shrink-wrapped, 3-hole drilled inserts to standard 3-ring binders. The format allows customization of the Guides and insertion of additional, reader-specific information. Each edition is customized for its target audience. Quantity discounts are available.

Authors' Perspective

The MSP team approaches crisis planning from a combined administrative, nursing management, healthcare technology and mental health perspective; offering practical information to healthcare providers, SNFs, churches and 55+ senior communities. MSP can assess current EPPs, provide training for staff families, rework HVAs to incorporate a matrix of cascade dependency failures—including newer risks, and help improve "dry run" scenarios and table tops.

Located in Ocean County, NJ, MSP serves hospitals, churches and Adult (55+) Senior communities within a 100 mile radius, and provides on-site training and hosts Internet-based training webinars that enhance preparedness, resilience, and evolve a more actionable and effective plan. MSP resources and services emerged from the authors' experiences during actual crises including Super-storm Sandy, the 9/11/2001 World Trade Center attack, from experience planning hospital relocations and from participating in "Top Off" simulations conducted by FEMA, NJ state and county officials. Super-storm Sandy (2012) disrupted travel, communications, electrical power distribution, access to fuel and food,





transportation and caused extensive flooding and wind damage, leaving some New Jersey residents without electrical power for up to a month. New Jersey wasn't prepared. MSP's family of Crisis Planning Guides embody much that was learned, so clients can be better prepared next time.

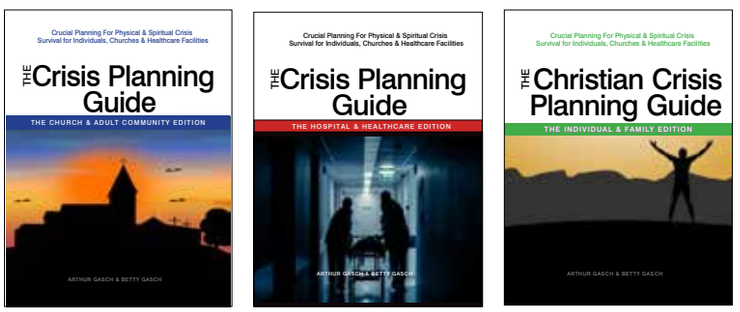
Arthur Gasch

Arthur's previous experience in hospital relocation involved planning patient moves from existing to new hospital facilities, thirty years of medical device and information technology expertise, and knowledge of healthcare IT approaches to mitigate direct cyber and ransomeware attacks. Arthur was a volunteer on the Monmouth County Mental Health team.

Betty Gasch, RN, BSN

As a University of Michigan graduate, Betty worked in their surgical intensive and cardiac care units. She subsequently worked in the CCU at Glenbrook Hospital, now part of North Shore University Hospitals and was a Continuing Education instructor at Northwest Hospital near Chicago. In New Jersey, Betty was a home care VNA nurse and then worked at Erickson Living-Seabrook Village where she was Home Care Clinical Manager. Betty was a volunteer on the Monmouth County Mental Health Team.

Other Team Member Information available upon request.



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Medical Strategic Planning, Inc.

GO!FOTON

AT GO!FOTON, OUR MISSION IS TO "BRING LIGHT TO LIFE!"

ELEVATOR PITCH

Headquartered in Somerset, New Jersey with a lineage that can be traced back to Japanese multinational Nippon Sheet Glass, Go!Foton is a global photonics company with a strong presence in the optical communications industry. We apply our expertise to the development of advanced applications for a diversity of end uses, including connectivity solutions for telecommunications networks and imaging processes for life sciences diagnostics and research.

OUR STORY

As a leading provider of network connectivity solutions, Go!Foton plays a major role in the implementation of next-generation wireline and wireless networks. The company's PEACOC® platform represents an innovative optical fiber distribution management system for telecom and datacenter applications which require ultra-high capacity and density.

Several years ago, Go!Foton set out to solve a problem that had vexed builders of telecommunications networks for decades. The challenge: how to allow human fingers – often stout, sometimes clumsy--to manipulate thousands of fragile connections between delicate hair-thin strands of optical fiber while at the same time minimizing the physical footprint of racks and cabinets loaded with equipment through which the fibers are routed – without interrupting traffic and without using special tools in the field.

An additional challenge: designing a product that would easily adapt to the network's expanding scale and rapidly changing architecture, and especially to the relentless densification of fiber required by market-driven adoption of emerging protocols, both wired (e.g., NG-PON2 and other new access standards) and wireless (5G.)

Go!Foton's inspiration? The ornamented train of a peacock. CTO David Chen explains: "If you look at peacocks with feathers retracted, you'd never guess what kind of mating show they can put on for peahens when they fan out. Why couldn't we do the same thing for fiber connectors? When the fibers are passing optical signals to each other, the connectors can "hide," but when we need to switch the connections, they can fan out just like the peacock's feathers." In this "switching" mode, each connector would be separated from the adjacent one with enough space between them to enable even "fat-fingered" technicians to do their job quickly and unobtrusively, while avoiding costly mistakes.













What emerged as the result of Go!Foton's "Eureka!" moment was the development of what the company calls its "platform with enhanced access for compact optical connectors": PEACOC.

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V-COMM, LLC

TELECOMMUNICATIONS ENGINEERING

WIRELESS EXPERTS

ELEVATOR PITCH

V-COMM is an industry-leading provider of integrated radio frequency and network engineering. We deliver the needed expertise and cost-effective wireless and cellular solutions to governmental agencies, healthcare, education and enterprise clients, wireless operators, and more. We also provide design and design/build services for in-building, in-tunnel, and other wireless telecommunications networks. We're DAS integrators, public safety experts, and trusted, certified industry leaders in telecommunications engineering.





OUR STORY

V-COMM is a telecommunications engineering consultant firm founded in 1995 and has been in operation for 25 years. After leaving their high-profile jobs at one of the largest telecommunications conglomerates in the nation, President Dominic Villecco and Vice President David Stern founded the company together with a mission to deliver superior-quality radio frequency and network design and testing services to clients in the commercial wireless, public safety, and enterprise sectors.

Today, V-COMM has more than 30 employees between two offices in New Jersey and Pennsylvania.

V-COMM has served almost 80 percent of the counties in the State of New Jersey alone in building and enhancing state-of-the-art public safety radio communications systems for first responders. Over the years, V-COMM has worked with all four major US wireless carriers and has worked with clients nationwide, from 3G to 5G and beyond. V-COMM has expanded its client list to include multiple major transportation authorities, universities, real estate groups, and healthcare groups across the nation.





V-COMM Executives (L-R): Dominic Villecco, David Stern, & Donald Coover

We take great pride in our work and our mission is simple:
Engineering Networks for High Performance℠

Meet Our Leaders

- **Dominic Villecco, President & Founder**
  Dominic is a pioneer in wireless telecommunications engineering, with 39 years of executive- and management-level experience. Under his leadership, V-COMM has grown from a startup venture in 1995 to the highly respected, full-service firm it is today. Prior to founding V-COMM, Dominic served as the Vice President of Engineering and Operations at Comcast Cellular Communications for almost a decade and Director of Engineering at AMCELL Corporation. Dominic is the Vice President of the New Jersey Wireless Association (NJWA), a nonprofit organization focused on educating the State of New Jersey about important wireless industry topics and supporting local and state-wide charities. Dominic is the former Vice Chair of Drexel University's Electrical and Computer Engineering Advisory Council and former Technical Chair of the FCC Regional Planning Committee 28. In 2011, he was awarded the NG911 Awareness Award from the NG911 Institute for his efforts in bringing awareness to New Jersey's 911 fee diversion issues. In 2001, Dominic was awarded the Distinguished Alumni Award from Drexel University for his continued success in the field of telecommunications engineering. Dominic is a nationally recognized expert in wireless systems, design, implementation, and operation for the FCC and the industry as a whole. In the past five years, he has spoken on more than twenty panels and been quoted on television news segments and newspaper/magazine articles as a certified wireless expert. He is also a recognized expert witness for wireless cases in civil and criminal courts, and before zoning boards in New Jersey, New York, Pennsylvania, Delaware, and Michigan.

- **David Stern, Vice President & Co-founder**
  David is a 37-year veteran and leader in the telecommunications industry and an expert in all wireless transmission formats and technologies. As V-COMM's co-founder, he was a key driver in launching the first Personal Communications Service (PCS) network in New York City—also referred to as digital cellular, the foundation for today's mobile phone networks. David lead the launch of the first Project 25 (P25) Phase 2 public safety radio network in New Jersey, today's standards for first responder and dispatch communications systems. Prior to co-founding V-COMM, David served as the Director of Engineering for Comcast Cellular Communications for almost a decade and Program Manager at Motorola Solutions, Inc. At Motorola, David designed the initial cellular networks in Philadelphia and the southeastern United States. He currently sits on the FCC Regional Planning Committees for Regions 8, 19, 20, 28 and 30, providing guidance for frequency planning, 700 MHz, and 800 MHz usage and coordination issues.

- **Donald Coover, Vice President**
  Don is a 40-year veteran of the telecommunications industry. As Vice President of V-COMM, he manages network engineering projects, overseeing system design and implementation for commercial and private Distributed Antenna Systems (DAS) in buildings and tunnels, transportation networks, public safety networks and dispatch centers. Prior to V-COMM, Don served as a Senior Engineer at Comcast Cellular Communications for half a decade and Manager of the Network Management Center at Metromedia-ITT. Don is a member of the Association of Public Safety Officials-International (APCO), the world's oldest and largest organization of public safety communications professionals. He holds a valid FCC General Radio-Telephone License.

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See our profile on pg. 28 and article on pgs. 9-10 in the July 2016 issue of *MissionCritical Communications* www.RRMediaGroup.com

YORKTEL

WALKING CUSTOMERS THROUGH THEIR DIGITAL TRANSFORMATION JOURNEY



OUR STORY

Yorktel was founded in 1985 as a video communications company devoted to facilitating organizational collaboration. From Yorktel's inception, the Federal Government has been a loyal customer—and when maintaining networks and equipment for presidents and generals, there's not much room for error. This heritage solidified a "mission-critical" foundation for the company that endures today as it advises some of the world's largest enterprises on their IT, collaboration, and communication strategies.

Almost forty years later, Yorktel is still walking its customers through each aspect of their digital communications journey: from consultation and design, to integration, maintenance and management, to refining each piece of the interactive puzzle. As today's industries evolve, video conferencing brings a strategic advantage to business collaboration, allowing Yorktel to empower its customers with what it does best: mastering the intricacies and advantages of video communications, on any device, in any location.

Businesses don't always realize the degree of expertise required to design a successful business communications environment, or the impact video services can have on network infrastructure. Yorktel provides an extensive suite of technology services, and consultative guidance based on a customer's strategic goals. Yorktel helps businesses navigate the countless components of business communications, ranging from internal collaboration to customer outreach. Yorktel's impact both locally and globally sustains its reputation as an industry leader in managed services that prioritizes customer education on how to leverage emerging technology to its greatest advantage.



Ron Gaboury, CEO, and Ken Scaturro, president & COO







"Somebody has to figure out how to make all the communication services work together, and that's what we do really well. Because we started on the Federal side where there's no room for error, the expertise we have is making all our services seamlessly operable in a corporate environment," explains Ken Scaturro, president & COO at Yorktel.

There's also something to be said about the longevity of Yorktel's customers and employees. Clients such as the Social Security Administration have been with the company since day one. Many of Yorktel employees are "originals" as well—industry experts so deeply trusted by clients that they're asked for by name like old friends.

"A high emphasis on employee fulfillment, profitable operations, and customer delight has been the cornerstone of our business since the day I walked in the door," says Ron Gaboury, CEO of Yorktel. He believes these values and the loyalty of both Yorktel's customers and its employees are truly what create a winning company culture.

As for Yorktel's future, eight years ago the company broke into the clinical side of healthcare communications. During that time, it pioneered a software platform specifically designed for telehealth, to deploy alongside Yorktel's already robust set of services. The healthcare communications venture was so successful that in 2019 Yorktel launched a sister company, Caregility, dedicated purely to healthcare communications and collaboration. With the advent of digital workplace transformation and the powerful drive towards global collaboration, there's no doubt of future success for Yorktel.



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PeduL



OUR STORY

PeduL is a scholarship-marketplace where students can apply to multiple scholarships with a single application and a scholarship builder for individuals, organizations, and corporations.

PeduL is a company born out of the dormitories at Rutgers University. Students were both frustrated with the scholarship industry and tired of seeing their friends drop out of school because of a lack of funds. So they decided to do something.

After assembling a team, founders Chisa Egbelu and Kayla Jackson went on to create a true marketplace for scholarships. It took the form of a platform that allowed students to apply for more scholarships than ever, in less time than ever before. On the flip side, scholarship providers could manage their scholarships, applications, and incentives.

It wasn't long before PeduL began revolutionizing the recruiting industry.













With thousands of students coming on to the PeduL platform, companies were able to hyper-target specific groups and create pipelines of talent from across the country. In a world that calls for a more diverse workforce in order to succeed, companies cannot simply post job listings as specific as "woman programmer" or "African-American data scientist"—but what they can do is use PeduL to create scholarships for that exact reason, turning their scholarship application pool into a specified-candidate pipeline prime for development.

This innovative approach to pipeline-building landed PeduL in publications across the country, from Bloomberg, Forbes, *Inc. Magazine*, NBC, and others. It also earned the young company relationships with companies like Audible, Amazon, Prudential, and Panasonic.

PeduL is a proud Brick City (Newark, New Jersey) company that has built a marketplace based on impact. From its beginnings in keeping students in school thanks to its scholarship platform, PeduL has built its pipeline into a new way for companies to recruit and develop the talent they want—completing the cycle for college students who dream of a fruitful and stable future.

PEDUL

PeduL.com

GREENLIGHT TECHNOLOGIES

GOVERNANCE AUTOMATED™



OUR STORY

Everyone knows Silicon Valley. Greenlight Technologies is bringing that same reputation to Flemington, New Jersey with its game-changing solutions for monitoring and managing risk, compliance and performance across the enterprise. It all began in 2004 when Anand Adya, Greenlight Technologies founder, made it his mission to empower organizations to control enterprise risks and improve performance. This singular focus led to the creation of the Greenlight platform, which solves the biggest security and governance challenges organizations face, making real-time insight across all critical applications not only possible, but surprisingly easy and cost-effective. And because Anand chose Flemington for its headquarters, Greenlight is making the case for the city to be considered the software capital of New Jersey.

Greenlight's platform prevents authorized users from performing unauthorized activities. Their unique ability to integrate with and correlate data across multiple business applications, coupled with powerful analytics, delivers enterprise visibility of risk exposure, regulatory compliance and business opportunities. Risk is presented in dollars rather than on a scale, making it much easier to understand. Users gain real-time insight into the financial impact of risk and can see risk exposure trends by user, department, business unit, plant, purchasing organization.

SAP took notice and became a reseller, relying on the Greenlight platform to extend SAP GRC access and business process control monitoring capabilities to SAP and non-SAP business applications.



TODAY

Greenlight is changing the way industry leading organizations manage their internal controls program across business applications and transforming corporate governance from being based on trust to being based on real-time facts. The world's most respected, global companies rely on Greenlight to protect their assets from financial, operational, regulatory and security threats, ensure corporate compliance and improve performance. Greenlight's customers have saved millions in labor costs, audit fees and loss prevention.







Greenlight is also changing the way Chief Financial Officers increase performance and free up cash flow on the balance sheet. Its Balance Sheet of the Future™ solution enables end-to-end process visibility and drives strategic and day-to-day decisions. It combines business drivers and metrics to detect opportunities as conditions change, providing the CFO with an unprecedented view of the balance sheet.

Along with its headquarters in Flemington, Greenlight Technologies has offices in Pune, India and Walldorf, Germany. The company continues to be unrelenting in the pursuit of its mission to transform corporate governance and solve previously unsolvable problems for our customers.

What's next?
Well, Greenlight is just getting started.

Greenlight
TECHNOLOGIES

Phone: 908-214-7992

greenlightcorp.com













INVONTO

TRANSFORMING BUSINESSES THROUGH INNOVATIVE DIGITAL SOLUTIONS.

ELEVATOR PITCH

Invonto is an award-winning technology consulting company that helps organizations automate operations, strengthen client relationships, and unlock business potential through innovative technology solutions. Since 2008, we have delivered nearly $2.7 billion in revenue growth for some of the country's most innovative enterprises—from small businesses to Fortune 500 organizations.

With expertise in cloud, mobile, Internet of Things (IoT), augmented reality (AR), virtual reality (VR), and artificial intelligence (AI) technologies, we guide our clients through each stage of their digital initiatives—from digital strategy and solution design through product launch—to deliver measurable business success.

OUR STORY

Trusted brands trust Invonto with their digital transformation

We have been satisfying customers across America for more than a decade through innovation, superior service and revenue-generating digital products. We've partnered with top brands like Transamerica, D. R. Horton, Epicor, Sealed Air, Sharp, YMCA, West, and many others to create transformative digital



Invonto CEO presents at SelectUSA



Over Ten Years Of Success

100%
Made in America

9
Fortune 500 Clients

12
B2B Industries

110+
Successful Projects

198M+
Application Users

$2.65B
Total Client Revenue Growth

solutions across a range of diverse industries, including high-tech, finance, construction, manufacturing, healthcare, and entertainment.

As technology continues to advance at a rapid pace, our experienced US-based team helps clients build high-quality digital products in a timely manner and receive a better value from their investments. Innovative solutions, built by the Invonto team, are designed to supercharge our clients' business to help them become leaders in their industries.

Invonto has contributed to the success of many organizations:

- Improved employee collaboration and streamlined construction processes for D. R. Horton with enterprise scheduling software and a field service application.
- Enabled event managers to view products, place orders, track shipments, and report issues from a mobile app built for Party Rental.
- Transformed Star-Lo Electric's sales, field service, payroll, back-office, and purchasing operations with mobile-friendly cloud applications.
- Automated sales and packaging design processes, enabled knowledge-sharing across departments, and modernized customer operations for Sealed Air through innovative technology solutions for cloud, mobile, and IoT.

With a proven track record of providing technology solutions for any business challenge, our team has earned a reputation as successful problem-solvers, creatives, technical experts, and innovators.

> Building successful enterprise applications is no simple feat. The foundation of our success lies in our team's vast experience in cloud computing and mobile technologies. Our depth of knowledge allows us to strategically build and quickly scale applications, which is incredibly important whether you are building for web and mobile or experimenting with emerging technologies like AR, VR, IoT and AI.

Made in America with NJ roots

Invonto is 100% made in America. A firm supporter of the US brand, our leadership team has built a thriving business by investing in the country's most valuable resource: American workers.

"The diverse American workforce is not only highly skilled, dynamic, and innovative, it is also one of the world's most productive," said Maulik Shah, CEO of Invonto. "By maintaining a US-based workforce, we are supporting a stronger US economy while delivering a superior customer experience."

To further support the US brand, Invonto built Apps Inc. (www.appsinc.co), a curated business directory of America's top digital agencies. Designed specifically for businesses that value American craftsmanship, the platform makes it easy to connect with US-based companies that offer high-quality tech and marketing services. Moving forward, we will continue to promote American brands by building similar business directories across other industries.

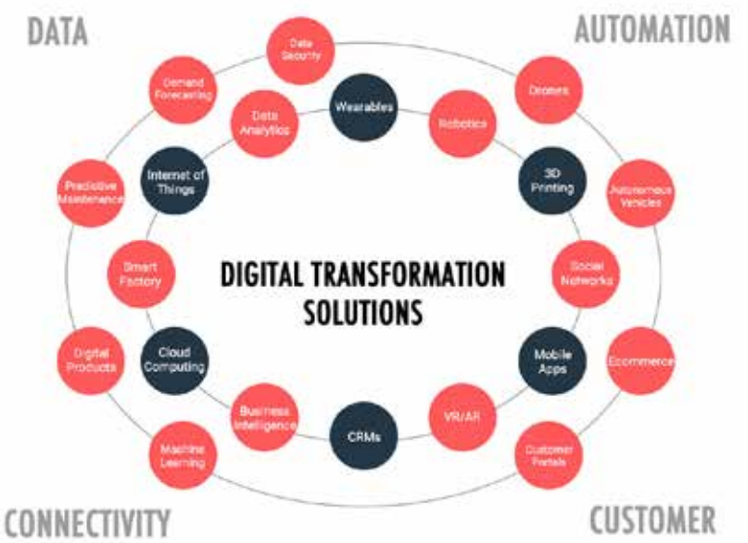
Headquartered in Bridgewater, New Jersey, we have enjoyed over a decade of success in a state known for its vibrant economic climate. Among the highest ranking states for job creation and gross domestic product, New Jersey offers an ideal location for US-based businesses. The state ranks No. 2 for education and boasts one of the most diverse populations in the country. We are proud of our Garden State roots and are always looking for ways to give back. Invonto is a member of the New Jersey Technology Council, the Somerset County Business Partnership, and the Greater Raritan Workforce Development Board. We provide mentoring to early-stage startups to support continued innovation and job growth in the area.

Additionally, Invonto has been honored by the US Department of Commerce and state-level agencies for our continued investment in creating and keeping jobs in the USA.

A culture of innovation

A strong, positive culture drives innovation. When individuals and teams come together in a positive way to collaborate, brainstorm and problem-solve, they tap into a creative force that inspires change. That is the Invonto way.

At Invonto, we believe passionately in the value of a healthy work, life, and family balance. Because the business is built entirely on digital applications





Invonto has designed and developed mobile and web applications for over 10 years

where all critical information is easily accessible, employees are offered the option to work remotely. And when in the office, the team is encouraged to participate in a number of light-hearted activities to help them prioritize their mental and physical health.

Invonto employees are also encouraged to experiment with new technologies to support their own continued innovation and augment their skill sets. Plus, through ongoing collaboration with other departments within the organization, each member of the team has a robust understanding of the business as a whole—its various processes and functions, the array of products and services offered, and the interdependencies that create success.

"Our diverse team and the uplifting atmosphere have been integral to our success," said Shah. "Each member of the Invonto team listens, values, and respects the voices of each other. With daily touchpoints and open lines of communication, we are all aligned in our goals. We are a team of passionate individuals who want to go the extra mile for our peers, our company and our customers."

Fostered by a culture that embodies the continued pursuit of innovation, education, and collaboration, Invonto employees enjoy a rewarding path of professional development and the desire to go above and beyond to serve and delight customers.

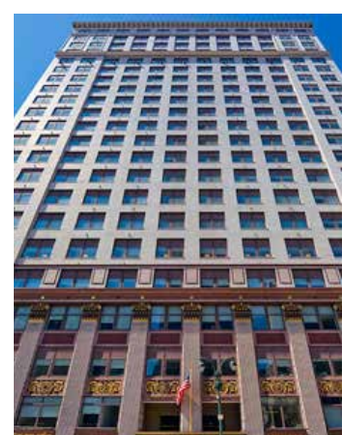
Invonto leads the charge in digital innovation

When it comes to innovation, Invonto is always one step ahead. From being an early adopter of cloud and mobile technology to now investing in augmented and virtual reality, our team is passionate about exploring and creating innovative digital solutions. With our leading-edge research and development lab, we partner with businesses of all sizes to experiment with cloud, mobile, IoT, augmented reality, virtual reality, and AI—from idea formation to the creation of a minimum viable product (MVP).





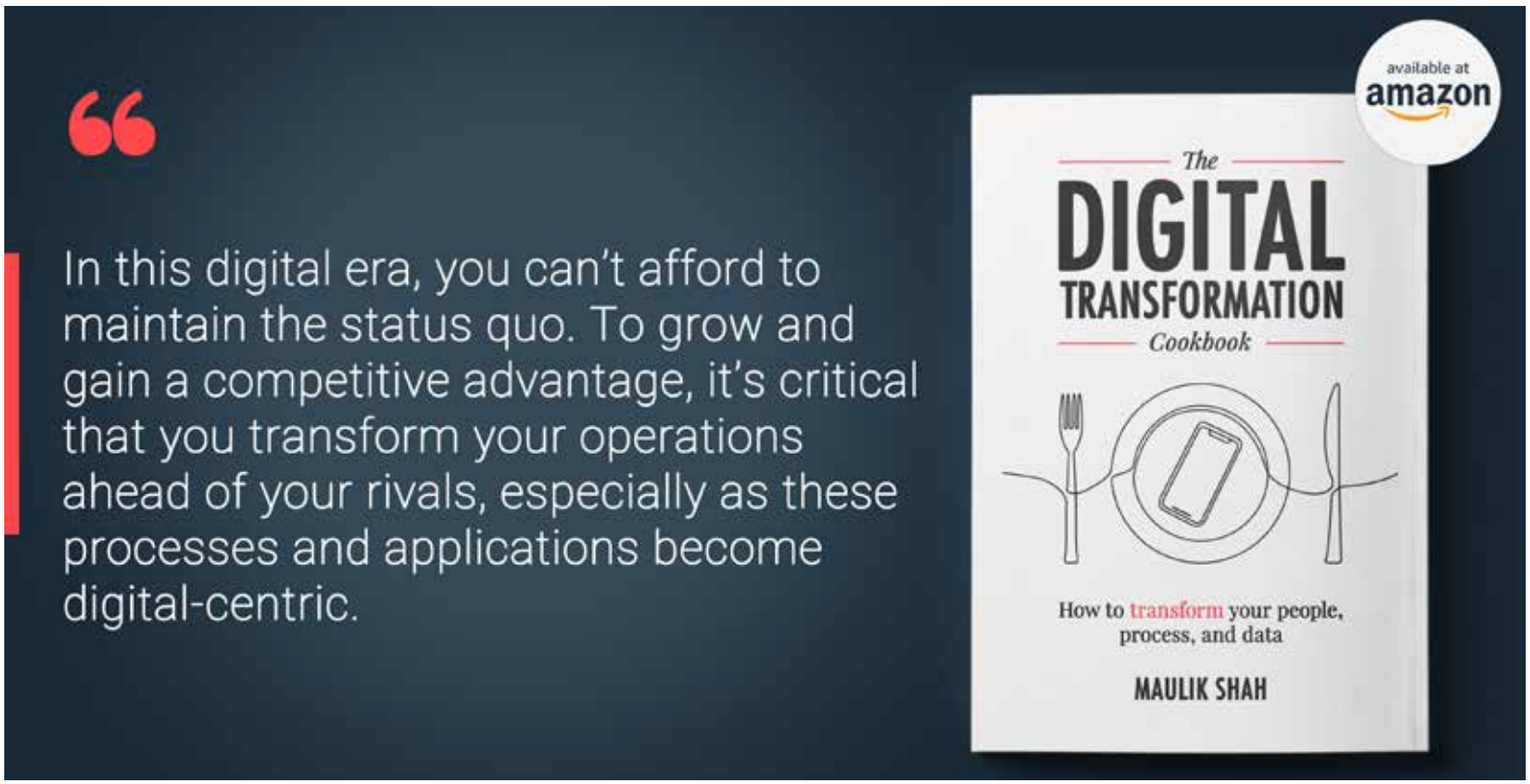
Invonto develops augmented reality apps



Invonto New York Office



Invonto New Jersey Office





Invonto virtual reality demonstration in Flemington, New Jersey

Invonto recently launched the Virtual Reality Roadshow, a series of interactive events designed to educate local businesses on the benefits and practical applications of VR technology. The program is the only one of its kind and marks an important step in a bigger agenda for New Jersey: establishing the state as a hub for technology innovation and helping local businesses grow through technology adoption.

Invonto's CEO, Maulik Shah, is often featured in digital and print publications for his views on technology trends, digital transformation, the American workforce, and entrepreneurship. He encapsulates his learnings from more than 20 years of industry experience in his recent book, *The Digital Transformation Cookbook*, an Amazon bestseller. The book offers deep insights into digital strategies, key technologies, and methodologies that help businesses grow.

As a company that has always been at the forefront of technology and innovation, Invonto plays an important role in the New Jersey tech scene, building innovative solutions with new technologies and garnering recognition for our work throughout America and across the globe. We have received accolades for our work by the New Jersey Technology Council, Thrive Global, *CIO Magazine*, and Carnegie Mellon University.

Over the next several years, we plan to expand our footprint across America, build groundbreaking solutions for IoT, AI, AR, and VR, and accelerate technology growth in New Jersey through participation and investment in the community.

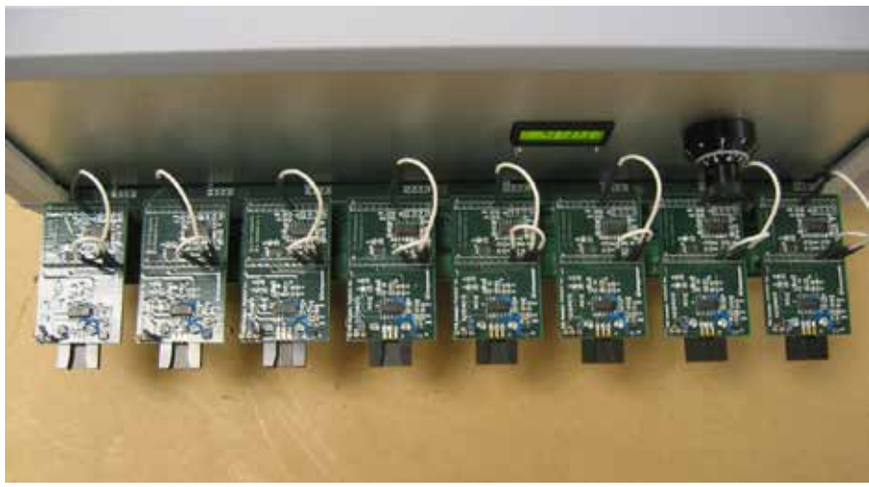
INVONTO

Connecting People Through Digital

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invonto.com

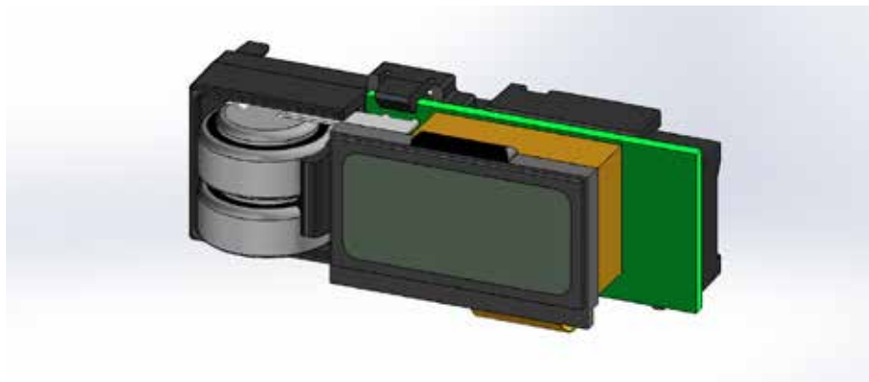
POLYGENESIS

ELEVATOR PITCH



Polygenesis focuses on leading technology to market, bringing together an interdisciplinary team of technologists with particular expertise in developing both optical and electrochemical biosensors, biosensor reader devices, development, testing, and manufacturing platforms. As innovators and inventors with a long history in the area, Polygenesis provides services to a range of clients from startups to the pharmaceutical giants and partners with some of the best manufacturing resources to provide clients with scalable solutions.

OUR STORY



Henry J. Wieck, PhD, established Polygenesis in 1996 to pave the way for healthcare, communications, and automotive companies to innovate, develop, and implement new technologies and processes. Today, Polygenesis works mostly with pharmaceutical, healthcare, and diagnostic companies to develop custom biosensor products. Within that process, however, are many related services, including technology strategy & search, pharmaceutical processes and systems, opportunity identification and acquisition support, due diligence and technical assessment, product/process feasibility and development, manufacturing partner identification, qualification, and management of the commercialization process.



"At Polygenesis we are frequently called upon to help our clients understand, manage, or develop technology," says Henry. "They count on our experience and creativity. Together with our network of proven suppliers we can take them where they need to go faster and less expensively than going it on their own."

Polygenesis gives its clients access to expertise, infrastructure, and processes without burdening them with building out an in-house department to perform the same function. It has the capability to literally realize its clients' concepts, quickly producing prototypes so that clients can start to find investors, for example. In the case of larger companies, Polygenesis' agility enables them to get to market with a new or groundbreaking product.

Recent and specific technology that Polygenesis has helped bring to market includes low-cost, custom meters, biosensor test stations, and disposable LF and EC readers. Its reputation for expert consulting also drew a major company that wanted to develop an electronic pregnancy test. Polygenesis developed proof-of-principle devices for the company, enabling them to succeed in a highly competitive market—not to mention helping women everywhere gain total clarity when it comes to a pregnancy-test result.

Another recent project involved helping a client add an electrochemical glucose test to its array of optically based tests. Polygenesis helped them identify a manufacturing partner and developed an electrochemical interface for their instrument. Polygenesis also assisted in designing the manufacturing processes, as well as securing the 510k regulatory process for the system.

Polygenesis' solutions can be customized, semi-customized, or fully reliant on Polygenesis' own core technologies and platforms. At the heart of Polygenesis' low-cost reader technologies, for example, is the polyASIC™, a family of custom integrated circuits that provides all the electronics needed to run an electronic, disposable, lateral flow test. It works with clients' existing chemistry.

In addition to serving major corporations, Polygenesis is agile enough to also step in as an R&D branch for its clients that are startups and small businesses, and once financial backing is secured, Polygenesis can begin its "productioneering" process, a combination of manufacturing and retooling as necessary.

"Most investors need to see something tangible," says Henry, "but many small to medium-size corporations simply do not have the financial resources (or time) to bring such a comprehensive resource in-house. We can take anything—even from a drawing on a napkin or a crude model in a garage—and analyze it for potential."

With its 25 years of experience, Polygenesis is the go-to for any company's biosensor needs.



OUR CREATIVE TEAM

Henry Wieck, PhD, President

Henry's formal training is in Analytical Chemistry and Electrochemical Sensors. After completing graduate school, he started down an academic career path until the day he read an announcement regarding the formation of a startup company in the area of silicon sensors. The fruit of these labors yielded the world's first handheld, multi-parameter blood analyzer.

A visionary technology integrator with the ability to conceptualize and commercialize next-generation medical technology, Henry has many patents in the area. His talents include a complete understanding of the product commercialization process, strategically focused product development, managing "virtual" development groups, minimizing development risks, project management, joint venture facilitation, and increasing profitability of technology businesses with rapid prototyping.

Francis Delahanty, Director of Technology

Francis T. Delahanty is a principal in the company and serves as the Director of Technology. After obtaining a graduate degree in physics, Fran has been involved in the commercialization of new technologies for almost 30 years. Ranging across diverse industries such as healthcare, security, communications, and automotive, Fran has exploited a wide range of technologies including sensors, wireless communications, biometrics, specialty materials, optoelectronics, and bioassays. Focusing on the front end of the development process, Fran has assisted clients realize new, market-leading products, as well as develop and mature their own internal technologies and processes.

In addition to his product and technology development activities, Fran has also played a role and led teams in due diligence, technology search and evaluation, strategy, and resource evaluation and planning. Fran also serves as an active Adjunct Faculty member in the School of Engineering at The College of New Jersey, teaching courses in electric circuits and control systems design.

Polygenesis
LEADING TECHNOLOGY TO MARKET

polygenesis.com

PHONE.COM
COMMUNICATE BETTER

Phone.com offers comprehensive unified communication & collaboration tools to over 35,000 small businesses in the US.

Ari Rabban remembers what many have forgotten or never knew to begin with: that New Jersey was the nation's Silicon Valley for much of the 20th century.

At the hub of it all was the telephone. And at the hub of the telephone—and countless other world-changing innovations—was Bell Labs, quietly tucked away in picturesque Murray Hill.

The Phone.com CEO thinks back to the first days of his company, an award-winning voice over IP (VoIP) provider dedicated exclusively to small and midsized businesses, and rattles off the first day it went live.

"The week before Christmas, 2007" he recounts, his voice buoyant with memories of the Newark-based company's early days. "December 15, 2007."

What he doesn't realize—and who would, really, aside from telecom history buffs—is the historical connection between the company he co-founded and one of the most important inventions of the 20th century.

Nearly 60 years earlier, three Bell Lab physicists made the first working transistor. That day—December 16, 1947—would change technology forever. The Nobel Prize–winning invention is not only at the core of modern telecommunications, but the workhorse behind every single digital device we use today.

It's fitting, then, that Rabban co-founded a progressive telecom company in the same state, just one day shy of the 60th anniversary of the transistor. Those three physicists—John Bardeen, Walter Brattain, and William Shockley—were exactly the type of innovators Rabban and Phone.com CTO/EVP Alon Cohen are targeting: energetic, creative, and often operating on a shoestring budget.

Eleven years after its founding, more than 35,000 small and midsized businesses (SMBs) rely on Phone.com for affordable cloud-based VoIP—the kind once only available for large corporations. It's packed with over 50 futuristic features that not only make life easier for SMB owners and their employees, but, in Rabban's words, make even the smallest, newest businesses look and feel "like a million bucks."



Boasting everything from call forwarding (to any kind of phone, anywhere in the world) and group messaging to mobile faxing, call recording, voicemail-to-email, and audio & video conferencing, not to mention the ability to add infinite user extensions—all starting, somehow, at less than $10 a month—the service makes traditional PBX phone systems look like they're stuck in the Dark Ages.

At the core of the service is not only the ability to, as the company declares on its website, "Never miss a call again," but for users to keep their work and personal technologies completely separate, even if they're using a personal cell phone, as is often the case with SMBs.

Another appeal is the system's call-handling feature, which allows businesses to create customized rules that route incoming calls to different numbers, extensions, greetings, menus, and more, based on the day and time a call is received. Phone.com's loyal customers are thrilled with it. And Rabban couldn't be more pleased.

"There are only a few VoIP providers that really serve and focus on the needs of small and midsized businesses the way we do, with the right balance of price, customer service, and feature set," he explains. "And the fact that we have 24/7 homegrown, US-based service is, overall, a winning combination."



"Transformation is a journey with no finish line. To succeed, we must keep reinventing ourselves—reinventing our business and reinventing our goals. We may fail, that's true, but each step backward helps us learn how to take an even bigger step forward—maybe even pivot in a new direction. But always forward."
—Ari Rabban, CEO





> Thank you for your commitment to re-establishing New Jersey as the national leader in innovation...
>
> - Philip D. Murphy
> Governor

"I think small businesses are neglected by most VoIP providers," he continues. "I also understand why. When a service provider like us is able to raise capital, the inclination is to go upstream after bigger businesses. We've seen it with pretty much every one of our competitors. Even the ones that started with the goal of servicing small businesses."

Phone.com hasn't had any trouble getting business or raising capital. Customers were lining up to sign up for their service when they were still in beta mode. And the company made state headlines in 2013 when it raised $2 million, half of it from Manhattan-based investment firm ff Venture Capital, and the other half matched by a line of credit from the New Jersey Economic Development Authority's Edison Innovation Venture Capital Growth Fund.

Headquartered in Newark's historic and newly renovated Hahne & Co. building, the young company's success is powered by Rabban and CTO/EVP Alon Cohen's deep roots in telecom. Both got their start in the Israel Defense Forces' telecommunications corp. And both have been in the VoIP industry since its infancy.

Widely recognized as a founder of VoIP, Cohen holds five US patents, one for the audio transceiver, the catalyst behind voice over network products, and, eventually, the entire VoIP industry.

In 1989, he co-founded VocalTec. Just seven years later, the company brought the world's first VoIP product to market. Rabban, then at Lucent Technologies, joined Cohen at VocalTec in 1998. The duo has been inseparable since. And they have no plans to leave what's become their home state.

Rabban, who sits on the board of the NJ Tech Council, is thrilled with Phone.com's relatively new home in the Hahne & Co. building. Much like the company itself (a "10-year-old startup," as he playfully describes it), Newark is bustling with innovation. And neither the city, the state, nor Phone.com—now 120 employees strong—show any signs of slowing down.

"We're growing. We're innovating. We're building new services," Rabban says, his energy contagious. "The definition of phone service is changing. It's not just talking. It's technology."

Phone.com
Communicate Better®

phonedotcom
phone.com





"VoIP phone service has changed the way everyone communicates. It has allowed businesses to be more mobile, flexible, and save money. It has allowed people all over the world to stay connected without paying high long-distance fees. Plus, it gives smaller businesses an option to have reliable phone service, without a dedicated IT team and an in-house system." **—Alon Cohen, CTO**

UNIVERSAL DISPLAY CORPORATION

UNIVERSAL DISPLAY CORPORATION (NASDAQ: OLED) IS A LEADER IN DEVELOPING AND DELIVERING STATE-OF-THE-ART, ORGANIC LIGHT EMITTING DIODE (OLED) TECHNOLOGIES, MATERIALS, AND SERVICES TO THE DISPLAY AND LIGHTING INDUSTRIES.

ELEVATOR PITCH

Headquartered in Ewing, New Jersey, with offices around the world, Universal Display Corporation (UDC) is lighting up the OLED revolution with its proprietary OLED technology and highly-efficient, high-performing phosphorescent materials.



OUR STORY

UDC was founded in 1994 with a vision of creating the next generation of displays, back when TVs were still CRTs (cathode ray tubes). That technology was energy-efficient organic light emitting diodes, or OLEDs. Fast-forward two-and-half decades, and we have grown from an R&D startup to a global leader in the OLED ecosystem.

Today, we work with the largest consumer display panel manufacturers in the world. Our leading-edge technologies and phosphorescent materials can be found in virtually every commercial OLED product from AR/VR, smartwatches, and tablets/laptops to smartphones and TVs, as well as automotive and solid-state lighting.

UDC's mission is to be a key enabler in the OLED industry. We have the innovation, commitment to operational excellence, agility, and flexibility, to drive the invention and development of the best OLED technologies and phosphorescent materials for our customers and partners worldwide.



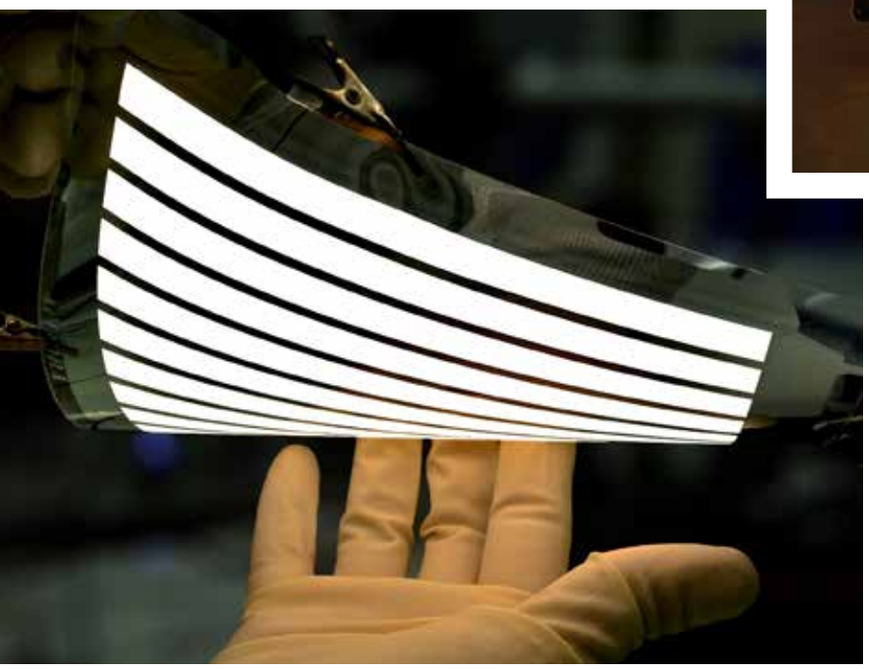












UNIVERSAL DISPLAY CORPORATION™

oled.com



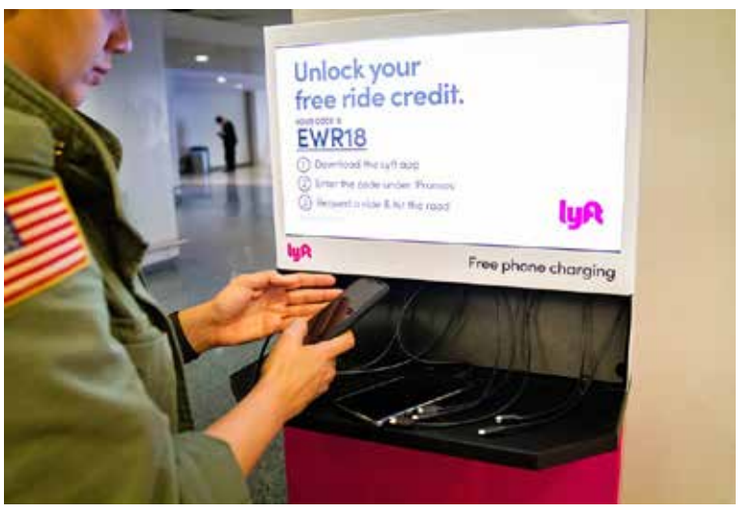
Steve Abramson
President & CEO

INCHARGED

REVOLUTIONIZING EVENTS & POWERING BRANDS WITH THE MOST ENGAGING AND EFFECTIVE EVENT TECH: CELLPHONE CHARGING STATIONS, INTERACTIVE VENDING MACHINES, AND MORE









ELEVATOR PITCH

Events are on the rise. In a digitally saturated world, real-life experiences are having their renaissance. At InCharged, we create state-of-the-art event technology that helps brands leave lasting impressions on their audience. From customized phone-charging stations to interactive vending machines, we're working with some of the biggest brands to leverage and innovate the growing event marketing space.

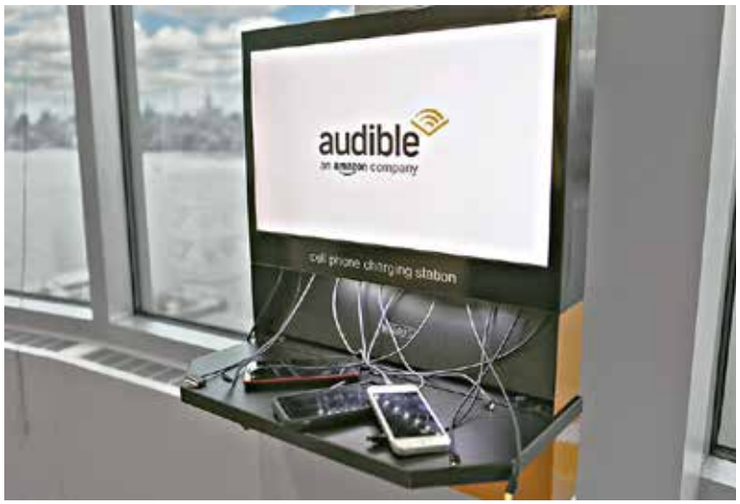
OUR STORY

From the beginning, our mission has always been to produce event technology that **actually** works, that challenges the status quo, and puts customer experience above all. From hopping on late-night flights to deliver units to always improving our designs, we've built InCharged on the motto "whatever it takes"—and, we mean it. Events happen once, and with the amount of work and resources put in, everything has to go right. Built in our Newark, New Jersey, warehouse, our family of event tech products is the most efficient and reliable in the industry.

The power of our event technology is its ability to make a lasting impression on audiences. Our flagship phone-charging stations give brands an easy way to show off their message **and** provide a free (day-saving) phone charge for their customers. We've spent a decade iterating on and perfecting our charging stations to fit all kinds of event needs.











Our newest innovation is the VendX, an interactive, experiential vending machine that makes giving away promotional items as engaging and effective as possible. Brands can outfit the VendX to get whatever kind of interaction they want—social shares, an email address, a survey—even for playing a game. In exchange, users get a prize—no more data-less S.W.A.G. The VendX's versatility and novelty make it a force to be reckoned with.

Our Jersey team is constantly reimagining what's possible in the ever-changing sea of technology and marketing—providing one-of-a-kind solutions for our customers. Events aren't going anywhere, and neither are we.

INCHARGED™ VENDX



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CEO

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BERKELEY VARITRONICS SYSTEMS, INC.

OUR STORY

Wireless Innovation from the start

Berkeley Varitronics Systems, Inc. (BVS) is a privately owned family business and known as an engineering think tank delivering custom wireless RF (Radio Frequency) engineering products and solutions since 1972. BVS clients range from NASA to many Fortune 500 companies all the way down to small entrepreneurs looking for rapid development and prototyping of an idea. Our word-of-mouth and repeat business is fueled by our reputation of treating the customers the way we would like to be treated ourselves and delivering every engineering specification as promised.

Explosion of ideas

Back in 1972 in Berkeley Heights, New Jersey, BVS founder and CTO Gary Schober began to assemble a team of expert RF hardware and software engineers. This team has led BVS to many innovations including the first wireless link used to monitor artificial hearts, remote monitoring systems for Pepsi vending machines and even the design (over 30 unique instruments) and delivery (over 6,000 units) of cellular test devices used in the US cellular network buildout in the late '80s.

Since 1990, BVS has been designing, manufacturing, and shipping our own branded products all from our headquarters in Metuchen, New Jersey. Over the years, the entire catalog has grown to some 200 unique products consisting of wireless test, security, safety, and cybersecurity solutions including stimulus transmitters, cell phone detection solutions, and cybersecurity training and education. This vast array of products and categories allows BVS to serve government, corporate, military, law enforcement, correctional, telecom, and transportation industries by leveraging decades of wireless and manufacturing expertise into every project and product we ship.

World class achievements

Back when the cellular industry was poised to transition their networks from analog to digital, BVS responded with the Gator™ stimulus transmitter. Gator™ became the top-selling transmitter in the world due to its ruggedness, light weight, and reliability and established BVS as a world-class innovator of wireless test products. The Tortoise™ multi-band transmitter followed soon after bringing Gator's industry-leading build quality along with new custom modulation schemes to meet the demands of the expanding telecom industry.

As smartphones became ubiquitous, the need to detect and locate them grew. This led BVS to develop PocketHound™, the industry's most sensitive covert phone detector. To date, BVS has sold thousands of PocketHounds to law enforcement, universities, and correctional facilities around the world and has established themselves as a leader in wireless security.

In 2010, BVS developed a cellular detection system for mass transit in order to detect and curb smartphone use by distracted operators. To date, TransitHound™ has been deployed in over 10,000 locomotives by some of the railway industry's largest companies. TransitHound has already detected and alerted authorities to many distracted railway and heavy machinery operators, potentially saving lives and further solidifiying the reputation of BVS as a wireless safety innovator.



TransitHound™ has been deployed in over 10,000 railway locomotives in the US.

In response to massive data breaches and cyber attacks against small businesses and consumers, BVS CEO and President Scott Schober embarked on campaign to educate and arm customers with cybersecurity solutions. In 2016, Scott, alongside his younger brother Craig, VP of BVS, wrote *Hacked Again* and followed that book up with *Cybersecurity is Everybody's Business* in 2019. Both books have been strongly embraced by the cybersecurity community and have even become part of academic security curriculum in universities. In addition, BVS has recently unveiled Skim Scan™ and BlueSleuth™ products in order to combat the widespread problems of card skimming and resulting identity theft.

Technical Capabilities

BVS specializes in RF design with a diverse set of capabilities that attracts customers from a variety of industries. We can take something from concept to

Berkeley Varitronics Systems, Inc. is family owned, headquartered in Metuchen, NJ, and has delivered wireless innovation since 1972.







Gator™ and Tortoise™ became top-selling stimulus transmitters used for massive cellular network build-out.



Over 7,500 PocketHound™ covert phone detectors sold to law enforcement around the world.



Hacked Again *and* Cybersecurity is Everybody's Business *have sold thousands of copies and receive critical acclaim from cybersecurity experts.*

finished product and any stage in between including circuit design, PCB layout, prototyping, software development, small production runs, and full testing capabilities as well as precision machining, using two Haas vertical milling machines, three Bridgeport CNC vertical mills, and a lathe all on the premises.

Berkeley
Varitronics Systems
Wireless Detection
bvsystems.com

AMADIS TECHNOLOGIES, INC.

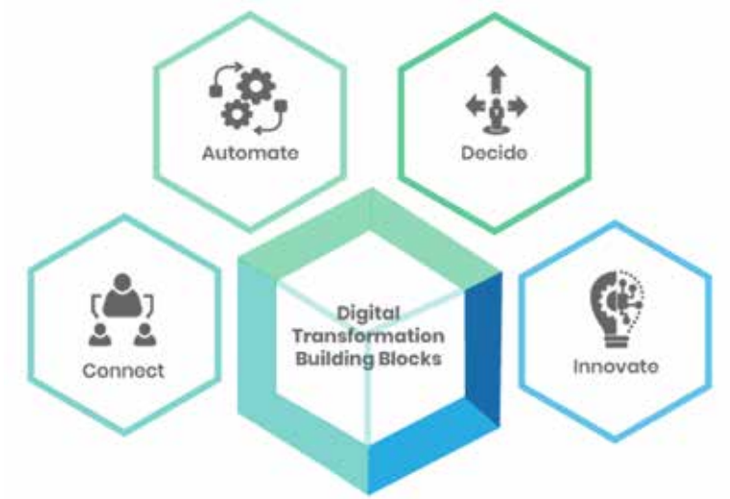
HAVING YOUR HEAD IN THE CLOUD SHOULD BE A GOOD THING.

OUR STORY

Navigating technology change is not always smooth sailing. Amadis Technologies helps its customers to harness the power of the cloud with confidence. This ambition grew from a simple belief: cloud computing would change everything.

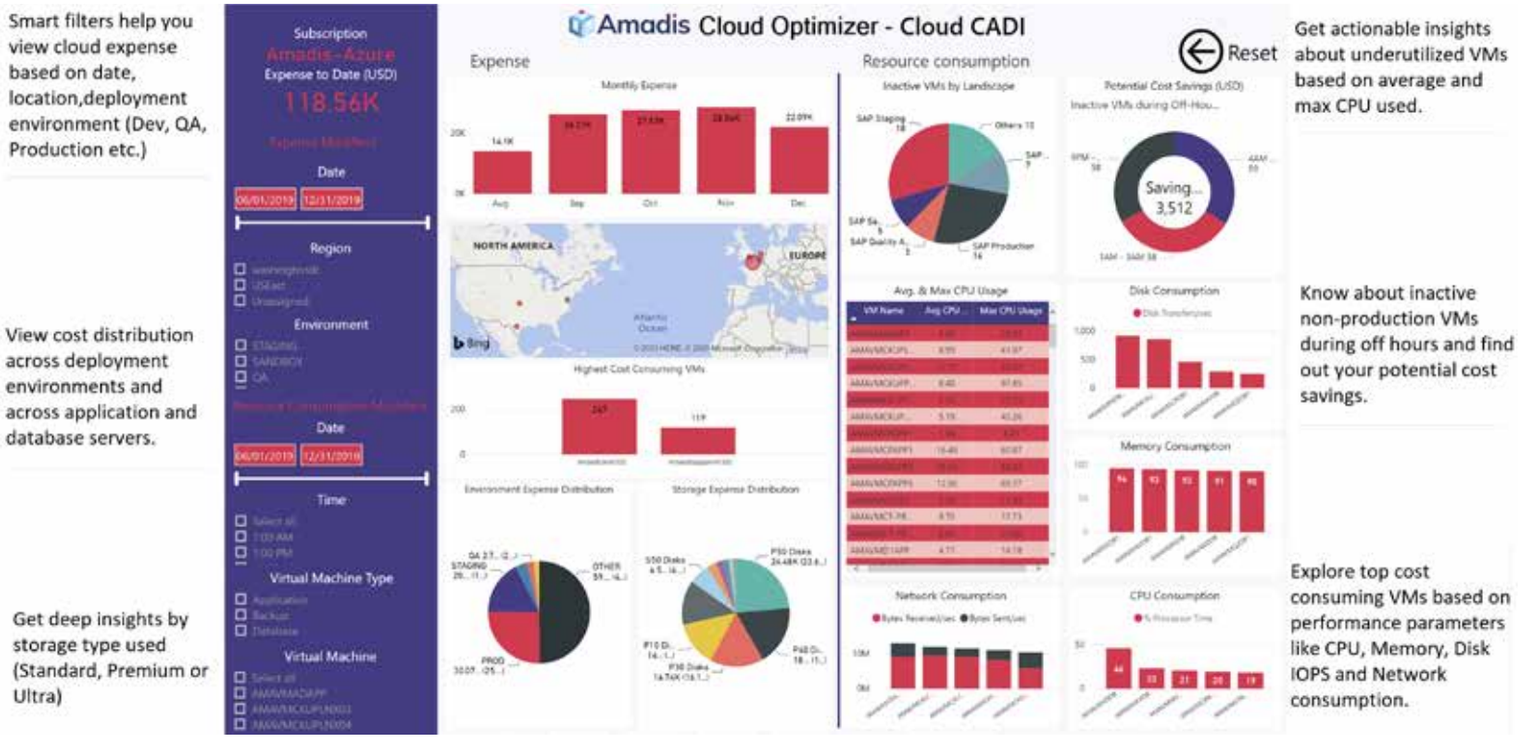
And it has. Today, heavy-hitters like Microsoft Azure, AWS, and Google are investing heavily in cloud components like infrastructure, platforms, or SaaS (software as a service). As a cloud-native specialist firm, Amadis empowers its customers not simply to migrate to the cloud, but to adapt the right cloud components to accelerate their digital transformation efforts. Amadis' combination of actionable insights–driven products and competent services make it possible.

"The ease of cloud consumption makes companies consume much more than what they really need the cloud for," says Madhu Kumar, Amadis' founder



CADI™ is the full suite framework to innovate on products and services, engage with customers better, make smarter decisions and automate for operational efficiency





and CEO. "They throw all their business problems toward cloud adoption and expect stellar results. But it doesn't work that way."

Amadis helps its enterprise clients optimize, engineer, and automate cloud consumption through cloud-native products (Cloud CADI) and the framework (CADI) can be applied for enterprise digital transformation needs.

CADI (Connect, Automate, Decide, and Innovate) is a full suite of native scripts that learn customers' cloud assets, which enables automation and smarter decisions—to "spend right," as Madhu explains. CADI helps Amadis to understand clients' existing environments in order to recommend optimal options. These actionable insights appear in an intuitive, customizable single-pane dashboard.

"Through continuous learning and focus, we have honed our skills to identify optimal cloud components, blueprints, and possibilities for the highest degree of automation. These are the three crucial paths to success," says Guhan P., Cloud Solutions Engineer at Amadis.

It's a winning formula. A recent Fortune 500 client used Cloud CADI and saw a savings of 3.5% in the first quarter, which increased to 6% by the end of the second quarter.

While Amadis' offerings in its first year have been based in Microsoft Azure, it is at work on solutions on technologies that can be deployed on Hybrid cloud architectures as well. The company also seeks to enhance its recommendation engine to include features like multi-cloud evaluation models.

"I believe the cloud adoption rate is increasing at such a rapid pace that large enterprises are investing in multiple cloud platforms," says Madhu. "The need for solutions is in line with what we do at Amadis—and that need is bound to increase. We're here for when that happens, just as we have been from the beginning."



Madhu Kumar
Founder

Amadis
amadisglobal.com



ADVANCED POWER PRODUCTS & SOLUTIONS

ELEVATOR PITCH

Advanced Power Products & Solutions is a manufacturer representative focused on electrical power, control, and protection. They provide advanced technical resources, responsive service, and expansive representation across the industry, working with power plants, municipals, contractors and EPCs, distributors, consultants, industrial facilities, OEMs, and system integrators.

OUR STORY

It all happened more quickly than Benjamin Brown and Mustafa Attia expected. They were working as sales engineers at large companies but were confident that they could start their own. They came up with a four-year plan—which suddenly became a one-year plan.

"Mustafa learned that GE was looking for a rep company for one of its new product lines, and we thought, 'Let's go after it. If we get, we get it.' Neither of us was thinking this would be the year to open, but it was too good an opportunity to miss," says Benjamin Brown, co-founder and principal of Advanced Power Products & Solutions.

Their leap of faith was rewarded when they secured the contract with GE. It was a little different to what they had originally planned—but then, Advanced Power is a little different from other companies in the rep realm.



"Sales reps are typically salespeople, but we are salespeople who are also engineers," Benjamin says. "Our ability to come in with known industry solutions and an ability to help engineers design those solutions creates a different dialogue where customers come to us for support and engineering knowledge."

Gaurav Rodrigues, Advanced Power's associate project manager, says it also creates a different level of service: "Because of engineering backgrounds and the right technical skillset, we can create turnkey solutions around our products, instead of simply selling individual components and leaving customers to incorporate them unassisted."

Today, Advanced Power provides solutions as varied as the companies they build them for. The company's expertise includes microgrids, protection and





control, metering, grid automation, electrical test equipment, substations, systems automation, field services, and HV/MV equipment, among others.

Whatever the challenge, Advanced Power helps its customers to gain a competitive edge with the help and support of advanced products and technical services. The solutions may be complex in their sophistication, but they begin with something fundamental: empathy.

"We try to put ourselves in the customer's shoes and think about everything that's going on with the project," says Gaurav. "By utilizing the knowledge of a networked team, we can present clients with accurate, decisive options that will benefit our clients the most."

For example, Advanced Power provides customers a solution to optimize the maintenance of their most critical assets through digital monitoring and diagnostic (M&D) solutions. These M&D solutions help reduce corrective and time/counter-based maintenance of their equipment and give them insights to risk assessment, condition-based maintenance, and T&D asset analytics.

Though based in New Jersey, Advanced Power Products & Solutions has expanded its territory into New York, Eastern Pennsylvania, and Delaware, providing service to a variety of corporations, many of them household names. They've also increased the number of products and companies they represent, including GE Prolec, Omicron, and G&W.

"Every year we're expanding and taking on different projects with companies beyond New Jersey," Gaurav says. "We're looking forward to seeing where else those will take us.

Proud of such expansion as they are, the team also counts among its milestones the earliest indicators of Advanced Power's success: receiving their first payment, for example, or hiring their first full-time employee. Those small victories have added up to great success, and while the team is ready to meet the opportunities they see on the horizon, they'll remain as client-focused as ever.

"What's most important to us is the prospect of long-term and trustworthy relationships with all our customers," Benjamin says. "Looking at the projects and jobs we are working on, I can surely say that we are addressing a growing need and we intend to develop this in the years ahead to bring even more to the table—which is to say, to bring even more to our customers."

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PER SCHOLAS

ELEVATOR PITCH

Per Scholas Newark prepares adults with the necessary technical and business skills needed to launch successful careers in technology. Launched in 2018, Per Scholas Newark will contribute to Newark's growing technology sector by training the next generation of tech as competent and highly qualified entry-level professionals and greatly diversifying the region's tech workforce over the coming years.

OUR STORY

An Economic Dilemma

According to the U.S. Bureau of Labor Statistics, the economy will need as many as 100,000 new information technology workers throughout the new decade. By 2030, as many as 1.2 million unfilled tech jobs in the U.S. will cost businesses an estimated $162 billion annually. Continued at this current projection, if efforts to address this are not implemented, the impact of this dilemma will affect not just businesses, but families, communities, and national economic sustainability.

Since 1995, Per Scholas has helped more than 10,000 unemployed and underemployed individuals to develop the necessary skills to succeed in high-quality tech careers. Our training model has been proven to drive positive social change in communities across the nation. Our accelerated, tuition-free, full-time technical training is supplemented with career advancement training and wraparound support services such as professional development, financial security coaching, and case management services for those who need them. With the advancement of our new customized training model in which employers are key partners in designing and investing in the skilled workforce of the future, we are able to innovate the next generation of sector-based workforce development and increase diversity within the tech field.

Innovating the Tech Workforce through Diverse Partnerships

Per Scholas Newark aims to contribute to Newark's growing tech workforce by providing industry-recognized certifications and positioning graduates as qualified entry-level tech professionals. We believe that much of our nation's talent is hidden in plain sight: people in overlooked communities who may lack the opportunities—but not the motivation or intellectual curiosity to join the ranks of our nation's growing tech sector.



New Jersey Governor, Phil Murphy, at the Per Scholas Newark launch in April 2019.



For employers whose tech talent shortages otherwise impede productivity and growth, Per Scholas Newark can introduce them to new pipelines of diverse local tech talent. We help businesses to address their talent acquisition or upskilling needs by matching our graduates to their recruitment candidate profile. The outcomes – more self-sufficient individuals, healthier families, stronger neighborhoods, businesses, and communities – benefit everyone.

These partnerships have the incredible opportunity to foster a more equitable and diverse tech sector through the creation of robust pathways to tech employment for individuals from underrepresented communities. The impact and quality of Per Scholas training leverages the talent shortage to induce more employers to consider candidates with nontraditional backgrounds and build sustainable futures for our graduates. Nationally, 80% of Per Scholas graduates begin









working in jobs with an average pay of $21/hour, four times their average pre-training incomes. With 87% of Per Scholas students identifying as people color (59% are African-American or Hispanic), hired graduates are twice as likely to be racially and ethnically diverse than typical new hires in the same industries. Hired graduates also help to reduce a business' employee turnover between 22-50%.

We envision a future where individuals from any community can access well-paying tech careers, and where talent is recognized and recruited from many diverse sources. Our mission is to not only open doors to technology careers but to build the foundation for future sustainability and growth for the nation overall.

To learn more about our training programs, see our profile in the Education section. Employers interested in partnering should visit perscholas.org/newark. Newark residents interested in applying to our free technical training can visit www.perscholas.org/newark to submit an application.

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CHAPTER 6

IT OUTSOURCING & MANAGED SERVICES



"Exploration is the engine that drives innovation. Innovation drives economic growth."

—EDITH WIDDER

SmartIMS
assuring outcomes

SmartIMS.com

Delivering *Transformative* Innovation

Proudly New Jersey!

Smart IMS is helping enterprises transform from point-to-point transactions to as-a-service engagement networks.

IoT-as-a-Service: we will help launch and run IoT networks anywhere, monitor, and mitigate all risks

Applications-as-a-Services: Microsoft Dynamica 365, Guidewire applications as fully managed services, you pay for what you use

Communications-as-a-Service: We will host and manage your enterprise collaboration and security, untethering you from long-term contracts and aging inventory

Infrastructure-as-a-Service: We will keep your enterprise IT humming with our remote services

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ATLAS

A SmartIMS Company





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PamTen



The PamTen Team



Prasad and Chaya at the SheTek launch

ELEVATOR PITCH

PamTen is a global technology services company that offers software solutions, enterprise integration services, staff augmentation, and cybersecurity services for small and midsized businesses through to large corporations. Founded by Chaya Pamula and Prasad Tenjerla in 2007, PamTen utilizes a percentage of its profits to support the lives of underprivileged children through its sister organization, SOFKIN (Support Organization For Kids In Need www.SOFKIN.org).

OUR STORY

Headquartered in New Jersey, with offices in New York, Canada, and India, PamTen provides technology support services to organizations all over the world in a wide range of industries that include insurance, financial, manufacturing, energy, pharma, retail, and consumer products.

Chaya explains, "Our clients typically approach us with specific business challenges that require insight into key business data that's required to make informed decisions for better business performance."

PamTen's approach is to discuss the business challenges the client is facing, their core processes, and then assess their current technology portfolio. The PamTen team determines what the deficiencies might be and does a full evaluation of the client's current technology, looking for redundancies, gaps, and inefficiencies. PamTen provides a holistic view of the data so the client can efficiently determine key data elements that can be collected maintained and protected to make timely decisions and improve the business performance.

"We help our clients identify the optimal technology solution to their business problem," says Chaya. "And then we help them implement quick wins for an immediate ROI and also help define a roadmap for continued improvement."

For example, PamTen recently worked with Girl Scouts of Greater New York City. PamTen not only developed the technology strategy and roadmap for the organization, but also worked with the Girl Scouts' team to implement those technologies for better organizational performance.

PamTen also serves customers as an outsourced technology center. "Some of our clients are small to midsized companies who don't have the budget to hire technology experts on a long-term basis," she says. "We help our client on a on a part-time or project basis, depending on their business needs."

Staff augmentation has been a part of PamTen's services since the beginning. Through the pool of prescreened, highly qualified, and experienced professional resources with a broad range of skill sets, PamTen is able to fill the technology requirements of our clients with a quick turnaround.



Chaya with the children of SOFKIN

Protecting a company's data and assets has become an increasing concern for businesses of every size and shape. PamTen has been providing cyber security services to large and midsized companies. The team comes into a company and assesses their security risks, reviews and updates at their policies, and trains their employees on cyber security awareness and best practices. PamTen presents the client with guidelines to update their cyber security and technology policies for better protection. Another offering is continuous monitoring of the technology systems to ensure compliance to industry security standards.

PamTen has an extremely high customer satisfaction rate, and their business has grown mostly through referrals from clients and employees. "Both our clients and employees feel a strong sense of purpose working with us," says Prasad Tenjerla, COO of PamTen. "We, at the core, believe in our cause to improve the lives of underprivileged children. We do this not only with financial support, but also with internships and employment opportunities for the grown children of SOFKIN," Chaya adds.

Always focusing on creativity and growth, PamTen has developed a number of other products and services, such as a networking and collaboration platform called Bizligo (Bizligo.com), which, combines features of other popular social media platforms. It functions as a social network for business people to connect, collaborate, and grow their networking connections through a powerful personalized ecosystem. This SaaS platform (formerly known as ConnectProGlobal) is available with a variety of subscription plans suitable for organizations of all sizes. Bizligo is used by many networking organizations, Girl Scouts of Greater New York, chambers of commerce, large Facebook groups who have decided to move off that platform due to security concerns, and more.

As PamTen has grown, Chaya realized something. "In my own experience hiring for PamTen," she says, "I didn't see many women applying for our open positions. I didn't understand why." She and Prasad Tenjerla decided it was time to do something about that. In 2018, PamTen launched the SheTek initiative, a community whose mission is to raise the percentage of women represented in the technology industry. Hosted on the Bizligo platform, PamTen organizes workshops, panel discussions, internships, mentoring, and job opportunities for



The PamTen NJ Team at the NJBIA Awards for Excellence

women in the technology field to learn, grow, and network. "We've partnered with corporations and local universities as well as entrepreneurs to create a community of women passionate about helping each other," adds Chaya.

At 30% growth each year, PamTen is expanding rapidly. "What's exciting about working with this company," says Chaya, "is that the more revenue we produce, the more lives of children we can transform. So we're very motivated to come to work and give our very best each and every day."

"PamTen is a technology company," she adds, "but what we really value is people, the personal connections and commitment to our clients. If somebody engages us, they will never be disappointed. We've never lost a client because of the strong partnerships we develop with them."



To discover more about PamTen, visit www.pamten.com. For information about SheTek and Bizligo, visit www.shetek.net and www.bizligo.com.

Prasad Tenjerla, co-founder and COO with **Chaya Pamula,** CEO and President

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VELOCIT

"BY FAILING TO PREPARE, YOU ARE PREPARING TO FAIL." —BENJAMIN FRANKLIN

Many businesses purchase technology solutions hoping to increase productivity. The problem? When technology is installed without a plan for how it will work in conjunction with other technologies or how it can scale in the future, it creates an unorganized mess that ends up costing excess money and time.





OUR STORY

VelocIT, a Managed Service Provider located in Central New Jersey, delivers unique solutions for their clients' exact needs, with the future in mind. Through strategic planning and mentorship, VelocIT provides IT Leadership. This helps empower its clients to achieve their business goals. IT Leadership improves and develops clients' IT infrastructure, their understanding of the technology they are using, and it future-proofs growing organizations.

VelocIT prides itself on being a partner that serves as a general contractor. They help find the right solutions by ensuring that they are in sync with overall business planning. The VelocIT team is able to do this by developing a deep understanding of what makes a business tick. They measure and deliver results, solve problems, communicate up and down in a partner organization, and help their clients save money and plan for the future by evaluating and implementing the right tools.

VelocIT was founded by engineers and business leaders who have spent decades solving business problems and presenting reliability, efficiency, and productivity. This direct experience in the trenches allows them to enforce demanding standards for professionalism, communications, and technical skills.

VelocIT's customers range in size from the fast-growing biotech startup with five workstations to the medium-sized businesses with multiple locations spread throughout the country. A huge factor in VelocIT's success is due to understanding. Understanding their value, understanding the ever-evolving technological landscape, and most importantly, understanding the needs of their clients. For each client, big or small, the process is the same.

As the technological landscape has evolved, so has VelocIT. VelocIT seeks out IT strategies of tomorrow, to make sure the value delivered to clients is consistent and predictable.

Rapid growth can be an issue for small to medium-sized companies without well-managed IT services. VelocIT looks to deliver value and peace of mind to clients by adapting to meet future goals while still addressing current issues. VelocIT focuses on implementing hardware, software, and automated business applications capable of handling growth. Scaling too fast is never an issue with VelocIT. With custom-designed IT planning at the forefront of VelocIT's strategy, companies grow because of VelocIT, not in spite of it.



Supporting thousands of workstations worldwide, VelocIT operates out of Cranbury. Behind the helm is President & CEO Darek Hahn, who was part of a group that purchased the company in 2016. It is his and his management team's vision of growth, optimization, and efficiency that drives the VelocIT machine.



Darek Hahn
President & CEO

VELOCIT

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TENFOUR

OUR STORY

Honor. Fearlessness. Innovation.

When entering TenFour's HQ, visitors are immediately greeted with these words which are proudly displayed on our lobby wall. They are our values and we take them very seriously. Our team acts with honesty and integrity, seeks what is best for our customers, and takes responsibility for our actions. We challenge the status quo, take smart risks and do what we think is right—even when the rest of the market is doing something very different. And we think boldly and differently, always looking for better ways of doing things. Each member of our team—from Account and Project Managers to Customer Success Executives to Technical and Solutions Architects—is committed to living these values every day. By doing so, we've created a fearless and honor-driven environment that empowers our employees, customers, and partners to reimagine IT.

The IT Imperative: Accelerate Digital Transformation

The companies that will win in the Digital Age are those who create exceptional, immersive customer experiences that will excite and engage their users and differentiate them from competition. To achieve these goals, IT leaders need the freedom to worry less about day-to-day activities and focus more on delivering the IT imperatives that support and grow their business. Data, software, and interactive end-user applications are the keys to success. These include projects like Internet of Things (IoT) projects that transform how manufacturers run their plants or smart mirrors and shelves that make it easier for retail visitors to shop. These digital feats are endless when you have time, budget, and people to transform your business.



The problem is, most organizations don't have these resources. Or they're dedicating these resources to "keeping the lights on" activities, managing multiple vendors, overcomplicating their supply chain, and accumulating technology debt and security risks. IT leaders need a partner who can help leave the problems of the past behind, so they can accomplish the goals of the future.

Introducing the IT Infrastructure Subscription

TenFour provides IT Infrastructure as a Service (ITIaaS). We're not a Cloud computing company, but have taken the Cloud model and extended it beyond compute and storage to the foundational technology that powers an organization. From routers, switches, wireless access points, IP phones and IoT devices, TenFour delivers the reliability and performance IT leaders need to drive digital transformation in one monthly pay-per-use subscription service. We not only design, install, operate, maintain, and refresh IT infrastructures,

we retain ownership and responsibility for all of the components and pass on none of the risk to the customer. This holistic IT infrastructure service spans seven platforms from WAN & LAN to Unified Communications & Collaboration. With TenFour's model, businesses benefit from predictable financing, scalability, speed to deployment, technology upgrades, and greater security.

A Startup with a Rich History

Headquartered in Morristown, New Jersey, TenFour is a privately owned organization with a rich history of providing integrated IT solutions to hundreds of customers. We have a startup kind of vibe—we're a growing, edgy team who is offering something new and exciting to the market. But the truth is, we have a 20-year history of delivering IT solutions. We were founded as Alliant Technologies in 1998 by a group of engineers who wanted to design, deploy, and manage sophisticated global communications networks. We built a strong reputation as VAR, winning numerous awards from the biggest and best industry players.

We evolved throughout the years, always keeping our focus on understanding what customers need: lower operational costs, ability to focus on strategic initiatives, predictable expenses, and minimized network downtime. We developed a state-of-the-art 24/7/365 US-based Network Operations Center (NOC) to provide and support managed services. Yet, we knew this still wasn't quite enough so we listened to our customers and the industry and took the leap to launch the first end-to-end IT infrastructure subscription service. And that's how TenFour was born. Message received.

Today, global enterprises across 49 states and 36 countries count on TenFour's model to help them through operational changes, new business ventures, and shifting economic realities. Leading IT analyst firms are saying TenFour has "cloudified the uncloudable" and they anticipate TenFour's infrastructure solution to be the beginning of an irresistible long-term trend. Now the rest of the market is quickly taking notice and trying to catch up.





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tenfour.com

TENFOUR



MORRIS TECHNOLOGY PARTNERS (MTP)

"WE FUEL BUSINESS BY UNLEASHING IT"

ELEVATOR PITCH

Morris Technology Partners (MTP) is an IT as a Service (ITaaS) company focusing on Data Management and Protection. Located at 110 S. Jefferson Rd. Suite 302, Whippany, NJ 07981, Morris Technology Partners is a Women's Business Enterprise National Council (WBENC) certified woman-owned company, servicing clients nationwide.

OUR STORY

Founded in 2014, we present solutions that focus on the required result. We work with our clients to plan out their technology strategies with a three to five-year focus. We bring to market a next-generation technology offering – Cloud Fusion, that changes the way our clients approach data management and security. As client data continues to grow at a phenomenal rate, the ability to secure, manage and store that data is the new frontier for our clients. We conquer that frontier. We are our customers Data Management and Protection Sherpa.

ACCOLADES

Our business practices and relationships with our clients have been recognized by leaders and peers throughout the technology industry. These best practices have led to our CEO being featured in *Forbes Magazine*, *NJ Monthly Magazine* and *NJ Biz Magazine*, as one of the fastest-growing NJ companies and as a leading woman entrepreneur; being recognized for our company's excellence and direction.

MTP has also received the "Best Management Award" - 2018 and "Innovators to Watch" – 2018, from the NJ Tech Council; Top 10 Consulting/Services Companies 2019 by CIO Applications magazine; "Technology Elite Award 2019" by US Business News; and "Top 10 Promising Cloud Technology Solution Providers 2020" by *My Tech Magazine*.

MTP targets four key areas of data protection and management for our clients. Backup as a Service (BaaS), Cyber Security as a Service (CSaaS), Disaster Recovery as a Service (DRaaS), and Storage as a Service (STaaS). We have created a management and protection suite of products for our client's most valuable





asset, their data. We have made it easier to manage and secure client data, while making the transition to the cloud (private, hybrid, or public) more affordable, and more convenient than our current competitors.

Our Cloud Fusion platform is a full-service data protection suite of tools, that is a more targeted and cost-effective solution to meet our clients' needs. Cloud Fusion provides our clients with options. Clients can manage some or all their data on our open platform approach to S3 compatible and object storage, backup, disaster recovery, and security services. Our clients can choose to utilize a single provided service or our entire suite of offerings within a single, secure solution.

Cloud Fusion provides increased security, a single pane of glass and allows our clients to plan and budget for their technology needs, effectively and efficiently. We consistently save our clients up to 60% over our current market competitors.

The team at MTP identified a massive gap in data protection and management technology that required numerous products and platforms combined with specialized skill sets to accomplish this vital task. Being innovators at heart, the team decided to provide a comprehensive solution that not only accomplishes this task, but compliments organizations' usage of private, hybrid, & public clouds.

Moving forward the team at MTP will continue to push the status quo by simplification of these normally labor-intensive services.



Kristi Telschow, CEO



Louis D'Angeli, President

CloudFusion

MORRIS TECHNOLOGY PARTNERS

morristechpartners.com

AXIANS REDTOO, INC.

OUR STORY

Axians is a global IT Consulting firm. Our US headquarters are in Florham Park, New Jersey, and our world headquarters are in Switzerland.

We are the best of ICT with a human touch.

The blend of consulting, implementation, service, and operations allows customers to use technologies and applications precisely as required, optimize processes and implement their digital business strategies for the future all while helping them to secure their data and networks.

Axians puts together the best team to offer a customized solution to tackle any challenge. We harness the best technology to enable our customers to grow, compete, and prosper in a global and ever-changing marketplace.

Being close to our customers sets us apart because we put people before technology. Axians is a people-to-people organization—and that is what we mean by the "human touch."



We are always asked, "What makes us different"? The answer—Axians is at the heart of this changing world. We accompany our customers on their respective IT and business journeys, delivering solutions and services to address their challenges and goals. We align our areas of expertise, focusing on a wide range of vertical markets, all underpinned by the highest levels of quality, dedication, and professionalism.

Deep domain knowledge brings relevant solutions. Each business sector faces specific challenges,



which is why we align ourselves to solve them. Our deep business domain knowledge means we are experts at applying the appropriate technologies every time.

Technology is changing business and lives. How do companies keep up with the evolving technology and alignment to driving their businesses forward? They partner with a trusted advisor knowing that we will bring to them our industry, technology, and organizational insights to help them not only move forward and address industry needs but also do so in an agile manner. Just as technology moves fast, companies must adopt an agile way of working and communicating across the enterprise and not in silos. We put people first—and that is what we mean by the "human touch."

Axians provides a comprehensive portfolio of solutions across the enterprise.

Our delivery models include: Managed Services, SOW engagements, High-level Staff Consultants.

Axians has been in business for over 25 years and has built long lasting business relationships based on trust, integrity, quality, respect and value—and that is what we mean by the "human touch."

axians

axiansredtoo.us



TECHWERXE

ELEVATOR PITCH

TechWerxe is a leading information technology (IT) company that helps small and midsize businesses (SMBs) increase efficiency, cut costs and reduce risk with our exceptional services and personalized support. Rather than focusing on providing solutions to problems, we've created a proactive approach that emphasizes discovering and solving potential issues before they become problems. A true partner to SMBs, TechWerxe leverages cutting-edge technology and makes it available to our clients at an affordable rate.

OUR STORY

Husband and wife team Tejas and Sejal established TechWerxe in 2008 to bridge the gap between the quality of IT support SMBs require and what they can afford. Most businesses need the same level of IT support as large-scale corporations to thrive and comply with specific security and data protection requirements, but they do not have the budget for enterprise-level services. We created TechWerxe to deliver powerful yet cost-efficient IT solutions so SMBs aren't forced to sacrifice their security and productivity.

How do we do it?

Our approach at TechWerxe identifies which services a client needs in order to grow and stay protected and customizes an IT solution rather than requiring customers to utilize our entire suite of services. We create an IT roadmap that pairs your company's short- and long-term goals with the appropriate line of business equipment and applications.

Our award-winning managed IT services include on-site computer service, cloud hosting, network infrastructure and stability, and backup and disaster recovery. We are also recognized for our expertise in cybersecurity and compliance. Our team of professionally trained cybersecurity experts works with companies to bring their data security up to the mandated standards (HIPAA, 23 NYCRR 500, NIST 800-171, DFARS, GDPR, etc.). Following state-of-the-art practices and procedures, TechWerxe protects businesses' information while simultaneously enabling compliance.



What makes TechWerxe different?

We designed TechWerxe to operate backwards from most IT companies. Rather than focusing on providing solutions to problems, we've created proactive support that emphasizes discovering and solving potential issues before they become problems. Whereas most IT companies come in to fight fires, we consider ourselves fire prevention.

From our help desk to our CEO, we establish relationship-based partnerships with our clients. The businesses we work with know they can rely on our best-in-class team to provide uninterrupted operation and friendly and responsive service without the "techie talk."

MILESTONES

TechWerxe's customized approach to IT consulting, solutions, and support has been recognized with many industry awards, including CRN's Next Gen 250, Channel Futures' MSP 501, and Top 100 Managed Security Services Providers (MSSPs), as tracked annually by MSSP Alert's research study. TechWerxe CEO Sejal Bhatt is also a renowned cybersecurity and IT speaker. She has been featured as both a keynote and panel speaker at conferences and speaking events for corporations. She also speaks regularly at seminars, webinars, local Chambers of Commerce, and on podcasts and radio broadcasts.

THE FUTURE

While TechWerxe co-founder Tejas Bhatt passed away in February 2019, Sejal is committed to upholding their strategic vision for the company. The New Jersey–based IT provider will remain focused on the unique needs of SMBs, while simultaneously expanding its cybersecurity solutions to offer an enterprise-level cybersecurity and compliance service. She also remains steadfast to their dedication to giving back to the community through ongoing support of St. Jude Children's Research Hospital and the New Jersey Coalition Against Human Trafficking.







Sejal Lakhani-Bhatt
CEO



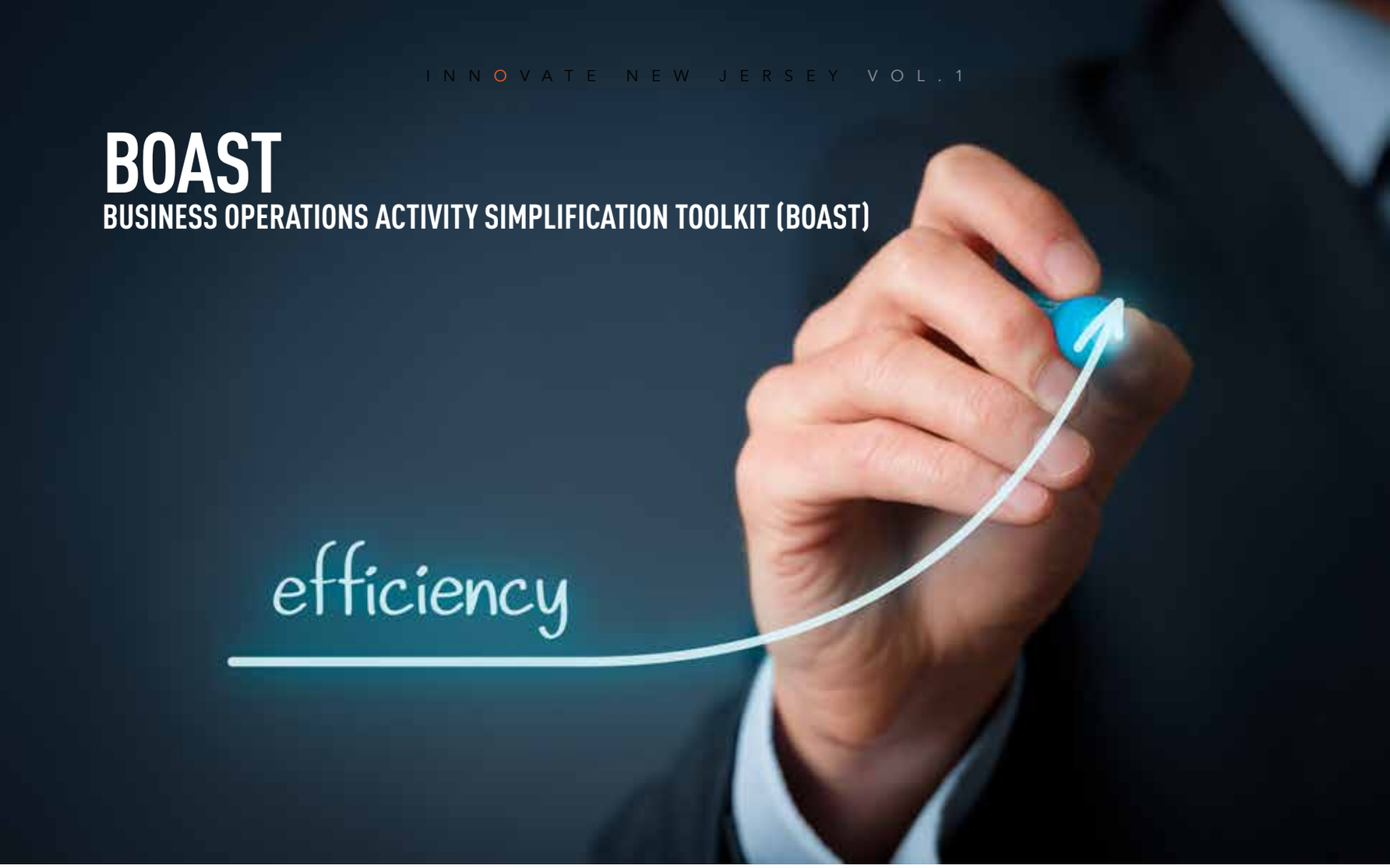
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BOAST

BUSINESS OPERATIONS ACTIVITY SIMPLIFICATION TOOLKIT (BOAST)



OUR STORY

What is BOAST Groupware?

B.O.A.S.T.—is designed to help small and medium-sized organizations improve operational efficiencies and increase employee satisfaction. The BOAST platform is intuitive technology built to transform the way we all work by organizing multiple aspects of your business operations into a single, easy to use platform. BOAST groupware was developed to simplify your business and your IT by integrating all of your critical business operations into one platform—with one predictable price.

When your software communicates; so do your people.

Real-time collaboration between departments isn't something that you should only dream of. With our cloud-based, all-in-one software, you can replace some or all of your current apps or integrate them with BOAST for added functionality. So that all of your colleagues, and even your clients, are on the same page—even when they're not in the same location.

Buying individual applications that do one thing with features you don't use or need is a thing of the past.

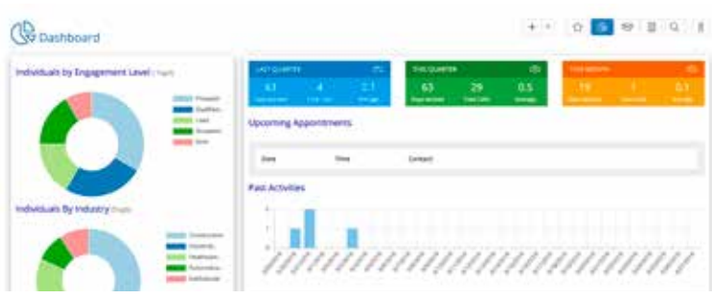
If you're like most mid-sized businesses, you probably use up to 20 different apps to help with your daily operations—each with their own licensing fees and administrative headaches. That's the old way of buying and utilizing software. With one decision BOAST puts you in the cloud with all the things you need in one place.

Increase your productivity. Improve employee morale.

The workday is busy enough without having to sign on to multiple applications, manage and remember unique passwords and toggle between screens. With BOAST groupware, you simply sign on once and access everything you need. So you can spend more time actually doing your work and less time trying to manage, share, and track it.

EMPLOYEE-LEVEL BENEFITS:

- Manage documents and control versions
- Chat and message colleagues and clients
- Create, track, and resolve issues
- Collaborate with your team anytime, from anywhere
- Capture receipts, submit expenses, and track time
- Access and share full documents, not just links
- Manage sales opportunities throughout the funnel





KEEP IT SIMPLE

BOAST is an intuitive technology platform built to transform the way we all work by organizing multiple aspects of your business operations into a single, easy-to-use platform. You don't need a bunch of subscriptions to individual point solutions, BOAST does it all.

TRANSFORM
the way your business operates and BOAST about it.

CONSOLIDATE
your most needed business functions into the same look and feel.

SIMPLIFY
tasks leading to higher employee job satisfaction and increased productivity.

14 Integrated Modules
Simple to Use

Promotes Collaboration
Cost Effective

Contact us at: sales@boastgw.com

Software all in one place, for businesses on the move.

Business doesn't just happen within your four walls between the hours of nine and five. With BOAST groupware, you can access all of your business operations and efficiently run your business anytime, from anywhere. So you always know what your employees are working on, what's in the pipeline, and when you'll need to staff up. This single platform delivers more functionality than more than two dozen of the most popular business operation apps, resulting in a significantly lower investment and a bigger return on it.

EXECUTIVE LEVEL BENEFITS:

- Increase collaboration, teamwork, and transparency
- Ensure seamless visibility across functions
- Provide easily accessible employee training programs
- View employee time off and plan for back-up
- Improve company-wide productivity
- Decrease licensing and IT expenses
- Increase employee satisfaction and morale
- Add robust reporting and data integration functionality



Streamline your processes, improve company-wide productivity and increase profits with BOAST.

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BOAST groupware
just makes work easier™

ARXSCAN

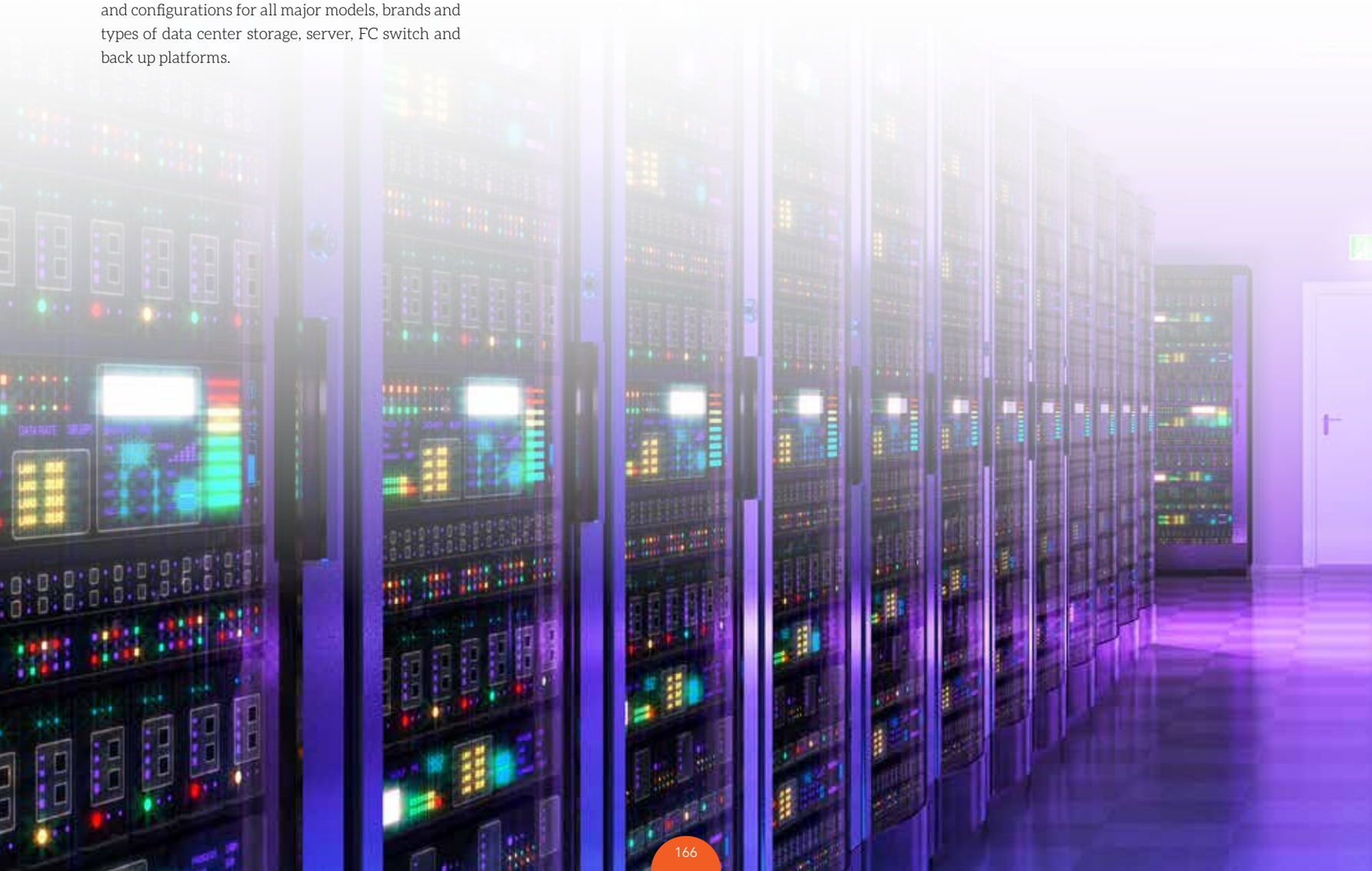
DATA CENTER REPORTING AND ANALYTICS

ELEVATOR PITCH



Arxscan's Arxview Data Center Analytics Engine (DCAE) is a standalone software solution that reports on and provides analytics for the entire data center. Storage arrays, switching, servers, back up and virtual machine overlays are all captured in a single, interactive visual matrix that provides detailed insight via intuitive visualizations. These unique views show detailed attributes of all of the assets, the relationships between the different elements of the environment and how and where the data stored depends on them.

Vibrant graphics provide easy to understand overviews that allow quick drill down into actionable details around capacity, performance and configurations for all major models, brands and types of data center storage, server, FC switch and back up platforms.



OUR STORY

Quick and secure installation of this agentless, light-weight software application performs all data collection and reporting from a single point of presence that resides behind the environment firewall. Thousands of details are thoughtfully brought together providing clear pictures of the end-to-end infrastructure while driving actionable insight for management and operations alike.

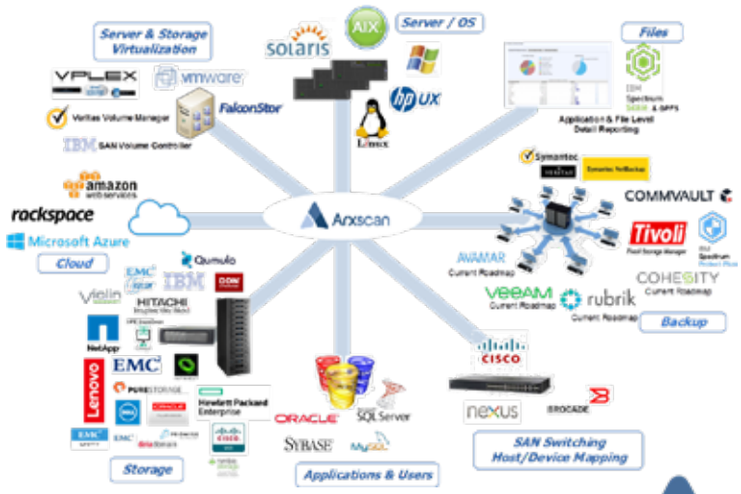
Know /

- What types of storage, server, backup, virtualization and applications are running and how they're configured.
- Where and what solutions are the best fit for strategic initiatives.
- The right size and costs for the solutions being offered to them.

Learn /

- What features are being used and if they can be further leveraged.
- How to plan for new innovative solutions and plan for those changes.
- What issues are having an impact on applications and how to get those details for quick re-engineering and fixes.

The Arxscan Team works with you every step of the way during installation and set up ensuring that the solution is running where and how you need it to. Once the solution is collecting data we set follow up checkpoints to check the system is running in the environment and answer any questions... all without any additional cost!



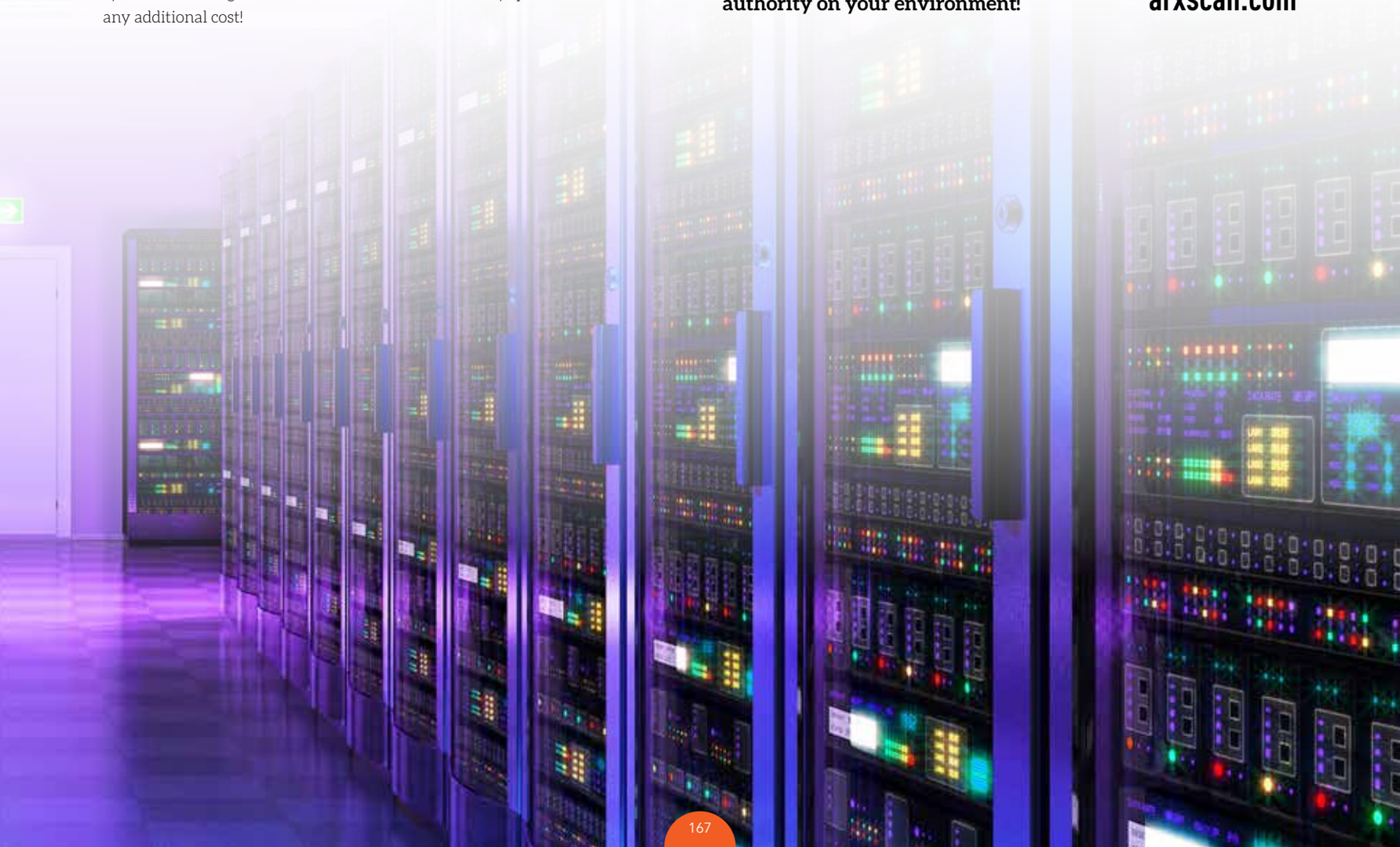
Reach out to us today for a demonstration of the software and to set up a free trail of the software.

Arxview is the end to end authority on your environment!

Arxscan

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Asbury, NJ 08802
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arxscan.com



CONEXUS SOLUTIONS

WITH DEEP EXPERTISE AND EXPERIENCE PROVIDING WORLD-CLASS SUPPORT FOR SALES AND MARKETING OPERATIONS, PARTICULARLY IN THE PHARMA AND LIFE SCIENCE INDUSTRY

OUR STORY

Conexus Works for You

If you're a small to mid-size company, we know how to drive your sales & marketing operations—to support your team, serve your customers, and scale up with you.

We have decades of experience providing systems and services for commercial operations. And we focus exclusively on small and mid-size clients.

We give you only the resources you need, when you need them, without excess overhead. So you can grow quickly with both quality and value.

If you're working hard to grow fast, we can help.

How We Help You

To support commercial operations for growth-stage pharma and life science companies, we provide everything you need...except people and cars. We take best-in-class systems—like Veeva CRM and Veeva Vault—and tailor them for your unique business needs. So you get the same level of process control, data management, and compliance as Big Pharma—without the overhead costs.

To optimize marketing solutions for small and mid-size companies, we provide a wide range of nimble services for you—from creative design to legal approval. And we tightly integrate your marketing tools with your sales support systems. So we can deploy your marketing assets faster—and at a lower cost—than large, multi-layered, outside agencies.

To guide business decisions with science, we provide deep data insights into your customer behaviors and sales/marketing performance. We take care of everything—from setting up IT infrastructure to cleaning your database to





mining your data with analytics. You can trust us to protect your data, identify root causes of issues, and improve your forecasting accuracy.

To help small and mid-size companies operate leaner—and scale quickly to support rapid growth—we provide cloud services. We specialize in cloud-based customer relationship management systems, like Salesforce.com. So you get the full benefit of CRM integration, without the complexity and cost of maintaining and managing internal resources.

The Conexus Difference

First, we have deep expertise and experience providing world-class support for sales and marketing operations, particularly in the pharma and life science industry.

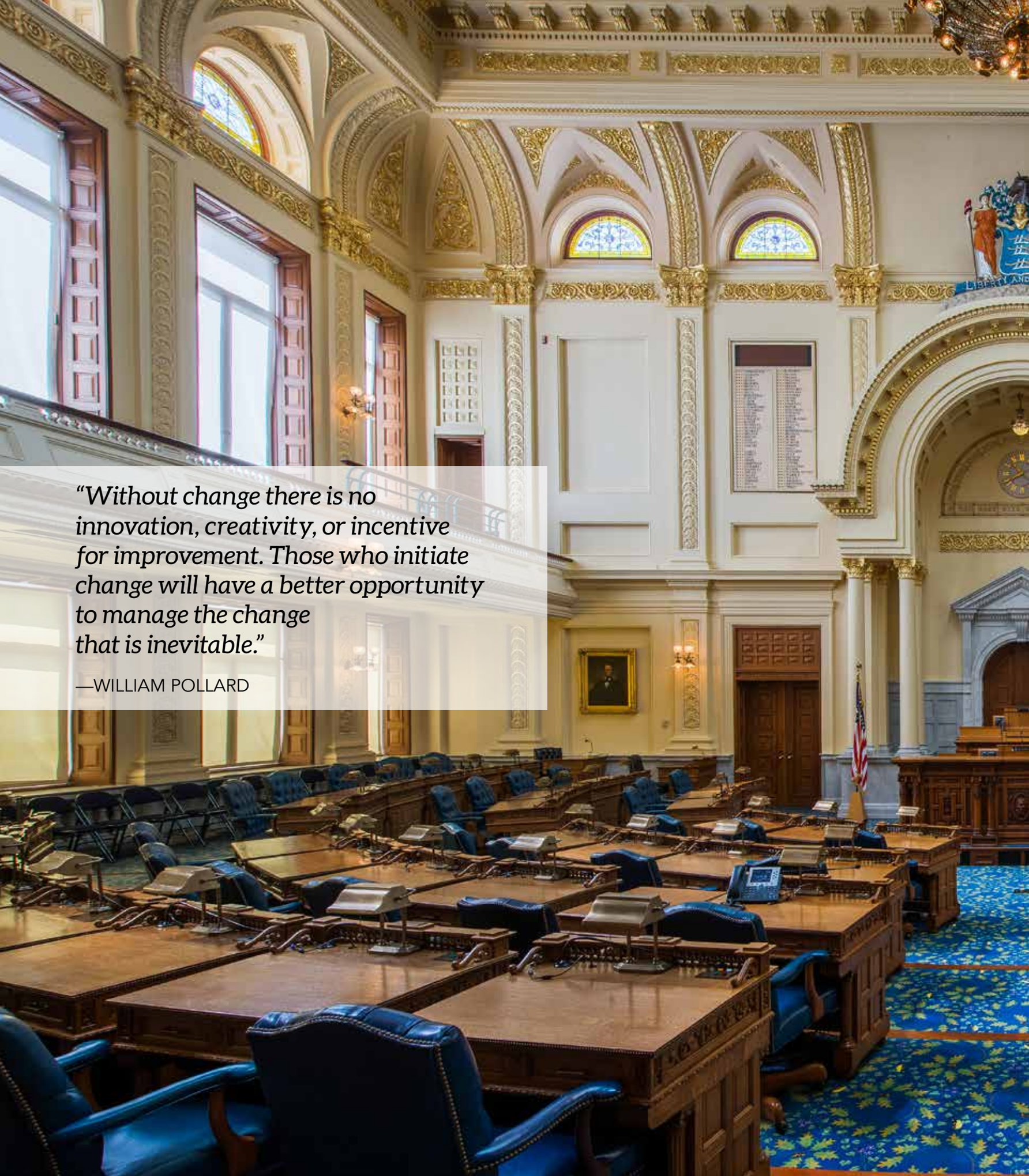
Even more important, we focus our talent and energy exclusively on small and mid-size companies. We understand the challenges. We speak the same language. And we know how to scale—up or down—with the highest quality and greatest cost-effectiveness.

But perhaps the most important thing that makes us unique is simply... us. We love what we do and the people and companies we help. We deliver individualized service. And we build personal relationships—not just business relationships—that last.

1060 State Road, Suite 102 | Princeton, NJ 08540

cnxsi.com





"Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable."

—WILLIAM POLLARD



CHAPTER 7

FINTECH & TAX MANAGEMENT



PEOPLE WHO KNOW, KNOW BDO



ELEVATOR PITCH

BDO USA, LLP (BDO) is active in all phases of the technology ecosystem here in New Jersey. We support companies in their early stages and work with them as they execute on their growth strategy. Along that life cycle many situations present themselves including the need for financing growth, potential strategic acquisitions, and exit opportunities. Regardless of where you are along the life cycle path, BDO stands ready to work with your management team to help you achieve your objective. We have extensive experience with angel investors, venture capital firms, and private equity funds and have a proven record of success.

OUR STORY

BDO KNOWS LOCAL PRESENCE, GLOBAL REACH

With more than 60 offices nationwide, BDO provides assurance, tax, and advisory services to a wide range of publicly traded and privately held companies. As the US Member Firm of BDO International Ltd., we leverage the international resources and relationships from over 1,600 offices in 167 countries to serve our clients wherever they may do business.

ACCESSIBLE, FLEXIBLE SERVICE AT BDO

Quality, independent service is paramount and is the key to our success in building strong, long-term client relationships. We embrace a hands-on, flexible service philosophy based on the attention of experienced professionals and a culture of openness, candor, and trust. Combined with the advantages of a streamlined, accessible organizational structure, our approach translates to timely responses and swift resolution of technical issues or questions for our clients.

KNOWLEDGEABLE, PROACTIVE PROFESSIONALS

Professionalism is one of the hallmarks of BDO's culture, along with our other core values of competence, honesty and integrity, dedication, responsibility, and accountability. These values guide our dedicated team in their interactions with our clients and each other, as well as the communities in which we conduct business.

LOCAL STRENGTH, GLOBAL CAPABILITIES, LOGICAL CHOICE

In a market where one size certainly does not fit all, organizations are increasingly turning to BDO for the personal involvement and attentiveness of a trusted advisor, with an international scope of resources and services.

BROAD INDUSTRY EXPERIENCE, IN-DEPTH KNOWLEDGE

BDO professionals have years of experience servicing the specific needs of clients in a variety of industries. BDO's professionals are well versed in a myriad of issues facing a variety of industries, including technology. For a full list of industries we serve please visit our website at BDO.com/industries.

SCALABLE AND INTEGRATED SERVICE APPROACH

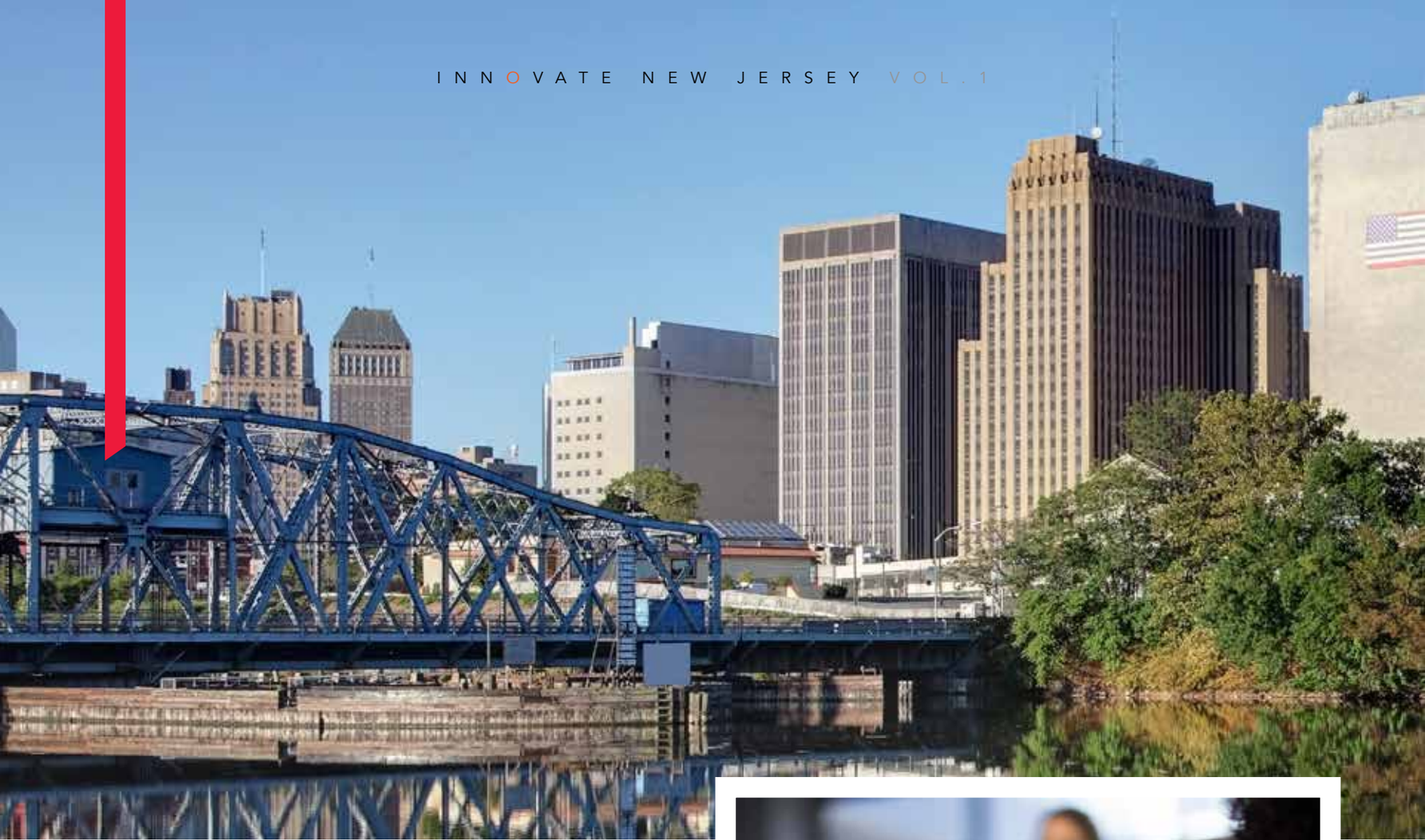
BDO delivers a breadth of services tailored to meet our clients' needs. Our core services include advisory, accounting and auditing, and tax. A full listing can be found here: BDO.com/services.





Our technology focus and experience is demonstrated both in our relevant client work and our thought leadership. We publish a variety of knowledge resources including the following:

- *BDOTech*, our technology industry practice newsletter, which keeps you abreast of relevant news and hot topics that go beyond balance sheets and financial statements;
- *BDO 10 Tech Predictions*, our annual piece identifying what we see as the top 10 trends that will likely shape the technology industry in the coming year;
- *BDO Technology Outlook Survey of CFOs*, a national survey conducted by an independent market research consulting firm, whose executive interviews speak directly to 100 chief financial officers of leading US technology companies in the hardware, telecommunications, internet, and IT service sectors;
- *BDO 600: Technology*, a study conducted annually examining board compensation practices of 600 mid-market public companies with annual revenues between $25 million and $1 billion.





Our experience serving companies in all aspects of the technology industry includes:

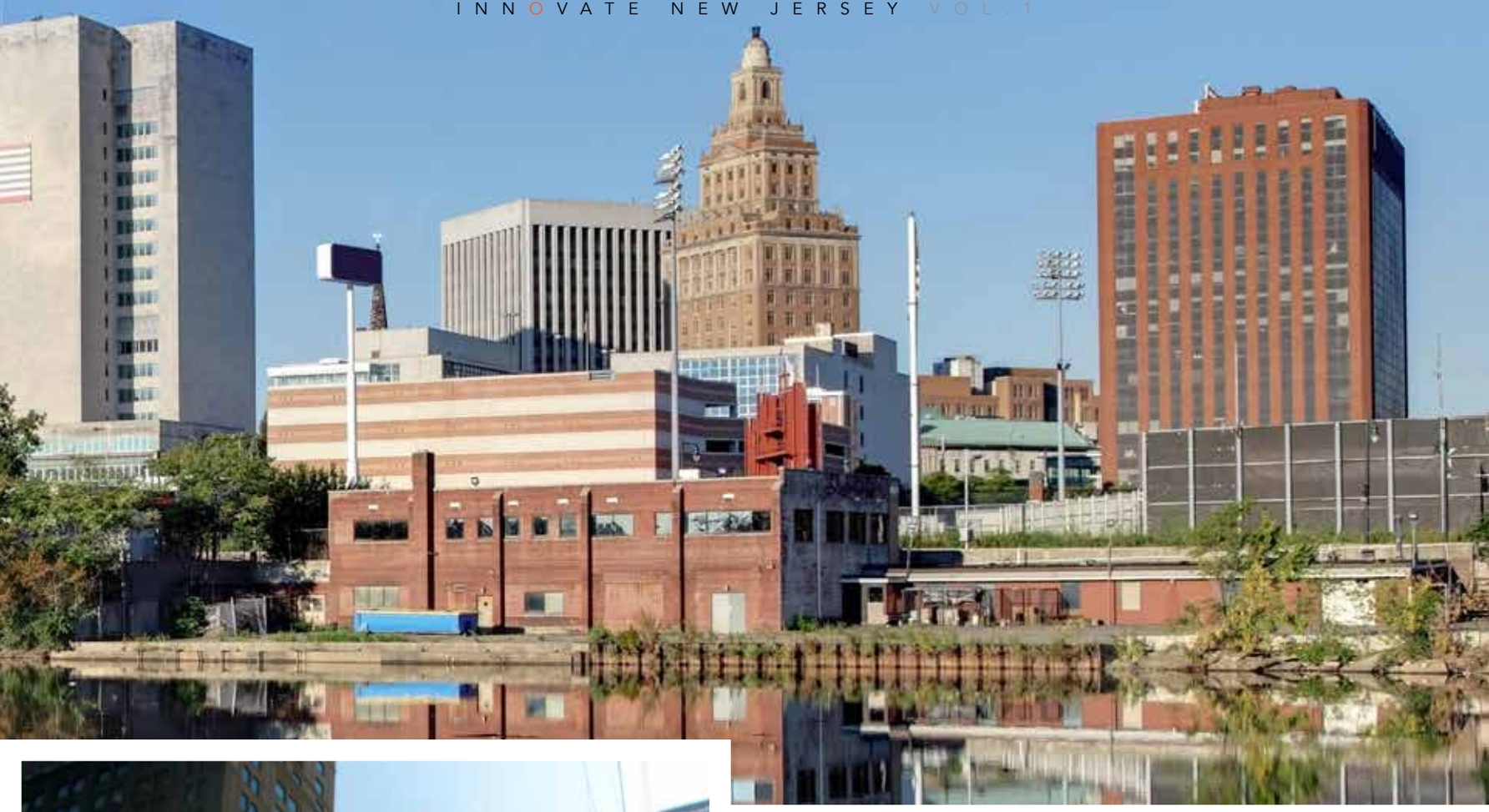
- Big data analytics
- Software as a service (SaaS)
- Communication technology
- Computer programming services
- Computer training
- Software publishers
- Computer-related services
- Computer hardware and peripheral equipment
- Data management
- Software merchant wholesalers
- Software reproducing
- Internet and new technologies
- Video gaming
- Media and entertainment

We are experienced and well versed in issues facing the software and technology industry, including:

- Product and service development
- Distribution, customer service and support
- International product strategies
- Technology development and applications
- Software management
- Software security
- Software pricing, purchasing and licensing
- Software company IPOs

When it comes to industry accounting issues, our professionals can also help technology companies navigate:

- Multiple element arrangements
- Software revenue recognition
- Stock option accounting
- Business combinations accounting
- R&D tax credits
- Section 199 deduction
- Software import royalties
- Employment taxes on statutory stock options
- Foreign sales corporations
- Capital raised through debt or equity





BDO WOODBRIDGE STATISTICS

- Over 100 local professionals including 51 CPAs
- Partner/Staff Ratio: 1 Partner/9 Staff
- Industry leaders and specialists in technology, life sciences, manufacturing & distribution
- Significant practice serving SEC registrants
- Tax professionals experienced in federal, state, local and international tax as well as R&D, transfer pricing and other tax specialty areas
- Local expertise in serving global entities with access to over 80,000 professionals in 1,600+ offices worldwide

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CORCENTRIC



ELEVATOR PITCH

Corcentric's roots run deep in the Garden State. Headquartered in Cherry Hill, New Jersey, Corcentric is a leading provider of source-to-pay and order-to-cash solutions for businesses in the United States and Europe. Corcentric's procurement, accounts payable, and accounts receivable solutions empower all types of companies to spend smarter, optimize cash flow, and drive profitability.

OUR STORY

It's all about the people. Over 20 years ago, Doug Clark, Corcentric Chairman and CEO, founded the company in New Jersey, based on a simple mission: to help businesses succeed by helping people get out from under the weight of paper so they could be more efficient. That mission fueled his vision to create practical, innovative, and effective processes that replace paper with digital technology.

Today, the people of Corcentric, in offices across North America and Europe, are committed to simplifying how companies purchase, pay, and get paid. Following three acquisitions over the past 18 months, the global business employs nearly 500 people and serves 6,000+ customers with holistic source-to-pay and order-to-cash suites of solutions. Customers immediately see the benefits of implementing technology and expertise that empower them to move their business forward.

"Corcentric's solution is convenient, easy-to-use, and efficient. I don't want to think about going back to the way it was before," says Danielle Brown, an Accounts Payable Specialist with United Methodist Retirement Homes.



Douglas W. Clark, Founder, President, & CEO with Matt Clark, President & COO



It also means working with a company that will treat you like family.

"Corcentric is more of a partner with Cardinal," says Sean Storey, Senior Director of Fleet Equipment with Cardinal Logistics. "They want to see us grow and stay in touch with us in terms of our business and what's going on with our company and our clients to see how they can help."

Matt Clark, President and COO of Corcentric, acknowledges the central value of the customer relationship. "We will continue to identify ways to deliver value to our current and future customers through innovation and organic and acquired growth. The focus of everything we do will continue to be helping our customers be the best they can be when it comes to optimizing their B2B activity."







Helping customers reach their highest potential means understanding their pain points. At a time when companies are required to do more with less, managing spend has become more important and challenging than ever. Corcentric's digital spend management tools provide real-time visibility into sourcing, procurement, payments, and billing transactions. Corcentric's combination of people, processes, and technology provides analytic capabilities that enable stakeholders to make better decisions regarding future spend and working capital.

ACCOLADES

Corcentric's unwavering commitment to empowering companies to spend wisely and manage cash flow smarter has led to several prestigious awards, including being named a 2019 "50 Providers to Know" by Spend Matters and one of America's Fastest Growing Private Companies by Inc. 5000 several years in a row. Corcentric also has been recognized over multiple years by NJBIZ for its contributions to the success of the state's economic growth and stability. United by its core values to Do the Right Thing, Embrace and Drive Change, Be Empowered, and Be Relentlessly Focused on the Customer, Corcentric is confident that it will continue to grow, innovate, and give businesses the tools they need to unlock hidden value.

"I believe there will be tremendous growth opportunities for our company as more and more companies will prioritize their human and financial capital on their core competencies, resulting in companies outsourcing major if not all of their back-office functions," says Doug Clark. "We are preparing by continually training and educating our teams, hiring the best talent, and staying closely connected to the needs of our customers."

corcentric™

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RSM

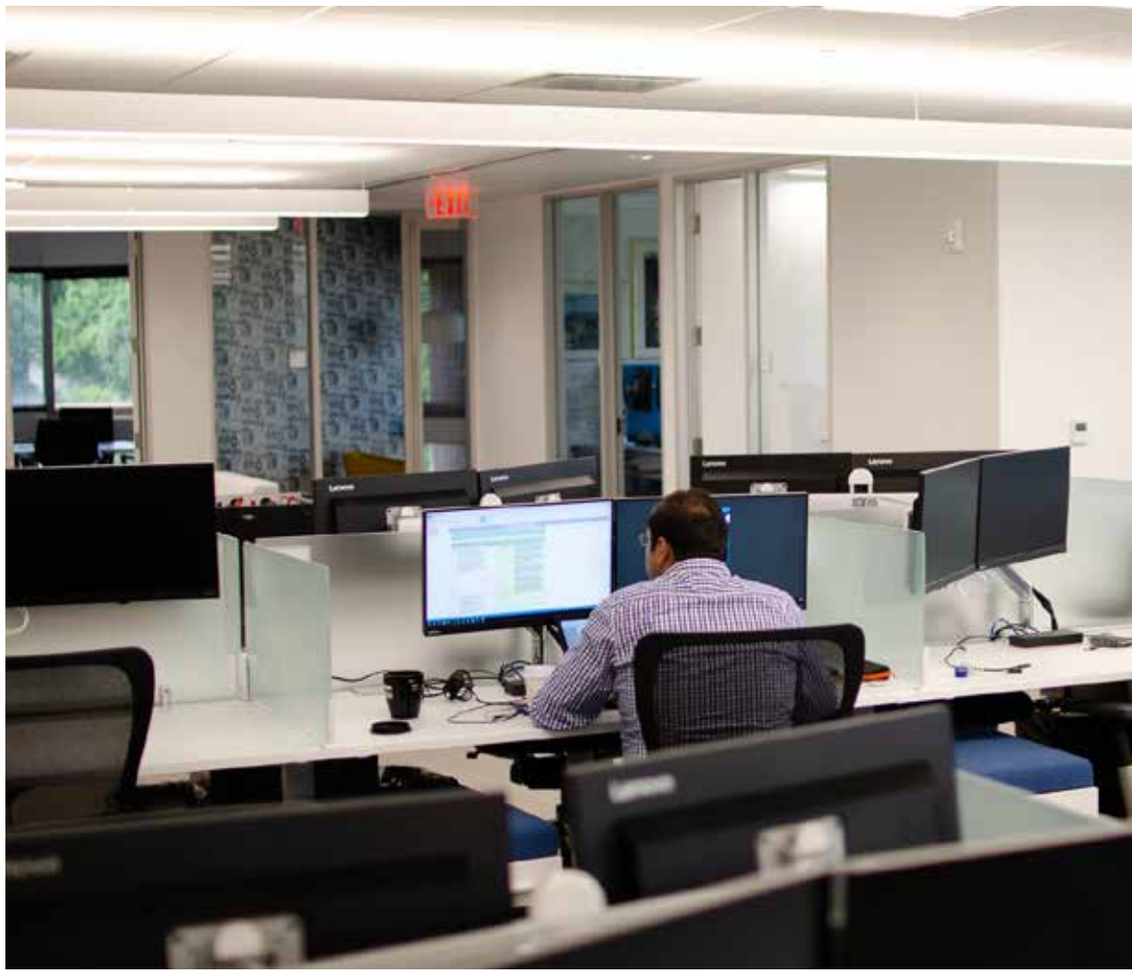
IT'S MORE IMPORTANT THAN EVER FOR BUSINESSES TO ENSURE THAT THEIR CULTURE MATCHES THEIR EMPLOYEES' VALUES

ELEVATOR PITCH

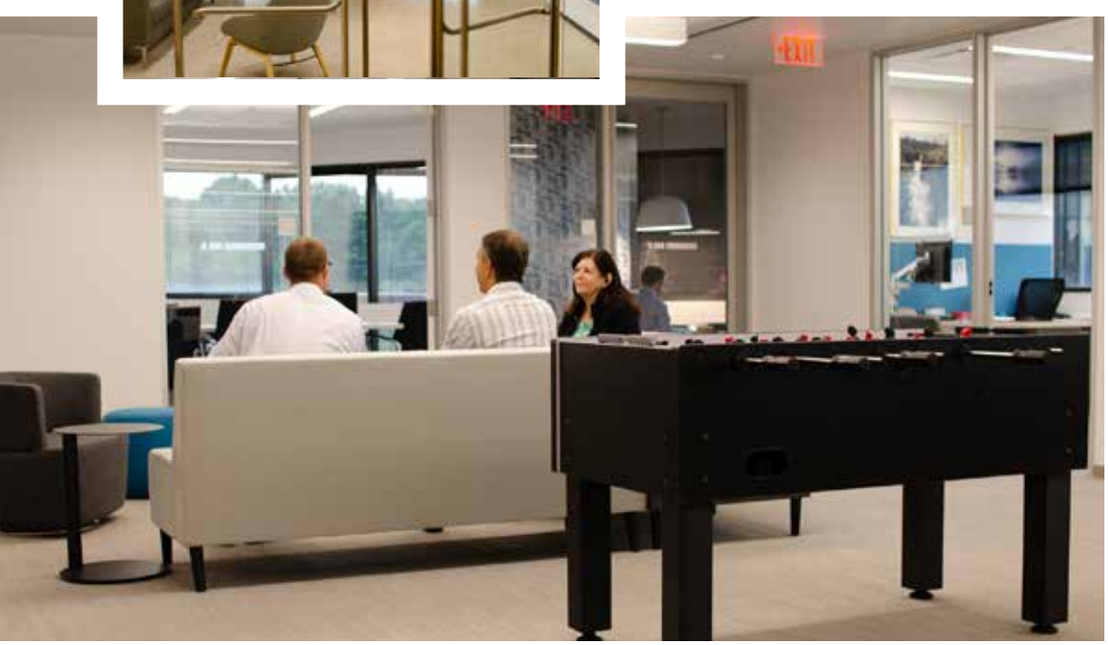
RSM delivers the power of being understood, providing audit, tax, and consulting services to help middle-market leaders succeed.

OUR STORY

When RSM first opened our New Jersey office in 2015, one of the most crucial strategic imperatives for us was to establish the right culture. As a global middle-market leader, one of RSM's key business values is stewardship. With current unemployment rates being so low, it's more important than ever for businesses to ensure that their culture matches the values of their employees.















At RSM, our client servers deliver the power of being understood to our clients through a client-centric focus, deep understanding, and enduring relationships, a combination that empowers our clients to make confident decisions. We want to deliver the same values internally to our talent.

Our culture is built on trust, inspiration, and a family atmosphere. We are very proud of the philanthropic events and activities we do as a team, as well as our culture, diversity and inclusion initiatives. Whether it be volunteering with the Children's Specialized Hospital or bringing together our teams and clients at the Community Food Bank of NJ, being a helping hand in the community is what brings our values to life.

Fostering the right culture internally empowers and inspires people to be innovative and collaborative. We believe innovation comes from everywhere and that anyone who has a big idea can drive transformative change. In 2018, we launched our CEO Innovation Fund with $5 million and one objective: Cultivate grassroots innovation from within, at any level. We support our professionals in and out of the office to further enhance a culture that embraces fresh perspectives and creative thinking.

Most middle-market organizations across the globe are recognizing the importance of culture and its impact on employee performance and customer satisfaction. At RSM, cultivating an environment of trust and understanding internally enables us to deliver the best service to our clients.

We strive to continue working with growing businesses that share our values and together lead New Jersey into the upcoming years of economic success.



John Lanza is the Office Managing Partner of the Metro Park (Edison), NJ office and holds several leadership roles within RSM. John's primary responsibilities are to focus on delivering the client and talent experiences for RSM.

John is also RSM's national life sciences practice leader, a position that reflects his years of experience providing services to companies in the pharmaceutical, biotechnology, medical device and companies that support the life science sector. John has been instrumental in driving the development of RSM's national life science practice related to firm wide initiatives for the industry group.

RSM

john.lanza@rsmus.com

rsmus.com

ERNST & YOUNG LLP (EY)



ELEVATOR PITCH

How will innovation shape the future of business in New Jersey? Our economic success story here wouldn't be possible without thinking outside of the box, and Ernst & Young LLP (EY) has been a part of that growth for many years.

OUR STORY

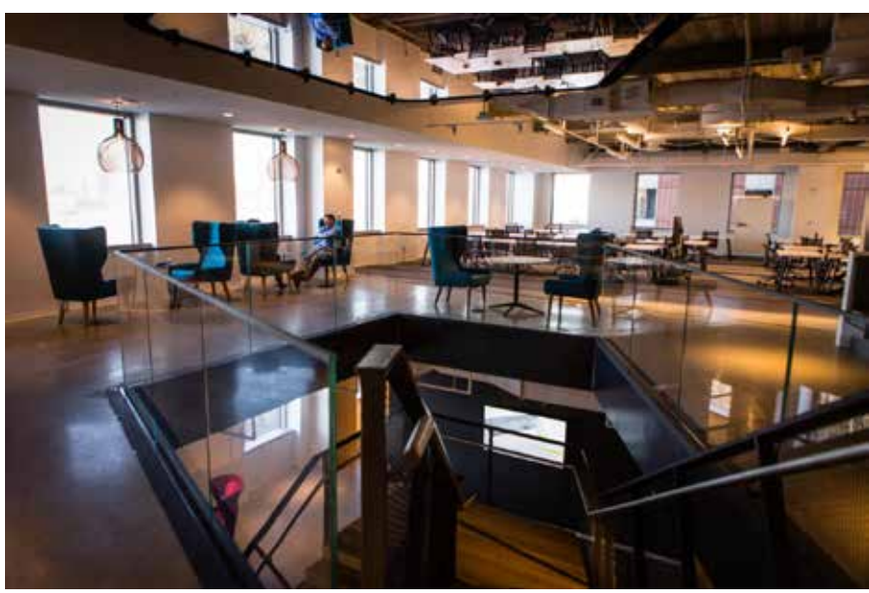
To leverage New Jersey's diverse talent pool, we heavily recruit at local universities and invest in New Jersey's future innovators long before they formally enter the workplace via our Ernst & Young and You (EYU) learning framework. On New Jersey college and high school campuses, EYU offers practical learning opportunities and hands-on coaching for students.

At the community level, our executives serve on numerous nonprofit boards and we have an annual day of service—EY Connect Day. On EY Connect Day, we encourage all employees across the Americas to volunteer at local nonprofits, with a focus on activities that support educating the next generation, teaching entrepreneurial skills, and advancing environmental sustainability. In New Jersey alone, 1,400 of our people participated in 50 activities totaling 6,000 hours.

This year, we teamed with the Network for Teaching Entrepreneurship (NFTE) to prepare student teams to participate in the NFTE World Series of Innovation Challenge. Activities included brainstorming and developing business ideas and analyzing potential target markets for a 30-second commercial pitch. NFTE was just one of the dozens of local organizations we support each year.

Innovative programs for New Jersey's future—and the world's

Entrepreneurs embody the true spirit of innovation, and we have been supporting them at the regional, national, and global level for over three









decades. The Entrepreneur Of The Year® program has expanded to more than 145 cities in more than 60 countries, recognizing those who inspire others with their vision, leadership and achievement. These game-changers are tomorrow's global leaders, and their innovative ideas have far-reaching benefits that improve the quality of life in their communities and around the world. At the Entrepreneur Of The Year National Awards gala, New Jersey had a national winner and another national finalist from the 11 national categories.

Now in its 11th year, our EY Entrepreneurial Winning Women™ program also underscores our commitment to innovation by identifying up-and-coming women entrepreneurs and providing resources to fuel their success and help their companies flourish.

And while supporting today's entrepreneurs, we will continue to champion innovation in New Jersey in the years to come. As many have said, the best way to predict the future is to create it.

Innovation in industry

We're also helping New Jersey businesses innovate to stay competitive. We do this by weaving emerging technologies, including artificial intelligence, into tools such as EY Document Intelligence and EY Voice.

EY Document Intelligence uses natural language processing to read and interpret contracts, which usually is a very time-consuming and inefficient process. Artificial Intelligence is reducing the time it takes to review documents by 60% to 80% and is improving accuracy as well. EY Voice uses speech recognition to help improve customer service and compliance management for call interactions and recordings from 40% to 90%. Ultimately, these technology solutions help businesses run smarter and more efficiently.

Using another emerging technology, blockchain, we transform outdated supply chain models—critical elements of the consumer products and retail (CPR) sector. Our innovation in CPR also includes FutureConsumer.Now, a framework identifying drivers and testing assumptions about the future of retail and what consumers will value.

The views expressed by the presenters are their own and not necessarily those of Ernst & Young LLP or other members of the global EY organization.

ey.com



PwC
DISRUPTS ITS WORKFORCE THROUGH DIGITAL INNOVATION

OUR STORY

We have responsibilities in the market to its various participants: clients, stakeholders, and regulators. We know that the environment is changing, and clients continue to expect that we will raise our game—that we will bring them more value, more quality. We know that they are looking for a different experience in terms of the way that we deliver insights, assurance, and advice. This reflects a higher expectation relating to the integration of technology into the way that we serve.

We know that every client, every organization is looking to manage costs. They expect the same from us—that we are managing the cost to deliver, the cost to serve, and the cost to provide the right assurance without compromising quality and value.

To satisfy the market's expectations, we need to transform the way our people work and the way we deliver our services. It is easy to say, "Let's transform how work is done." It is much harder to do it. To tackle this challenge, we've approached our transformation by thinking across multiple dimensions and investing heavily in our people in order to equip them with the skills they need to navigate rising expectations during this period of remarkable disruption.

Our journey drives innovation at scale through digital workforce transformation by digitally enabling our business and investing in the development of our 50,000+ US Partners and staff. Joe Atkinson, PwC's first Chief Digital Officer views this as critical to any organization's success. "At PwC, our clients are recognizing what we recognize—we are all being disrupted today by technology and digital advancements. We can't just manage that disruption—we also need to embrace and accelerate it. I don't believe this is a strategic choice. This is, quite simply, a strategic necessity."




Digital Accelerators
Liftoff
pwc




#PwCIsDigital
pwc





Driving Digital with a Citizen-led Approach

Our digital upskilling program is a central pillar of this investment that uniquely relies on what we call citizen-led innovation—leading from the ground up by empowering our employees to be change agents. Our upskilling program offers every employee the choice to engage in the way that is right for them. We offer tools that range from providing "knowledge on the go" to traditional skill building in the classroom. We offer the supporting tools to apply those skills and our Digital Lab marketplace to scale those innovations. PwC's Digital Accelerator program is a premier catalyst among these tools to advance upskilling for our employees. The program takes groups of employees, enables them with new priority skills, and catapults their careers to drive innovation across the organization. It immerses them in the data, automation and visualization technologies that are reshaping our industry. Perhaps most importantly, they become a key resource for their peers on their own digital journeys. B.J. Agugliaro, PwC NJ Managing Partner, sees the importance of the Digital Accelerator program and broader upskilling both at PwC and in the market. "We have 28 digital accelerators in the New Jersey market today, with the next class graduating later this month. They are doing exciting things at our clients such as automating new tools and using data to make better decisions. They are helping clients with new, innovative ways to visualize data and achieve a return on investment with their technology enhancements. We also have been able to share our journey to bring meaningful change to the mindset and behaviors of our clients and their organizations." Today, we have thousands of employees disrupting the way we work, and we serve our clients in newer and more innovative ways.







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B.J. is the Managing Partner for PwC's New Jersey practice, which covers over 1,500 people, based in Florham Park. B.J. guides firm-wide strategy, client engagement and operations in the state. He is known for his collaborative approach to building relationships, both in the marketplace and with partners, to anticipate client needs across lines of service and create relevant initiatives and solutions. He has served on several county- and state-level chambers of commerce boards and is currently a Board Member on the New Jersey and Morris County Chamber of Commerce. B.J. lives in Basking Ridge, New Jersey, with his wife and four children.



Joe Atkinson
Chief Digital Officer
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Joe is PwC's first appointed Chief Digital Officer and a member of PwC's US Leadership team. He is responsible for executing our vision to digitally enable our firm and better leverage technology and talent to bring greater value (and a better experience) to our people and clients. Previously the leader of our Technology, Media, and Telecommunication (TMT) consulting business for the US, Japan, and China, Joe has built a reputation as a trusted, pragmatic and thoughtful advisor to clients as they navigate through rapidly evolving consumer expectations, accelerating technology changes and increasing regulatory complexity. He and his wife Laura have three children and live in Haddonfield, New Jersey.

pwc

pwc.com

CAPITAL ONE®



ELEVATOR PITCH

Across the country, businesses rely on Capital One Commercial Banking's services and specialists to help them acquire, manage, and use capital to drive growth, expansion, acquisitions, and operations.

Capital One Commercial Banking has experienced professionals with industry-leading expertise and extensive track records arranging billions in financing. They know your business and understand your industry, and can work to offer fully customized lending and innovative financing options for acquisitions, buyouts, working capital, liquidity, refinancing, recapitalization, and corporate restructuring.

OUR STORY

What's in it for you?

Capital One® gives you seamless access to everything you need to run your business effectively and efficiently. That means you can rely on our expertise whether you are looking to expand your business, protect your liquidity, put idle balances to better use or streamline processes. And as one of the top 10 banks in the US, Capital One's long-standing financial stability also means you'll have a partner with the strength and flexibility to grow with you as your business evolves.

Capital One Commercial Banking provides customized solutions to businesses looking for financing to cover:



- Expansion
- Working Capital or Seasonal Needs
- Trade
- Refinancings
- Acquisitions
- Owner Occupied Real Estate



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We also offer Asset-Based Loans, Term Loans, Letters of Credit, Mortgages and Treasury Management solutions to a variety of industries across our footprint including:

- Manufacturing/Service
- Consumer Finance
- Energy
- Maritime
- Technology

Treasury Management and Merchant Services powered by Vantiv

Increase efficiency to improve your bottom line with our powerful Treasury Management tools. Customize one or more of our solutions to accelerate receivables, simplify payments and streamline the way you manage cash flows and information—all while reducing your exposure to fraud.

Investment Banking

Take advantage of the expertise offered through Capital One Securities, a wholly owned subsidiary of Capital One Financial Corporation. This boutique investment firm specializes in Equity Research and Merger & Acquisition Advisory services.

International Banking

Whether you do business in many countries or just a few, Capital One provides a range of services designed specifically to simplify processes and minimize risk, including:

- Foreign Exchange Services
- Foreign Drafts
- Wire Transfers
- Letters of Credit

A wide array of customized financial services and solutions

Financing

- Commercial Lending
  - Term Loans
  - Unitranche
  - Lines of Credit
  - Letters of Credit
- Solutions include:
  - Asset-Based Lending
  - Sponsor Finance
  - Enterprise Finance
  - Lender Finance
  - Tax Credit Financing
  - Loan Syndications

Capital Markets

- Asset Securitization
- Debt Capital Markets
- Equity Capital Markets
- Institutional Sales & Trading
- Equity Research
- Interest RateDerivatives
- CommodityDerivatives

Treasury Management

- Payables
- Receivables
- Liquidity Management
- Commercial Card
- Information Reporting
- Depository Services
- Foreign Exchange

By the numbers

- **Number of Associates:** 47,600+
- **Total Assets:** $372.5 billion
- **Total Deposits:** $249.8 billion
- **Total Revenues FY 2018:** $27.2 billion
- **Fortune 500:** 101
- **Number of Volunteer Hours:** more than 403,000 hours
- **Number of Customer Accounts:** more than 70 million

By comparison

- 8th largest US Bank by deposits[1]
- 3rd largest consumer and commercial credit card issuer
- 2nd largest financial institution auto loan originator[2]
- Largest US Direct Bank[3]
- 3rd largest US issuer ofsmall business credit cards[4]
- Top 10 agency originator

Source: Capital One data, as of 12/31/2018 unless otherwise noted
1 Note: Excludes banks with high non-loan asset concentrations; Source: Regulatory filings, company reports as of Q3'17
2 Note: Financial institutions includes banks & specialty finance lenders; Source: AutoCount, most recent quarter originations as of 08/2017
3 Source: Regulatory filings, company reports as of June 2017
4 Source: The Nilson Report, Issue #1111, June 2011

Capital One® Commercial Banking

capital.one/commercial

CAMBRIDGE CAPITAL CORP.



ELEVATOR PITCH

Founded in 1992, financial services firm Cambridge Capital Corp. offers innovative solutions to capital needs for both new and growing companies as well as established businesses.



OUR STORY

Cambridge Capital Corp.'s managing director Kenneth J. Mathews brought more than thirty years' experience when he joined the company in the year of its founding. Mathews, a Certified Cash Manager, leads Cambridge Capital and its associates in a variety of assignments for clients, including design and implementation of specialized financing programs, long-range strategic planning, investment banking services, and venture capital. Other assignments involve real estate financing and refinancing, recapitalizations, merger and acquisition structuring, and also advice on a variety of debt, leasing, and equity financing vehicles.

Long-term in its investment focus, Cambridge Capital's current client base includes new and growing companies as well as established businesses. Cambridge Capital aggressively pursues manufacturing and distribution companies that present a substantial opportunity for growth; businesses involved with a proprietary product line; businesses whose products have a particular niche in their market; businesses whose products have a strong technology base (e.g. computer hardware and software, and the healthcare industry); financial institutions that need market access; and independent project owner/operators who need funds for growth or refinancing.

Typically, Cambridge Capital works with well-capitalized, institutional investors, affluent individuals, and corporate clients, representing them as an advisor or intermediary, but in some cases participates in transactions as an investor or as a principal. Through Cambridge Capital's resource network, the company assists in seeking additional working capital, funding for expansion, and, when necessary, providing management or operating expertise.





In addition to sourcing equity investors, Cambridge has multiple funding sources for debt. Equipment Leasing, receivable financing, SBA packaging, commercial real estate financing are debt products that are offered.

Cambridge Capital enjoys strong relationships with a range of financing institutions, individuals, and other private sources, providing a wide array of choices for its clients and enabling all parties to get to the closing table in an expeditious fashion.

There is no substitute for experience, and with Cambridge Capital's history and capable leadership, the firm will no doubt continue its legacy of helping businesses of all sizes to reach their greatest potential.



Kenneth J. Mathews
Managing Director

CAMBRIDGE CAPITAL CORP.

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ELEVATOR PITCH

TreasuryApps developed a new Treasury Management Systems (TMS) for Corporates called TreasuryApps TMS. Treasury departments improve productivity, automating key activities and processes and obtaining strategic information that helps them to make better decisions—and Treasurers becomes more strategic in the process. TMS complexity and costs are barriers that some Treasurers do not want to deal with, so they stay away from TMS implementations and prefer to continue using Excel. TreasuryApps user-friendly and affordable TMS and easier-implementation approach allow companies to go live in weeks rather than months, increasing corporate return on investment (ROI) exponentially.

OUR STORY

TreasuryApps was founded by Gerardo Lopez Haro to improve the technology used by treasury departments and help them to grow into more strategic roles. In his Corporate Treasury experience of more than 20 years, he found that Treasury is mired with manual processes that take hours daily; most of the time, managers react to changes in the business rather than proactively prepare for them, and they spend too much time troubleshooting spreadsheet errors rather than focusing on Treasury transformation initiatives.

Understanding our story requires to understand the context of the TMS market in the US. This is a quote from a survey done in 2016 by Bloomberg and the Association For Financial Professionals (AFP):

"... More European companies (63 percent) use a TMS compared to organizations in North America (40 percent) and the Asia-Pacific region (60 percent). More than 71 percent of companies with a TMS said their cash visibility was good to very good, demonstrating that using a TMS automates processes, improves cash visibility, and enables the Treasury department to spend more time on decisions that increase value to the firm. And, more than half of the companies with a TMS said the greatest single benefit is either more efficiency or that Treasury is able to do more with less. With a TMS, Treasury can spend more time on analysis, increase controllership, and fulfill its mandate to be more strategic ...."

Prevalence of Treasury Management Systems (TMS)

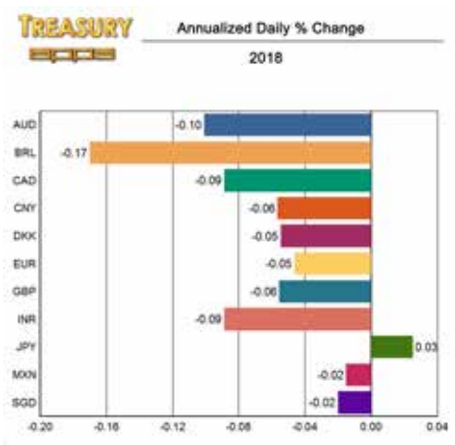
(Percentage Distribution of Organizations)

	All	North Amercia	Europe	Asia Pacific
Yes, we use a third-party TMS	43%	33%	56%	44%
Yes, we built our own system	8	6	7	16
No, we do not use a TMS	49	60	37	40

Source: www.AFPonline.org
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Gerardo created TreasuryApps TMS to address three painful reasons that prevent most US companies from switching to a TMS:

1) TMS are very expensive
2) Implementations are expensive and difficult, and many experienced people are needed
3) Existing TMS are not flexible enough. Companies usually have to adjust to restrictions imposed by TMS



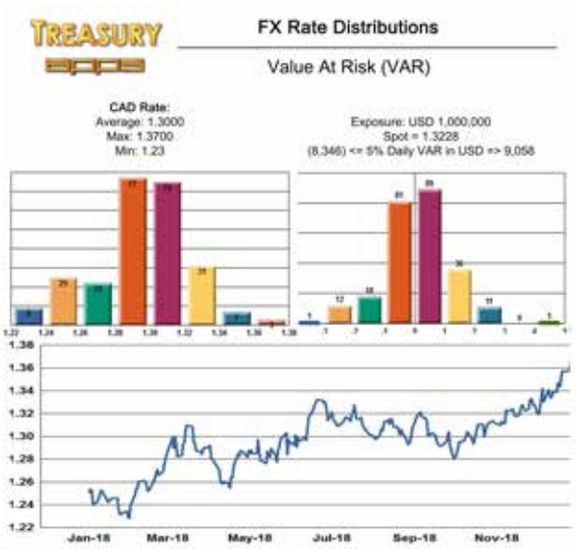
In these circumstances, TreasuryApps brings to the market a SaaS TMS that:

- Even mid-market companies can afford
- Can be implemented faster

Improving Productivity In Treasury Requires Building A Strong Business Case:

The greatest single benefit of TreasuryApps TMS is process automation while analyzing large volumes of data and providing strategic information to decision makers. TreasuryApps suggests Treasurers build a case focusing on ROI using the following 5 possible areas:

- The productivity equivalent of the number of full-time employees needed to do what the TMS will do for their company, including the level of specialization needed (cash management, foreign exchange, account reconciliations, cash-flow analysts, international cash management, hedging, hedge accounting, etc). TreasuryApps TMS can substitute the work of at least 3 to 5 full-time employees
- Savings in interest expense and improvements in interest income
- Mitigating operational risks such as fraud, reporting errors, and financial risks such as earnings volatility, due to foreign exchange or interest-rate risks
- Savings in foreign exchange spreads and wire transfers using the intercompany netting module
- Worldwide cash allocation improvements with daily visibility of multicurrency cash balances. For example, maximizing intercompany lending over external borrowings or finding pockets of cash that are not invested properly



TreasuryApps Implementation Approach:

TreasuryApps reduces complexities and costs since:

- We analyze requirements very carefully and adapt to existing processes, rather than forcing companies to adapt to limitations of old TMS
- We help with a lot of the heavy lifting, uploading core system information and fine tuning the system
- Deliver a working prototype (pre-configured system)
- Prepare a customer specific online training platform so users learn at their own pace



In this market, delivering a working prototype on Day 1 usually takes months of hard work and users get mad. When users save time in implementation and training because TreasuryApps did most of the work behind the scenes, users feel better and collaborate at higher levels of productivity and satisfaction.

Where is TreasuryApps Heading?

TreasuryApps continues developing initiatives that provide strategic information to Treasurers while reducing the workload of Treasury staff. Currently we focus on 4 areas: Cash reconciliations, cash forecasting, risk management, and market analysis. Why?

- Large volumes of transactions create manual work and automation is the best tool to identify, analyze, and source strategic information
- Some companies with resources in excess do not produce cash flows because it is labor intensive and time consuming, so TreasuryApps continues automating complex processes that help companies of any size to create cash flows more easily
- Many Treasurers avoid hedging because it is complex. TreasuryApps continues automating many processes that help companies to identify risks and execute the hedges while complying with all regulations
- Front office managers need market information to secure the best possible outcomes while trading



HOPE TRUST

THE PEOPLE WHO FOUNDED AND LEAD HOPE TRUST KNOW WHAT IT TAKES TO LIVE WITH AND CARE FOR A LOVED ONE WITH SPECIAL NEEDS.





ELEVATOR PITCH

Each of us knows the unrelenting attention and effort required to ensure our children, siblings, parents ,or others with special needs get the help they need. These requirements extend beyond daily tasks, including assistance at school and at home. As caretakers, we feel responsible for making sure they receive proper medical care, counseling, social services, and even legal representation when necessary. On into their adulthood, we manage their household needs, arrange food deliveries and transportation along with countless other tasks of daily life, providing financial support the entire way. We're there when they need us—and that is often and at all hours—because we love them.



OUR STORY

We're there because there are no alternatives. Family members lack the time and training to handle the workload, and a traditional bank trust department is not prepared or equipped to provide the high-touch, round-the-clock service it takes to administer a special needs trust. Without us, our loved ones have nowhere else to turn for the essential help and support they need. We created Hope Trust because our families and the special needs family members we love deserve more.







Hope Trust is the first and only comprehensive, holistic solution that addresses the unique and ever-evolving needs of loved ones with special needs:

- Expert trust and care planning services
- 24/7/365 access to skilled care coordinators and fiduciary services
- Instant access to products and services, whenever and wherever needed, in accordance with a detailed life care plan—all delivered with respect and empathy

Hope Trust is both a labor of love and of critical necessity. We are here to provide your family with essential support, help you plan properly for the future of your loved one, offer peace of mind and welcome beneficiaries who will feel completely embraced for the first time by a corporate trustee.

We're there because your family deserves the best.



Daria Placitella
President & CEO

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hopetrust.com



FINTECH + TRADITIONAL BANKING = A BETTER CUSTOMER EXPERIENCE

HOW VALLEY BANK'S "INNOVATION BY ALL" APPROACH EXTENDS BEYOND ITS WALLS

ELEVATOR PITCH

Fintechs are changing the way people manage and use their money. They've made it more convenient for people to access their money, spend their money, and get financial guidance quickly and easily.

"The reality is that customer expectations are always changing and fintechs are out there creating tech that aims to meet those expectations," says Valley's Chief Information Officer, Fabian Rojas. "But that doesn't mean these companies are overtaking banks. Actually, banks are in a prime position to be innovative and disruptive while partnering with fintechs."

OUR STORY

Embracing the possibilities of fintechs

Valley Bank's inspired culture of diverse thought and innovation welcomes these financial services disrupters and wants to join in the disruption. What Valley Bank has realized is that trust is still a key value that banks have that many fintechs don't have on their own. Because of this, Valley believes fintechs will continue to rely on banks to complete their service cycle. By developing partnerships with fintechs, and even other tech companies, Valley is reinforcing its relationships with its customers while extending its own innovative efforts to a broader sphere of influence.

"It's never been a better time for banks to embrace and tap into the creative power of the fintech ecosystem," says Chihli Lu, Director of Engineering at Valley. "Technological advances, combined with innovations driven by companies such as Apple, Uber, and Amazon are changing our customer expectations. We believe a well-formed strategy to partner with fintechs can accelerate the delivery of new customer experiences to surprise and delight our customers."

One way Valley is finding and connecting with tech companies is through Plug and Play, the California-based company that helps organizations like Valley build partnerships with tech startups that align with their needs and interests.

"As a bank, we have many legacy systems that still need to be maintained and it's not practical for us to create all our tech innovations in house as we transform the bank," says Lu. "Plug and Play is just one part of our strategy of finding cutting-edge startups we can partner with to help us reach our goals."

Helping to foster the ideas and innovation of tomorrow

Valley is focusing on more than just partnering with fintechs, they're even supporting the space these companies need to be innovative. Valley has developed strong relationships with organizations like the New Jersey Tech Council and the accelerator Tampa Bay Wave in Tampa, Florida, to sponsor and support programs that can help technology companies, including fintechs, get what they need to build, launch, and grow their platforms.

"Everything from artificial intelligence, blockchain, to quantum computing will play a role in redefining the financial services industry in the years to come," says Rojas. "The pace of change continues to increase. And it's incumbent upon us to collaborate with these innovative companies to develop an experience that deepens the bank's relationship with its customers."

Providing virtual card management services for consumer debit card users

In 2019, Valley formed a partnership with Ciphertext to create a better omnichannel experience for their customers. "Our goal is to make it as easy as possible for people to manage and protect their accounts on their mobile phones, with their computer or in person at a branch," says Bob Bardusch, Valley's Chief Operating Officer. Valley customers can now make changes to their debit cards including changing their personal identification number (PIN), temporarily freezing a card, replacing a card, and setting travel notifications for domestic and international travel.



Partnering with a fintech to solve a key business customer problem

In 2019, Valley partnered with the fintech Authoriti to simplify the way its customers complete wire transfers. Valley identified that the wire-transfer process can be burdensome, especially for people running a business that relies on them. With Authoriti Permission Code technology, they've now put their customers in control of their own transactions, significantly reducing the potential for identity theft and fraud, while streamlining their internal processes. "We've now given our customers one of the safest and easiest ways to complete wire transfers," says Rojas.

Valley BANK
Valley.com | You Made Possible.
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INNOVATION AT GRANT THORNTON

"Innovation is about constantly challenging the status quo. That means being curious, understanding the market, listening to our clients' business challenges, and looking ahead for opportunities and potential disrupters. We're building solutions that make our clients more competitive, nimble and compliant—and we're doing the same for our own business at Grant Thornton."

OUR STORY

All companies are focused on innovation as a key challenge in business today. The speed of innovation and the cost of implementing new technologies require careful consideration of future investment strategies. Opportunities to innovate are also expanding, particularly with new opportunities to increase insights into the business and to improve the customer experience.

Grant Thornton is committed to helping our clients navigate the innovation maze. Our service teams are focused on integrating technology into our projects, whether it is a financial statement audit, a due diligence assignment, or an assessment of a client's tax strategy. In some cases, we have developed industry-specific innovation solutions for clients such as financial services and life sciences companies.

To serve our clients more effectively, Grant Thornton has integrated teams across a number of technology-enabled functions to promote a culture of shared goals and collaboration. Our new Technology and Transformation (T&T) team merges our innovation solutions and business technology and knowledge management capabilities to enhance our client experience. We have a strategic vision for innovation that is aligned to our firm's strategy and driving results through technology across the enterprise.

From inspiration to innovation

In the next five years, many industries will be disrupted and business models will continue to evolve. New technologies—data analytics, robotics process automation (RPA) and artificial intelligence—are fundamentally changing what our clients deliver to their customers and what we do for our clients. No company can escape this wave of change, and companies that fail to innovate will not survive. At Grant Thornton, we find new ideas quickly, we use data to uncover insights, and we leverage technology at the right time.



Grant Thornton has adopted processes that enable its people and clients to realize the promise of innovation, and has rethought its criteria for recruiting, developing, and retaining those best equipped to make the most of new technology. Such innovative tools now provide the ability to take a deep dive into a business, in real time and on an ongoing basis, to identify both potential problem areas and opportunities so that they may be quickly addressed. The race typically goes to those who possess the expertise to analyze the data and apply it wisely to make critical decisions.

How do we deliver innovation?

Audit

We are leveraging analytics and innovative tools to enhance the audit process. Our audit professionals are experts in using these technologies and tools to deliver a quality experience to our clients.

An essential step for success in this disruptive environment is to embrace change in our audit process, rather than resist it. Change is already here, and applying advances in automation and analytics will help lead the way. Grant Thornton has created a culture of continuous learning and improvement by constantly looking for ways to increase the value of an audit. Innovative tools and processes for audits can substantially improve audit quality and efficiency, generate new insights, and help elevate the audit function overall. Furthered by Grant Thornton's commitment to innovation and retaining the best talent, our tools and technology can help our clients achieve the best results.

Tax Innovation

The tax landscape is forever evolving. Technology is driving disruptive changes across all aspects of business today, and traditional tax functions are struggling to keep up. Every organization's tax circumstances are unique, and at Grant Thornton, we understand that tax innovation means crafting pragmatic, customized, scalable approaches that utilize disruptive technologies and best practices to unlock new value for our clients.

We have helped our clients achieve Automated Tax Intelligence by using high-powered tools such as Domo, Tableau, and Microsoft PowerBI. Our experience with and strategic use of various analytics platforms has enabled us to help clients choose the right solution and learn about their chosen tool. With the help of our experts, our clients can realize the full potential of their tax intelligence tools, which can ultimately help improve quality and reduce costs. Our experiences have solved the challenge of using a single tool as a complete workflow chain. We help connect all sources of data and people to optimize the tax function. Most importantly, we have added significant value to the overall organization.

Digital Transformation

Many companies have become overwhelmed by the potential and the volume of information generated by new technologies. Very few companies feel comfortable that they have fully tapped the potential of these innovations. At Grant Thornton, we focus on the strategic application and use of technology to improve operational effectiveness, customer and employee engagement, and create new digitally enabled business models. We share our knowledge and capabilities in intelligent automation, cloud migration, data strategy, IT integration, and program management to help companies assess and embrace innovation. We also work with clients to develop advanced data visualization through foundation analytics, cross-domain analytics, score carding, and strategy management.

We believe that a strong analytics program provides a roadmap for consistently transforming data generated by new technologies into valuable operational insights.

Grant Thornton recognizes the need to stay ahead of the game and continues to be a forward thinking, agile and innovative firm.

About Grant Thornton LLP

Founded in Chicago in 1924, Grant Thornton LLP (Grant Thornton) is the US member firm of Grant Thornton International Ltd, one of the world's leading organizations of independent audit, tax, and advisory firms. Grant Thornton, which has revenues in excess of $1.8 billion and operates in 58 offices, works with a broad range of dynamic publicly and privately held companies, government agencies, financial institutions, and civic and religious organizations.

Grant Thornton's Metropark office, located in Iselin, New Jersey, is the second largest of the metro New York cluster. We have nearly 200 partners and employees working in the Metropark office.



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Grant Thornton

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CHAPTER 8

SOFTWARE & APP DEVELOPMENT





"We don't see things as they are.
We see things as we are."

—ANAIS NIN



A NOT TOO QUIET

REVOLUTION

IS TAKING PLACE IN LAKEWOOD, NEW JERSEY

It is very appropriate that another revolution is taking place in 1776. It is a revolution in recognizing the true potential of custom software to maximize the potential growth of a company, and it's taking place in 1776 Avenue of the States in Lakewood, NJ.

It's only natural our company, Bitbean Custom Software Development, is parked there. The signers of the Declaration of Independence would feel at home with their radical, forward-thinking.

Before Bitbean upset conventional thinking, many businesses saw software as an operational tool that is there to help businesses run better. Software is a must-have, but it's like furniture. It serves a necessary purpose but not a lot of thought is given to what software can do for a company's growth.

The unfortunate result of this old and tired perception is that opportunities are missed. Opportunities that could change the dynamics of a business enabling it to grow beyond its founders' vision. Oftentimes, software can help a company become a dominant leader in its industry.



At Bitbean we weren't shy in proclaiming that rather than being considered just part of the "woodwork," software should be seen for what it truly is: an enabler. Software enables companies to not merely stretch its capabilities, but to create new opportunities never conceived in the boardroom.

To our way of thinking, software is sort of like putty. It can be shaped in many ways. It's not the coding and methodologies that should govern the development. It's the entire thought process that goes before any building process begins.

The usual process of software development is the client tells the development company what their problem is, and their needs. The development company scribbles the information and tears off to come up with a solid solution. At Bitbean we follow that process, but to a point. Our teams absorb what the client has to say about how he sees his needs. But here's where we veer from other software development companies. We don't simply go to our computers and start designing. We challenge the client.

> **we challenge him in ways that some find amusing, others find unsettling, but all find stimulating, eye-opening and certainly revolutionary.**

In fact, we challenge him in ways that some find amusing, others find unsettling, but all find stimulating, eye opening and certainly revolutionary. We challenge him about his company vision, why did he start his company, what did he really want to achieve.

Very often, the complex process of building and operating a business, with the pressure of dealing with daily challenges and hurdles, causes business owners to lose sight of their original vision. Through our process the client takes a fresh look at what his business is all about.

We call our process Shifting Perspectives®. Throughout the first stages we are in direct communications not just with the business owner, but with executives and managers in most, if not all, company areas.

We get beneath the surface to understand the purpose of the business, the why of the business. We're driven not to settle for mere knowledge and answers, we're driven to seek every pathway that leads us to the truth.

The truth about our client's business.

To get to that truth, our Shifting Perspectives® requires a different way of thinking. From top management down we're mental tinkerers. Through our education we are abstract thinkers who think concretely, and concrete thinkers who think abstractly. Shifting Perspectives® is second nature to our teams. We are constantly challenging, probing, leaving assumptions by the wayside. We're seeing the company through many prisms, uncovering the complex interconnecting pathways that are hidden, yet determining factors in the results achieved.

> **Shifting Perspectives® works because of our team that can pull it off.**

Teamwork isn't a buzzword. In fact, we follow in the footsteps of another revolutionary, Thomas Edison. While his Menlo Park workshop spewed out well over 1,000 patented inventions, he did so through his revolutionary concept of putting teams to work, rather than individuals. He called them "Muckers." All hail to Edison whose radical concept, for the time, helped move science, industry, and technology into the future.

Maybe the spirit of Edison wafted down the Garden State Parkway to our office. At Bitbean team structure is part of our ethics. Like Edison, we are very rigorous in our consideration of who should be a part of the team for a project. We don't assemble a team ad hoc. Every team member is selected for their experience, expertise, skills, and compatibility with other team members. And of course, their Shifting Perspectives® talent. This creates a cohesive, smoothly functioning team that optimizes results.

> **when you help a mortgage company grow from $1 billion to $5 billion in annual transactions, help a startup e-commerce company partner with Fortune 500 companies, and help a media company scale its content production and delivery around the globe to no time ...**

Our teams' mastery of our Shifting Perspectives® process is putting Lakewood, NJ, on the map. We won't say they'll have to expand Exit 91 to allow the droves of clients heading to us, at least not in the very near future. But when you help a mortgage company grow from $1 billion to $5 billion in annual transactions, help a startup e-commerce company partner with Fortune 500 companies, and help a media company scale its content production and delivery around the globe to no time, smart management takes notice. All it takes is a proven revolutionary software development concept to spread the revolutionary spirit to companies across the length and breadth of New Jersey.

And, since 1776 Ave of the States is located dead center in Lakewood's Independence Plaza, maybe it's time we put up our own Liberty Bell.

Sorry, Philadelphia.

bitbean

BUILDING SOFTWARE FOR AMBITIOUS COMPANIES STRIVING TO BE INDUSTRY LEADERS

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ASB RESOURCES

BRINGING THE RIGHT PEOPLE WITH THE RIGHT ABILITIES TO THE RIGHT PLACE AT THE RIGHT TIME

OUR STORY

ASB Resources launched when founder Mohamed Bakerywala, a former technologist, stepped away from years of managing talent acquisition for Fortune 500 companies. During his time in these roles, he saw a need for a company that would dedicate itself to building a platform that not only treated the people as more than a commodity, but also provided exceptional service to the hiring managers and their teams. These managers were spending countless hours evaluating candidates that were just not the right fit for the role. They were frustrated with the length of time it took to find the right candidate and these delays resulted in missed project deadlines and their own reputation with the firm.

Our team at ASB Resources was established on the principal of addressing these very real concerns. Our recruiters were brought onboard because they are experts in their domains and have a strong network that supplements our recruitment and operational excellence. We are in the business of maximizing human potential for your growth and helping talented people emerge as world leaders through the application of our innovative workforce solutions.

BUT MOST OF ALL, WE LOVE WHAT WE DO!





SPECIFIC EXPERTISE INCLUDES:

- Cybersecurity
- Database Migration
- Infrastructure
- Software Development
- System Upgrades
- Technology Consulting
- Services
- Technology Refresh

BUSINESS INTELLIGENCE:

- Dashboards
- Data Analytics
- Data Lake
- Data Warehousing
- ETL

INNOVATIVE , SCALABLE TECHNOLOGY SOLUTIONS

- Cloud-AWS/MS Azure
- Application Development
- Business Intelligence
- Cybersecurity
- Offshore Capabilities
- Program Management
- Staff Augmentation



ACCOLADES

OUR TEAM HAS A PROVEN HISTORY OF SUCCESS

ASB Resources has been recognized for our dedication and hard work, receiving two prestigious awards for multiple years in a row. The most recent was our advancement to No. 16 in the NJBIZ Fast 50. Earlier in 2018 we accelerated our ranking with INC. 5000 Fastest Growing Companies—not only did we rank at No. 879, we were also in the Top 20 IT System Development companies and are ranked No. 24 of Top New Jersey Companies.

We drive results for businesses in capital markets, media, retail/fashion, pharmaceuticals, and more. Companies from startups to Fortune 500s trust us to deliver solutions that keep their businesses secure, while making the most of their IT investments.

"Recruiting is a noble profession, just like teaching and medicine. I think we help make people's lives better. When we help someone obtain a better career or move forward in their current career, we are not just helping the individual, but their family and their extended communities. The bond that we build with those individuals is the most satisfying aspect of this career."

—Mohamed Bakerywala



Inc. 5000 · MBE · FAST50

ASB Resources

asbresources.com

SPARTA SYSTEMS

CHARTING THE PATH TO DIGITAL QUALITY.



ELEVATOR PITCH

Quality management is at the center of quality and compliance for pharmaceutical and medical device manufacturing. Without these capabilities, no life sciences company can assure product quality, efficacy, patient safety or continuity of supply for life-saving therapies.

OUR STORY

Sparta Systems has been the leader in Quality Management Systems (QMS) for life sciences over the company's 25-year history. For the past two decades Sparta's TrackWise offering has served as the industry gold standard for QMS, and now its cloud-based TrackWise Digital QMS is driving innovation and preparing customers for the future.



Digital transformation is a key trend in the life sciences industry today. This includes not only moving from on-premise systems to the cloud, but also incorporating innovative technologies such as AI and advanced analytics. Through digital transformation, companies can greatly improve productivity, reduce risk, lower costs and improve patient safety.

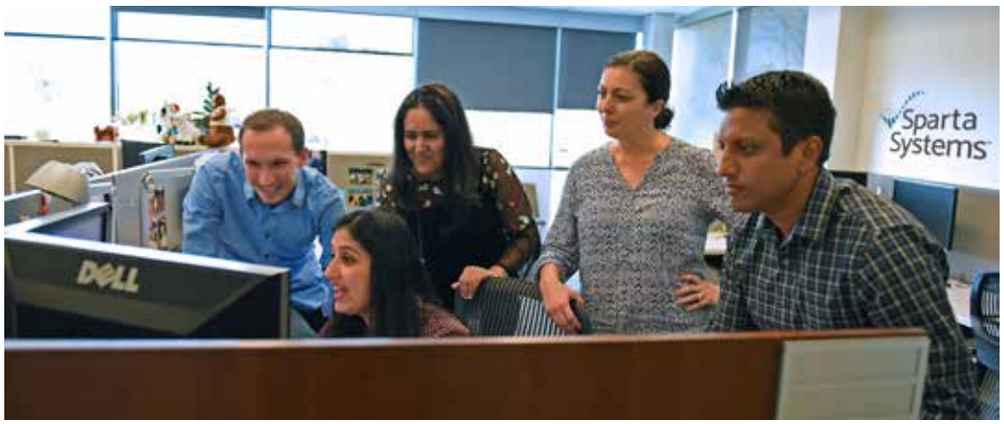
To support this need within the industry, Sparta is delivering the next generation of QMS technology with TrackWise Digital. This includes providing the first AI capabilities embedded in a life sciences QMS to augment human decision making. The power of this is amplified by the rich data that has been accumulated in TrackWise over the past two decades, which can be applied to drive more proactive and predictive quality management.

Sparta is also helping customers plan and execute their digital transformation roadmaps by offering a hybrid option that integrates both on-premise and cloud capabilities. With the ability to add cloud modules to their on-premise systems, customers can reduce risk in their digital transformation journey and take a step-wise approach to full digital conversion.

Sparta is proud to have its headquarters in New Jersey and to be part of the vibrant and growing technology community within the state.











Dana Jones is CEO of Sparta Systems.

Dana is an accomplished software executive with decades of experience leading and growing cloud-based global businesses. She has held key leadership positions for early stage and global publicly traded enterprise software companies, including Active Network and Sabre Technologies. She graduated Summa Cum Laude and holds a BSE in industrial and operations engineering from the University of Michigan.

Sparta Systems®

spartasystems.com

nVIAsoft CORPORATION

ELEVATOR PITCH

A startup company in the greater NYC area with a revolutionary biometric method through our patented contactless hand biometric sensors and proprietary software solution using the hand, specifically the palm and fingers.

OUR STORY

Our contactless method provides each individual with a unique and secure pure digital ID from their distinct hand vein pattern. We at nVIAsoft believe that widespread data breaches, identity theft, and software hacking are caused by currently available forms of authentication, i.e., signatures, passwords, smart cards, key fobs, and other biometrics methods, all of which are fundamentally flawed.

We believe that biometric security must be strong and not partial to just palm or finger, rather, biometric security should be axiomatic with the use of the whole hand. To this effect, our mission is to offer "biometric security in your very hand."





Secure Identity Access Management (IAM™)

nVIAsoft Corporation presents a variety of secure authentication form factors (devices) for multiple applications offering the most secure and unique solution for infinite Verification, Identification, and Authentication for IAM (Identity Access Management) and Cybersecurity. Our dynamic authentication solution is the most secure and most reliable method that can adapt to security standards and compliances such as PCI, HIPPA, and GDPR and other Global Standards for User Privacy. Biometric Security in your (very hand) Verihand™.

nVIAsoft offers the dynamic next-generation authentication technology in fraud-free access control and secured automated payment systems. We are focused on the development of a multi-modal contactless hand biometric technology that



utilizes the vein pattern of the whole hand (palm and fingers and other unique modalities in hand). Our innovative system coined as Verihand means an individual will be verified through their whole hand (palm and fingers), this method creates the pure digital identity out of biometric patterns from individuals' very hand in a total contactless, non-invasive, and hygienic scanning process.

Our innovation has been brought from prototype stage and is currently public beta, with the implementation of an operations support system ("OSS") for various applications of authentication systems, initially for access control (door locks, turnstiles, access to data, and equipment inventory), membership-based business, and soon to ramp to secure payment systems. Unlike other biometrics, our solution doesn't leave fingerprint traces and handprint traces in any surface that can be copied, and unlike contactless facial recognition, our test can be duplicated. From test and research, individuals left- and right-hand vein patterns are not the same; even identical twins don't have the same hand vein pattern. The facial reader can definitely identify an individual but fails in authentication using the face pattern.

nVIAsoft's SaaS and DBaS (database as a service) intends to pursue several strategies and objectives that will allow quick market penetration. The first objective is to offer high-quality authentication products, and services for the targeted applications and industries. The second, a cloud-based authentication gateway database (DIVA – nVIAOne), a highly robust, and scalable infrastructure that will host the biometric data and perform the authentication and verification process of all linked clients and users on the premises and in the cloud. Third, specific business objectives that will ensure complete assurance that no user data will be compromised through pure digital ID and the nVIAsoft Dynamic Authentication (nVIAOne) system will be virtually unhackable. Thus providing an axiomatic security layer to protect bank accounts, online payments, data, authenticated access, and other highly valuable resources of nVIAsoft clients and users. nVIAsoft's system development adopts the NIST Cybersecurity Framework with an emphasis on user privacy and data protection.



Bernard D. Garcia, Founder and CEO
gbernard@nviasoft.com

As the founder and CEO of nVIAsoft Corporation, Bernard Garcia oversees the growth, direction, and innovation of the company. Bernard is passionate about solving customers' technological problems and empowering them with total security when accessing websites, applications, and databases.

Bringing more than 20 years of business and information technology and implementation management experience, Bernard is responsible for all nVIAsoft business strategy and technology architecture, as well as Infrastructure management and guidance for nVIAsoft's global operations. His extensive IT background includes senior management positions in Architecture, Infrastructure, Systems Operations, and Solutions Development on virtually all technological platforms.

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QTS REALTY TRUST, INC.

WITNESS THE RISE OF SOFTWARE-DEFINED SERVICE DELIVERY

ELEVATOR PITCH

QTS Realty Trust, Inc. is a leading provider of data center solutions across 26 data centers spanning more than 6 million square feet of data center space globally. Through its software-defined data center platform, QTS delivers secure, compliant IT infrastructure solutions, robust connectivity, and premium customer service to leading technology companies, enterprises and government entities.

OUR STORY

Consider that today virtually every business utilizes the Internet as an integral component of their business. This means that everything starts in a public or private data center somewhere and has an impact on everything we do.

Cloud, co-location, and connectivity are the primary building blocks upon which critical business and consumer applications are delivered from data centers. And while the cloud continues to grow in popularity, it has different meanings for different organizations. For small businesses, it might mean software-as-a-service supporting turnkey applications offered on a pay-as-you-go model. For larger companies, it likely means public and/or private cloud solutions with leaders such as Amazon, Microsoft, and Google.



More recently, the cloud has evolved into a hybrid IT solution as businesses move workloads off premises and into public and private clouds built upon co-location hosted in outsourced data centers. These outsourced hybrid co-location solutions are allowing companies to quickly build infrastructure without the headaches of complexity or risk of having to tie together all the components on their own. As a result, the demand for co-location data centers needed to support them continues to grow.





While co-location is fundamental to hybrid cloud solutions, it is still challenged in two key areas: visibility and control. When there is a problem with an application, IT support personnel are required to diagnose and take quick action to prevent any disruption throughout the technology stack. However, with the speed at which businesses are now operating, manual troubleshooting and remediation are too slow to be effective and are putting businesses at risk. Compounding this are complex emerging technologies such as machine learning, artificial intelligence, neural networks, and blockchain that are also beginning to disrupt data center operations.

The solution lies in improved operational visibility and controls—with automation being the key ingredient.

QTS recognized this and made the decision to invest in the industry's first API-driven orchestration platform engineered to support IT environments. It's an architectural approach that facilitates service delivery and control across QTS' entire data center footprint and solutions portfolio. Unlike basic DCIM-only solutions, QTS' Service Delivery Platform (SDP) provides customers with a single, complete view of co-location, connectivity, and public and private cloud assets across all infrastructure down to the component level.

It is a highly automated approach that increases visibility and facilitates operational innovation by enabling customers to access and interact with information and gain deeper insight into the use of their QTS services in a way that is simple, seamless, and available on-demand from any device. Additional benefits include real-time, automated issue resolution that facilitates additional cost containment.

According to Gartner, "QTS has taken a cloud-based approach to co-location by digitizing the entire co-location experience with Service Delivery Platform. SDP is an enhanced form of data center infrastructure management (DCIM) and provides real-time analytics of power, to real-time control, to programmatic access for user authentication to data to online ordering. By leveraging SDP, customers can programmatically interface with SDP to make real-time business decisions instead of waiting for monthly utilization reports."



Left to Right: Client Heiden, CRO; Jeff Berson, CFO; Jon Greaves, CTO; Shirley Goza, General Counsel; Chad Williams, CEO; David Robey, COO; Steve Bloom, CPO; Tag Greason, CHO

QTS firmly believes that data center providers must be innovators and make it a strategic area of investment. If data center providers do not innovate in the areas of design, sustainability, automation, visibility, and control—if they do not fully commit to delivering a cloud-like mobile-ready experience—those providers will struggle to meet the current and future needs of customers.

QTS®

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AGILENCE

ELEVATOR PITCH

Ever-changing customer behavior and buying patterns coupled with the need to closely monitor operations, promotions, and financial performance in real time are among the biggest challenges faced by retailers and restaurant operators today. These businesses, with numerous locations and large workforces, are challenged with the problem of ensuring that people from the top to the bottom of their organizations are aligned around the same goals and objectives.

This alignment is especially important considering the need to address ever-changing objectives driven by customer, corporate, seasonal, and promotional mandates that impact their bottom line. After carefully contemplating the predicaments of retail and restaurant brands, the Mount Laurel–based Agilence has designed a data analytics and reporting platform that helps business accelerate their "time to Insight" as aptly described by Russ Hawkins, President and CEO of Agilence.

OUR STORY

In a competitive economy, the Agilence suite of solutions provide multi-unit enterprises with self-service insights into their business operations in a very efficient manner. "Agilence, a contraction of 'agile intelligence,' defines our objective aptly. We are an insight service provider with exceptionally



sophisticated software tailored for the retail and restaurant business," says Hawkins. "Our focused team, possessing extensive industry knowledge in both retail and restaurant operations, along with our analytics platform, enables executives and managers to identify problems, monitor performance, and translate best practices to all locations across the enterprise." Agilence created the 20/20 Data Analytics™ Platform to aggregate data from different systems and to enable measurements that give retailers and restaurant operators deep insights into their business operations. The solution integrates and processes data from the point of sale (POS), transaction logs, HR, inventory, e-commerce, and other business systems to provide a detailed record of each store transaction, identify trends, and assess whether people, programs, and processes are delivering expected results.





"We democratize data by gathering it from various siloed systems into a central database and enable managers at all levels to ask sophisticated questions and track responses over time without a lot of IT involvement," elucidates Hawkins. Agilence's platform has the capability to gather data from a virtually unlimited array of sources within a particular company and present results as concise reports and dashboards. The solution empowers brands to track and manage key performance indicators and execute strategies down to the lowest levels in the organization in perfect alignment with corporate goals.

Looking to the future, Hawkins says that their product roadmap for the 20/20 Data Analytics Platform™ includes building a number of new capabilities, including expanding its predictive modeling, machine learning, and artificial intelligence functionality: "We are continuing our mission of helping our customer community improve their profits and better serve their customers."

ABOUT AGILENCE

Founded in 2006 and headquartered in Mount Laurel, New Jersey, Agilence, Inc. is the industry leader in data analytics & reporting for retail and restaurant organizations. Agilence develops the 20/20 Data Analytics™ Platform, a highly flexible and powerful cloud-based reporting solution that provides organizations with a complete view of their business, empowering them to make informed decisions faster, increase sales, and eliminate losses.



Russ Hawkins
President & CEO

Agilence

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GOVPILOT



OUR STORY

Founded in 2015, Hoboken-based GovPilot provides a cloud-based SaaS government management platform specifically designed for local government. The company offers more than 125 modules, which enable governments to provide constituent services such as public record requests, inspections, licensing, tax assessment, public works, and more, in a secure, digital environment.

Digitization and automation allow local governments to realize greater efficiency and transparency by eliminating antiquated paper processes and replaces the functions of disparate single-use legacy platforms with a single all-in-one system. In utilizing GovPilot, governments are able to unify and access data across departments in real-time, 24/7 from any location. The result is increased efficiency, transparency, security, and data-based decision-making that streamlines constituent services.

"As the Gov Tech space evolves and the needs of local governments increasingly come into focus, GovPilot plans to introduce new offerings to ensure municipal governments are able operate at peak efficiency and security," said James Delmonico, the company's Vice President of Product. "In fact, since early 2020, GovPilot has been offering cybersecurity advisory services to local governments nationwide, given the alarming increase in ransomware attacks. Additionally, GovPilot has been certified by the State of New Jersey to provide a Mod IV tax assessment module for New Jersey municipalities."







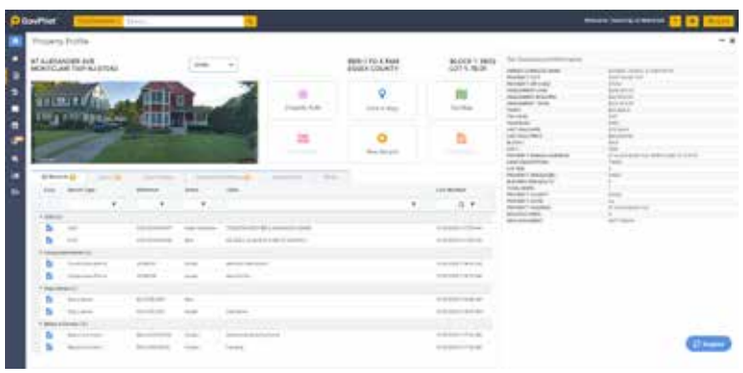




Current clients of note include Atlantic City, Jersey City, Paterson, Raleigh, and Trenton. GovPilot has been recognized as a top 100 "Gov Tech" company by *Government Technology Magazine* for three consecutive years (2018–2020). This year, GovPilot is the sole New Jersey company represented. The GovTech 100 is an annual list compiled and published by *Government Technology* as a compendium of 100 companies focused on, making a difference in, and providing services to state and local government agencies across the United States.

Michael Bonner, the company's founder and CEO said, "Though still young, the Gov Tech industry is rapidly growing as local governments across the country race to meet the needs and expectations of their constituents, and the realities of our digital world. GovPilot's mission is to enable governments to operate at their full potential, and we are proud to provide a platform that has been purpose-built from the ground up, incorporating input and feedback from real-world users."







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"They always say time changes things, but you actually have to change them yourself."

—ANDY WARHOL

CHAPTER 9

DIGITAL CONSULTING





"Partnering with Hanu has freed my time up from working on putting out fires and dealing with all the administrative tasks. We're now working more towards new technologies, trying to do a little bit more forward-thinking, and planning proactive changes to the network, instead of reactive. Because things are running well, it's allowing us to focus on the next steps, and not worry about day-to-day things anymore."

—Paul Athaide, Senior Manager, Support and Infrastructure, Multiple Sclerosis Society of Canada

HANU

ELEVATOR PITCH

A Microsoft Partner for over 15 years, Hanu supports enterprises with unequalled intelligence and expertise, providing Managed Transformation, Application Modernization and Enterprise IT Innovation.

From Azure CSP to Managed Services and strategic consulting and development, Hanu has the expertise to help organizations capture the potential of the Azure cloud through every stage of their digital transformation.

OUR STORY

Founded in 2002 and based in Princeton, New Jersey, Hanu Software is the only cloud Managed Service Provider (MSP) dedicated exclusively to Microsoft Azure cloud migration and integration. They've helped over 200 companies accelerate time-to-market and reduce operational costs through the development of effective digital transformation strategies. In July 2019, they were recognized as a Microsoft Partner of the Year for their work with the Azure ecosystem.

"Hanu possesses so much more than technological acumen. They were able to assess our current IT infrastructure and budget, and create a project cycle that fit within our timeline and exceeded our goals. Given their track record, we knew we could count on them to deliver. This is why we chose them over their competitors to manage our Microsoft transformation."

—Robert Maddison, Technical Architect, GE Healthcare

hanu™



Anil Singh
CEO & Founder



Dave Sasson
Chief Strategy Officer

hanu 100% CLOUD CLEAR

Gold Microsoft Partner
Azure Expert MSP
Microsoft



Microsoft's Gavriella Schuster, Corporate Vice President, One Commercial Partner, presents Dave Sasson, Hanu's Chief Strategy Officer, with the Microsoft 2019 Azure Influencer Partner of the Year award.

Hanu's mission is to help organizations migrate 100% of their IT infrastructure to the Azure Cloud. They accomplish this through a comprehensive portfolio of products and services delivered by their client-obsessed consultants. These consultants work tirelessly to provide added value via managed services that allow customers to focus on strategic initiatives with confidence, knowing that Hanu's team will do the work needed to sustain their business.

"IT organizations partner with us so they can focus on strategic business objectives, fully leverage their cloud investments, and lead through innovation," says Dave Sasson, Chief Strategy Office at Hanu. "Addressing any level of complexity with the highest level of clarity, our experts plan, implement and fully manage every aspect of our client's migration to Azure, delivering ongoing administration, management and user support at all stages of the digital transformation journey."

Hanu's commitment to Azure has clearly paid off: once made up of a small team of consultants, the Microsoft Azure services company has grown their team to over two hundred while recently opening offices in Toronto, Canada. The company has a large office campus in India as well. Due to the high demand of cloud talent, and the lack of readily available cloud skills talent in the marketplace, Hanu rose to the challenge and internally developed their own Azure Academy. Hanu's Azure Academy has been a great success for the company in grooming new talent with Azure skills as well as a mechanism to provide continuous learning opportunities within the company.

ACCOLADES

In July, Hanu was recognized at the Microsoft Inspire conference as the Microsoft Azure Influencer Partner of the Year. Competing against a global field of top Microsoft partners, the award was presented to Hanu for demonstrating excellence in innovation and implementation of customer solutions based on Microsoft technology.

"The team at Hanu has one primary goal: to become the first billion-dollar Azure-only service company," says Anil Singh, Hanu CEO and founder. "Winning the Azure Influencer Partner of the Year Award is a result of helping our customers meet their strategic business objectives, fully leverage their cloud investments, and lead through innovation using the entire Azure ecosystem."

From Azure CSP to Managed Services to strategic consulting and development, Hanu has the expertise to help organizations capture the potential of their cloud strategy through every stage of their transformation.

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AXTRIA
INGENIOUS INSIGHTS

PROVIDING BEST-IN-CLASS, INNOVATIVE SOLUTIONS TO THE LIFE SCIENCES INDUSTRY TO HELP UNITE THE RIGHT PATIENT WITH THE RIGHT TREATMENT









Jassi Chadha and Axtrians at various company and industry events.

Axtria Inc. is a global provider of cloud software and data analytics with a strong focus on sales and marketing operations. Axtria helps life sciences companies transform the product commercialization journey to drive sales growth and improve healthcare outcomes for patients. They collaborate with their customers to improve operational effectiveness with solutions that leverage big data, cloud software, predictive analytics, artificial intelligence, and machine learning. The company's cloud-based software platforms, Axtria DataMAx™, Axtria InsightsMAx™, Axtria SalesIQ™, and Axtria MarketingIQ™, enable life sciences companies to efficiently manage their data and leverage data science to deliver insights for sales and marketing planning and operations.

OUR STORY

Founded in 2010 by brothers Jaswinder (Jassi) and Navdeep (Navi) Chadha, Axtria is a global provider of cloud software and data analytics to the life sciences industry. With its roots in New Jersey, Axtria is in good company with other trailblazers, as well as being in a hub of life sciences companies. Axtria has become a force to reckon with as it becomes the number one choice for the life sciences commercial business. Renowned for working side by side with life sciences companies to transform their product commercialization journey, driving sales growth, and improving healthcare outcomes for patients, Axtria is acutely aware that their work impacts millions of patients and leads passionately to improve their lives.

Since its early days, technology innovation has always been one of Axtria's winning differentiators. Armed with years of domain and industry experience, the executive team reinvented the commercial business process with ingenious technology: integrated platforms that maximize sales by deploying artificial intelligence and machine learning (AI/ML) and embedded analytics for the complete commercialization journey, from data -> to insights -> to operations.

Soon, Axtria began leapfrogging the competition with their cloud-based platforms—Axtria DataMAx™, Axtria InsightsMAx™, Axtria SalesIQ™, and Axtria MarketingIQ™. These platforms enable Axtria's customers to efficiently manage their data, leverage data science to deliver insights for sales and marketing planning, and manage their end-to-end commercial operations, transforming product commercialization. Modern, modular, and built on the leading cloud technology, Axtria's cloud platforms clear the commercial-operations clutter:

- **Axtria DataMAx™** is a cloud-based commercial data management platform that helps to rapidly onboard, manage, report, and govern commercial data for a new view of quality and insightful analytics.
- **Axtria InsightsMAx™** enables the industrialization of analytics through AI/ML-driven "analytics-on-call" to power faster and better decisions in an organization.
- **Axtria SalesIQ™** is an intelligent and adaptive unified platform that manages global end-to-end sales planning and operations, including alignment and roster management, targeting and call planning, incentive compensation, field analytics and reporting, and field triggers.
- **Axtria MarketingIQ™** is a state-of-the-art cloud-based platform that enables a harmonized omnichannel customer experience. With ML-based next-best-actions, the platform helps to strategize campaigns, rationalize channels, and determine real-time ROI of the spending.

These disruptive solutions, architected through Jassi and Navi's leadership, coupled with providing analytical problem-solving to life sciences commercial leaders, have helped scale the business. Whether it was the big bet on cloud platforms, the rapid shift into AI/ML engines, or the industrialization of analytics, Axtria's platforms and breakthrough thinking have transformed how their customers view and value technology.

In the rapidly evolving healthcare landscape, it is critical to reach the patient at the right time



L to R: Navi and Jassi Chadha honored by Ernst & Young as Entrepreneur Of The Year®.



L to R: Jassi and Navi Chadha at Axtria's headquarters.

with the right treatment. Digital intelligence is transforming the life sciences commercial business, and this transformation delivers real benefits when data and insights are operationalized. With exploding data sources, new technologies are disrupting life sciences operations with embedded AI/ML and advanced analytics deployed at scale. The only way for life sciences companies to survive and flourish is to operationalize insights faster than the competition. By seamlessly blending information, analytics, and technology-on-cloud, Axtria continues to help organizations gain a competitive edge. With real-world problems at the center of Axtria's product development, Axtria is enabling cutting-edge change across commercial organizations.

As one of the most disruptive and fastest-growing companies in this space, Axtria has technology innovation and winning differentiation in its veins. Innovation cannot be specific to any one area or function in the company; it must be ingrained into the organization's culture and DNA. This is one key reason Axtria has seen such success in the market. The team applies creative thinking to all the company functions and processes. Axtria's commitment to innovation is reflected in every technology implementation and delivery they complete.

Axtria's software and technology solutions have positively impacted over 100 global companies to help improve the effectiveness of their commercial



Jassi proudly accepting Axtria's NJBIZ Business of the Year award.



Habitat for Humanity—Axtrians working together to build homes, communities, and hope.

operations. Axtria has enabled life sciences companies, for the first time, to convert massive amounts of raw data into insights, in minutes, instead of months. In turn, Axtria has been recognized as one of the most progressive companies focused on leveraging AI/ML to improve operational efficiency. These achievements have helped Axtria to advance the New Jersey technology space and generate an economic boost, making the company a key contributor to the success of New Jersey's economic growth.

Jassi currently serves as the President and CEO, and Navi serves as the CTO of Axtria. Before Axtria, Jassi was the co-founder and CEO of marketRx, which was acquired by Cognizant Technology Solutions. Under their remarkable leadership, Axtria has become one of the most prominent and most recognized global players in the life sciences industry. Jassi and Navi are industry luminaries and have been featured in some of the most aspirational lists, such as Inc. 500, Deloitte's Technology Fast 50, EY Entrepreneur Of The Year™, NJBIZ Business of the Year and NJBIZ FAST 50, SmartCEO Future 50, Red Herring Top 100, and several other growth, product, culture, and technology awards.

Forward-looking, one of Axtria's top goals is to replace all archaic technology and disparate systems across life sciences companies with standardized platforms for commercial data, analytics, and operations. Marketing Automation and CRM



Festive Axtrians enjoying some downtime at the company's annual holiday party.

platforms standardized how marketing and sales engage with customers, but there is no standardization in how commercial data, analytics, and operations are run. With Axtria's cloud platforms, they are redefining commercial operations, and enabling new possibilities by standardizing the complete journey from data -> to insights -> to operations.

Above all, Axtria plans to continue on the company's year-on-year growth momentum by staying true to their clients and values.

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A-PLUS-CONSULTING

ELEVATOR PITCH

Divisions of A-Plus-Consulting comprise A-Plus Apprentice, A-Plus Signs, and A-Plus Innovation.

- A-Plus Apprentice provides human resources consulting and training and also matches employers with special needs trainees.
- A-Plus Signs furnishes and installs architectural and wayfinding signs for general contractors in the construction industry.
- As the name implies, A-Plus Innovation is focused on creativity and new approaches to science and technology research. Our team created a winning NASA solution to protect astronauts against space radiation.

SUCCESS STORIES

NASA

Following the end of the Space Shuttle program, NASA faced both local and national strategic communication challenges as the future of space exploration remained in question. Leveraging our understanding of NASA and use of social media, A-Plus-Consulting LLC provided strategic communications campaign support for NASA during the Vertical Assembly Center (VAC) unveiling at Michoud Assembly Facility. Working with NASA leadership, Marshall Space Flight Center (MSFC) management team, and elected state and local officials, we used our understanding of NASA objectives, key economic impacts, benefits to the local workforce, and overall significance to the future of the space program at MSFC to target specific strategic messages. We developed media releases aimed at government, contractor, and local populations using social media to convey the desired NASA messages across a wide range of scientific and technical media outlets.

Most recently, NASA selected our abstract for oral presentation at a NASA Blue Sky Space Radiation workshop held October 9, 2019. We presented an all-natural effective oral formulation to NASA for protection against space radiation. Collaborators on the project are Dr. Lindsay Quarrie and Gaetano Lardieri.

We are currently seeking funding to conduct the Phase I dose-finding study for the most effective and safe all-natural combination product.



AUTISM

A-Plus Apprentice provides training and matches employers with special needs trainees for real-world careers.

Founder Helena van der Merwe is fond of telling this story: "People with autism spectrum disorder (ASD) experience emotions differently from non-ASD people. One of my most profound moments came during a conversation with a friend's ASD child, a boy who hardly ever smiles. While taking a 'selfie' with him, he saw his face on the smartphone screen and smiled a huge grin. This a-ha! moment demonstrated the possibility of breaking through the autism curtain."

Our team has adopted some Department of Labor Registered Apprenticeship Training methods and has brought them to public and private schools under the authority of the Department of Education. In doing so, we have for the first time built a bridge between the two agencies to foster efficiency, collaboration, and communication. To quote Executive Director Dr. Regina M. Peter of Newmark High School: "Apprentice programs as a training method have a long, successful history. Customizing Community-Based Instruction (CBI), Person-Centered Approaches (PCAST), and Career Technical Education (CTE) programs from the Department of Education (DOE) with the addition of Registered Apprenticeship curricula from the Department of Labor can accomplish the goal of smart, reality-based transformation in schools."

A-Plus Apprentice was featured in Authority Magazine, January 23, 2020 in an education interview series with Penny Bauder and Yitzi Weiner: "Five things that should be done to improve the US education system" with Helena van der Merwe from A-Plus-Consulting.

In May 2019, A-Plus Apprentice addressed the New Jersey State Board of Education. Below are some excerpts of the address:

YOU are the decision-makers and policymakers with the power to transform education in the state of New Jersey. That is why I am here to discuss our pioneering A-Plus Apprentice program.











The Registered Apprenticeship program is our student-centric venture that matches high school students (18–21 years old) diagnosed with Autism Spectrum Disorder (ASD) with appropriate employers for apprenticeships.

To date, we have recruited 50 students from two counties for the A-Plus Apprentice program which customizes curricula based on student skills with the assistance of school principals, SLE teachers, job coaches, and other special needs staff using student Individual Education Plans (IEPs). Our first concentrations are in graphic design, digital marketing, and e-commerce specialist and cashier roles, with more to follow.

We leverage government resources and infrastructure by providing our program in-school and not after school. In some school districts, art teachers are often the first to be cut from school budgets. We can fill that void for students.

The Boggs Center at Rutgers University partners with us to provide training for employers to help them understand hiring and employing people with disabilities.

Our instructors give 144 hours of related technical instruction, and apprentices work 2,000 hours per year, supervised by schoolteachers and an employer mentor in the school. After completing our program, each apprentice earns a designation from the Bureau of Apprenticeships, a federal agency.

The problem of unemployment and underemployment among autistic adults also has a huge economic cost. The annual cost of autism is estimated to be $126 billion in the US, a number that has more than tripled since 2006. The diagnosis rate in New Jersey continues to outpace the rest of the nation with 28 autistic preschoolers per 1,000 as reported by the Centers for Disease Control and Prevention (CDC).

Primary caregivers, typically mothers, are called upon to serve as their children's case managers and advocates, and on average, earn 56% less than mothers of children with no health limitations.

There is no cure for autism. Only 15% of those with autism have full-time jobs, while 9% work part-time. Thus, there is a high unmet need for employment and suitable careers.

State rules mandate that when students who have been attending specialized private schools turn 18, they must then return to their original public schools. Many students resist the change. The solution? With A-Plus Apprentice, students can remain in their familiar schools. Bonus: they receive individualized training in our earn-while-you-learn program.

Advocates for children with disabilities are cheering a 2017 decision by the US Supreme Court involving an autistic student. In establishing more-ambitious academic standards for special education students, this represents a clear win for the modernization that I am promoting here and now [end of excerpts from address].

We have four curricula approved and finalizing approval to launch the program. Current service providers on the project are Joel Levin, John Mitrano, Joshua Weiss and Bob Brown. Our long-term vision includes a technology platform and understanding genetics of ASD.



CONSTRUCTION

A-Plus Signs is active in a relatively unknown area of the construction industry. That is designing, manufacturing, and installing exterior and interior signs for airports, train stations, office buildings, streets, and highways.

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CONSULTING



NEUTRINO ADVISORY

YOUR DIGITAL PARTNER

OUR STORY

Neutrino Advisory began its journey in 2016 in Jersey City—a tech hub in the making in the state of New Jersey! Jersey City boasts a unique location advantage in its proximity to Manhattan. No wonder it's sometimes referred to as New York City's Sixth Borough.

Neutrino Advisory began by providing digital advisory and strategy services to a handful of midsized media and publishing organizations and quickly expanded to offer design, product development, and marketing solutions to Fortune 500 companies. Founder and CEO Rahul Agaskar always envisioned a full-service engagement model for the company's clients. Rahul's motto: "Strategy without execution is useless. Execution without strategy is aimless."

By the beginning of 2019, Neutrino Advisory had expanded globally by opening its first international office in Mumbai, India, offering its services to the Asia-Pac region. Neutrino Advisory is now a global digital and marketing consulting firm helping a multitude of clients transform their experiences digitally. We strive for excellence in digital advisory and transformation services. Our mission is to be the most trusted partner for brands who are eager to achieve transformative growth.





Our services

At Neutrino, we collaborate with our clients on business transformation and innovation initiatives.

Our partnership helps to unlock the potential for transformative growth. We provide end-to-end services and execution excellence to help build a long-term, sustainable competitive advantage.

Our capabilities:

STRATEGY & INNOVATION	DESIGN & DEVELOPMENT	DIGITAL MARKETING
Business Consulting	User Experience (UX)	Creative Production
Vision Setting	Visual & Motion Design	Lead Generation
Innovation Workshops	AR / VR Design	Marketing Automation
Technology Audit & Assessment	Mobile Apps	Email Marketing
Digital Strategy & Roadmap	CMS & E-Commerce	SEO & Website Optimization
	Application Development	Paid Media – SEM, Paid Social
	Data & Analytics, Visualizations	

We regularly partner with real estate firms, media and publishing organizations, edtech, and fintech companies, private equity firms, B2B startups and nonprofit organizations.

Trust is at the root of everything we do. Building on trust allows us to encourage and prioritize collaboration between our respective teams. Envisioning a path to success together ensures accountability and ownership. Our approach allows us to diligently and consistently deliver successful transformation projects to our clients.



What drives us

The very origin of Neutrino Advisory (and its name) is rooted in our founder's ideology and belief of creating a model that is lean, flexible, and frictionless for our clients to embrace and adopt. As we like to say: We don't bring fluff to our engagements. We are a non-bureaucratic, nimble, and efficient group of individuals that stand out for our quality of work but fit in seamlessly with our clients' teams. We've truly established a global footprint that is of indispensable value to our clients' successes. Led by a team of experts with Consulting and Agency backgrounds, we have created a culture of innovation and collaboration.

Our DNA? "Well, we don't like inertia. We like to challenge the status quo," adds Rahul. "We are eager to learn new things. We like to take calculated risks as an organization. We adapt to changes quickly. We are constantly evolving as a firm and moving forward. We always bring new ideas and fresh perspectives to our clients and channel partners."



Meet the founder

Rahul Agaskar started Neutrino Advisory in 2016, although the idea of creating something unique had been brewing since 2014. Rahul brings 19+ years of marketing, advertising, finance, and technology experience to Neutrino Advisory. As a champion of innovation and creativity, Rahul focuses on the long-term business goals of our clients and partners to bring their visions to reality. His prior experience working with global agencies such as Digitas and Huge, as well as managing Fortune 100 clients on a regular basis, has brought invaluable insights to the foundation of Neutrino Advisory and its growth.

Rahul brings the focus on key business drivers, value propositions, and strategic outcomes for the enterprise. He leverages his extensive experience in developing business growth strategies to create value for customers.

Rahul has a track record of growing businesses using innovative solutions and with a keen eye on the end consumer. He has successfully completed four mergers and acquisitions transactions in the past and created long-term value for stakeholders, employees, and customers.

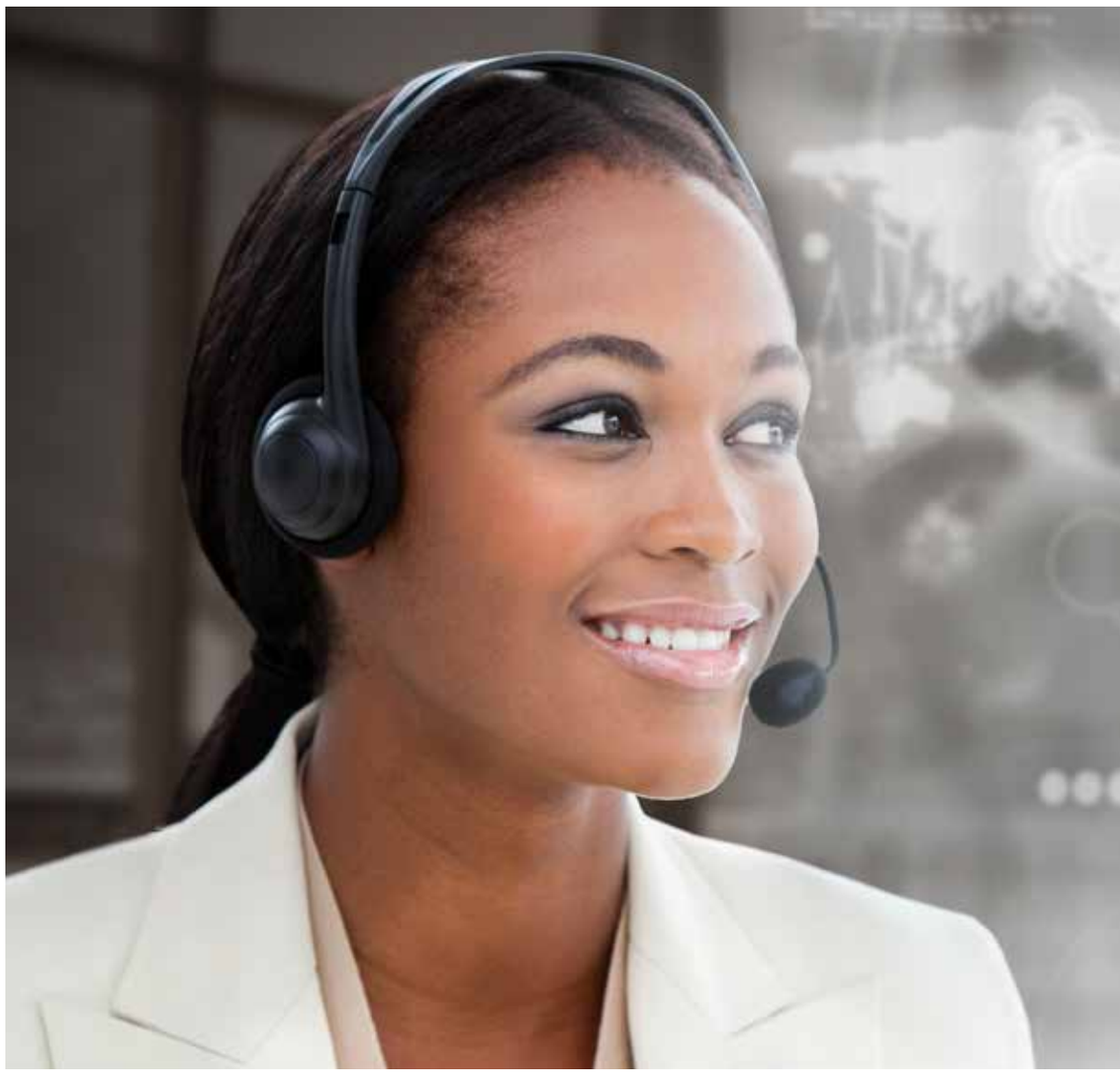
With experience in the marketing and advertising industries across digital and traditional media, Rahul often writes for various marketing and media publications, including MarketingProfs, ClickZ, and MarTech Advisor.

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CLOVER COMMUNICATIONS





ELEVATOR PITCH

Clover Communications advises customers in an agnostic, non-biased format to help them vet available technology solutions, empowering them to make informed business decisions.

OUR STORY

When Clover began in 2008, its mission to offer agnostic solutions stemmed from a strong yet simple belief in the power of an informed choice.

"The reality is that when you work directly for a vendor, you are pigeonholed into the limited set of solutions that they sell" says Dominick Callandriello, Clover Communication's president and CEO. "The reason I founded Clover was to give clients the ability to evaluate all of the available options, ultimately ensuring the best fit for their business."

Even when clients investigate technology solutions themselves, the time and effort spent don't always result in choosing one best aligned with their goals. The wealth of information and options makes it difficult to wade through—and when leveraging technology effectively can be the difference between thriving or failing, finding the right solution is all the more crucial.

By distilling all available technology solutions for its clients, Clover can remain completely agnostic, which in turn frees them to relate to clients' needs and to pull from a world of options in an effort to meet those needs. Clover brings technologies to its customers that they may not know exist which enables their businesses to evolve.

Clover can provide such a broad perspective to its clients because it has invested heavily and has access to tools and software that allow them to extensively assess the various technologies available. They can show their customers all fiber routes from all carriers across the U.S., for example, or data centers everywhere in the world. It gives Clover the power to put different solutions in an "apples-to-apples format" real-time for their clients.

"Our investment in these sophisticated tools enables our customers to make informed decisions," says Owen Hayes, Clover's vice president of operations. "It's one of the things we're most proud of, the way we can leverage our growing knowledge and industry experience for our customers' benefit."

Because most companies purchase technology services about once every three years, they don't realize the variety of terms, conditions, and price points available to them. Even if they were well-informed from a prior purchase, the speed at which technology evolves means that knowledge quickly becomes obsolete. Clover, however, negotiates contracts on a daily basis across technology platforms, which gives them an ever-accurate, holistic view of the marketplace.







"As a 20+ year IT leader managing global infrastructure for large enterprises, I can truly relate to our client's struggles" says Kevin Slate, Clovers vice president of technology. "Clover's approach gives our customers the confidence that they are maximizing their technology investments".

But Clover's commitment to its clients goes deeper than listening to and delivering on client's needs. Clover becomes its client's partner in implementing the solutions they have chosen, which ensures that the client benefits in every way they're meant to. Clover provides full lifecycle support which includes a dedicated client support manager for all customers. Clover's support is the difference between their clients simply seeing the way forward and having the ability to make that progress. It can also be the difference between innovating and lacking the freedom to do so.

"Many companies are running 'lean and mean,'" Dominick says. "Engaging Clover allows customers to be agile in their technology decision making process, which enables them to keep their competitive edge in an-everchanging market."

While navigating a constantly changing industry and marketplace can be intimidating and time-consuming, leveraging Clover allows clients to focus on what's important to their business.

"The products we're selling today are not the same as those we sold ten years ago—not even a few years ago," says Owen. "There's always something new, always a new challenge to overcome. By Clover staying in front of the latest technology challenges, we enable our clients' innovation, too."

clover

clovercore.com



FINTELLIGENT

AN ENTREPRENEUR'S FINANCIAL DEPARTMENT

ELEVATOR PITCH

We help innovators grow their companies faster and more profitably. By relieving their accounting burden, Fintelligent enables business owners to focus on what they do best: building their business. We'll handle everything from basic transaction processing to advice from a Chief Financial Officer. All our work is done in the cloud, so our customers can see their financial performance with the click of a button on any internet-enabled device. Our fixed monthly subscription provides the service our customer needs and can scale with a company's growth. We've had great results; one customer grew sales over 3,000% during our three years together.

OUR STORY

Cash isn't everything. It's the only thing. It's the fuel innovators need for growth. We burn it to hire salespeople or launch new products since that brings in revenue. Staffing up a finance department seems like a drain to most entrepreneurs.

Here's the problem: if a financial department is responsible for managing cash and we fail to invest in strong financial systems, how can we raise outside capital or generate sufficient internal cash flow to sustain growth?



The answer is outsourcing. Advances in technology and the emergence of the gig economy enable emerging companies to "rent" the financial people, systems, and processes needed to generate required sales, profit, and cash flow to sustain rapid growth.

Fintelligent was founded by a growth company CFO. He saw firsthand how young businesses struggled with the basics of accounting and finance. Invoices going uncollected. Bills piling up. Too many dreaded "not enough cash" phone calls the day before payroll.



The problem facing entrepreneurs was that they simply didn't have the time or expertise to keep up with the demands of their company's accounting. While they needed greater business insights, they lacked the funds to hire a CFO and were simply not getting enough out of their bookkeepers.

Fintelligent was created to provide entrepreneurs a part-time, virtual financial department so they could confidently build their business. To do that, we had to innovate ourselves.

Innovating in an industry not known for it

While technology has had a profound impact on accounting (the first commercial IBM computer was to run government payroll), the accounting industry is not known for innovation. Preparing tax returns or conducting audits has largely stayed the same for years. The convergence of ubiquitous high-speed bandwidth, robust cloud software applications, and acceptance of remote workforces have enabled the biggest disruptor in the industry: outsourced accounting services.

Entrepreneurs need more than financial statements two weeks after the end of the month. They want regular performance updates and advice on how to win in the marketplace. To meet this need Fintelligent innovated several things:

1. Development of a robust, cloud-based financial system that automates transaction processing and regularly reports information entrepreneurs want anytime they want to see it.
2. Seasoned employees with accounting and business experience to advise on how to execute better and improve cash flow.
3. Streamlined processes to reduce the work required to enter transactions, automate workflow and approvals, and improve data integrity.
4. A subscription-based business model that enables young, innovative companies' access to a financial system usually available to much larger organizations.

We understand the needs of innovators because we are one ourselves. We struggle with daily ebb and flow of finance and use our own experiences to better serve our customers.



Sarah Gemmen
Director, Client Operations

Sarah started her accounting career in the automotive industry and eventually made her way into public accounting. Sarah has over 16 years' experience in public accounting in many areas from daily accounting and management to corporate taxes. Her area of expertise includes all levels of financial reporting, system integrations, and procedural processes for a variety of industries. She has software certifications in QuickBooks and Intacct. Sarah's passion is assisting businesses in achieving their goals by finding process efficiencies.

Sarah enjoys spending her free time with her family in the great outdoors or in the kitchen cooking together! She holds a bachelor's in Business Administration with an accounting emphasis from Grand Valley State University.



Rob Ripp
Founder, President & Virtual CFO

Rob began his career learning the ways of corporate financial operations while working at Colgate-Palmolive, Lehman Brothers, and Andersen. In 1999 Rob accepted his first full-time CFO Job. In 2003 he became an independent practitioner of outsourced CFO services and launched Fintelligent in 2013. He's done just about everything a growing company CFO does, from startup projections to exits.

Rob enjoys traveling and has visited all 50 states. He has a BS in Business and Economics from Lehigh University and an MBA from Emory University. Rob is a 2017 CFO Innovation Awards Recipient from CFO Studio and a finalist for the NJ Tech Council 2015 CFO Hall of Fame award.

Check out our website to learn more about the innovative culture at Fintelligent and see how we've helped entrepreneurs grow their business.

FINTELLIGENT®

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SOLIX, INC.

ELEVATOR PITCH

Solix, Inc. has a long and distinguished track record of connecting people to essential programs and services through the use of state-of-the-art technology, proven processes, and world-class customer service.

OUR STORY

Solix' diverse clientele span a wide spectrum ranging from government agencies, health insurance companies and telecommunications service providers to schools, libraries, and rural healthcare clinics. These customers rely on Solix to develop solutions that enable them to provide access to funding and services that improve peoples' lives. Through its long-term commitment to innovation and the development of new solutions, Solix has helped clients modernize programs and achieve goals in an efficient and cost-effective manner.

Eligibility determination is one of Solix' core competencies. Determining eligibility based on program or client defined protocols can be challenging to perform proficiently while simultaneously achieving comprehensive compliance requirements. Solix is a market leader in developing and managing process solutions, enabled by technology to provide streamlined access to services while maximizing the use of automation to verify eligibility and ensure program integrity.

Tangible results of employing Solix' solutions include making telephone, electricity, and heating services more accessible for low-income individuals; funding investment in high-speed internet infrastructure for schools and libraries; deploying high-capacity networks to enable telemedicine support services in rural medical offices; and procuring funding to help school districts across the country provide services to students with special needs.

ACCOLADES

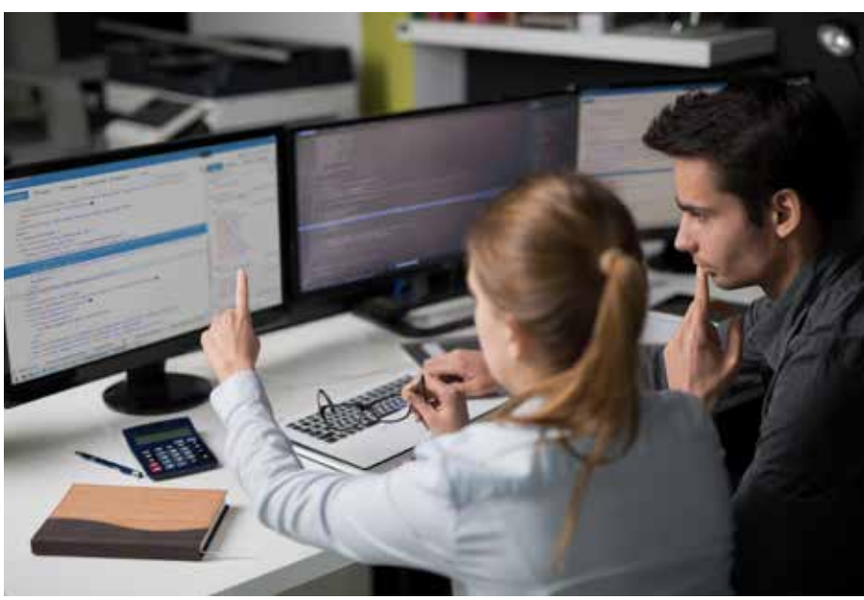
In 2013, Solix was the winner of the New Jersey Project Management Institute's "Project of the Year" for its successful launch of the national Connect2Compete program. In support of this federal initiative to bridge the "digital divide" by making broadband services more available to families, Solix designed and deployed user-friendly systems and processes that streamlined and automated the application process.

The following year, Solix was chosen as a finalist for "Best New Mobile Customer Strategy" at the Call Center Week Excellence Awards Conference in recognition of its innovative approach to using mobile technology as a means of data and document intake.

Solix' mobile customer support platform is customizable and evaluates applicant information using algorithms that accurately determine eligibility in real time. Fraud controls and logic were created by Solix to instantly validate applicant information and detect potential fraud. At the end-user level, the applicants' experience was enhanced by reducing the eligibility process from days to minutes.

In 2017, the company was again recognized for its innovation when the Workflow Management Coalition bestowed its "Excellence in BPM and Workflow" award for Solix' intelligent business process management (iBPM) platform. Known as Solix360, this platform is an agile workflow automation solution designed to streamline complex business processes. Fully cloud-based and geo-redundant, Solix' iBPM solution significantly reduces the time to prepare applications for processing, and to design and implement workflows. Privacy and data security is a primary focus and is achieved through layered protections, including multiple point encryption and secure replicated architecture. Solix360 has also enabled rapid prototyping and implementation of client-specific business rules to reduce the time-to-market for key client initiatives.







Key enhancements to the platform include Solix' data analysis and business intelligence (BI) reporting tools that offer prescriptive analytics capabilities. By utilizing these tools, Solix helps customers increase program participation rates, improve sales effectiveness, and enhance their return on investment.

Innovation has been a staple at Solix since the company's inception. Solix will continue to invest significant time and resources in technology and process innovation, which will drive the company's ability to continue to evolve and support changing client needs and marketplace demands.



SOLIX

A Passion for Precision

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solixinc.com

ARTEZIO

CREATIVE. INNOVATIVE. AGILE—NEW WAYS TO REACH BUSINESS SUCCESS



ELEVATOR PITCH

Investment in digital technologies is a key element of any business development in the modern world. Large and small enterprises realize that the future belongs to digital services and approaches. However, understanding or wishing to invest money in digital solutions is not enough to make your business a success. At Artezio, we believe in three ways to success for any enterprise or business.

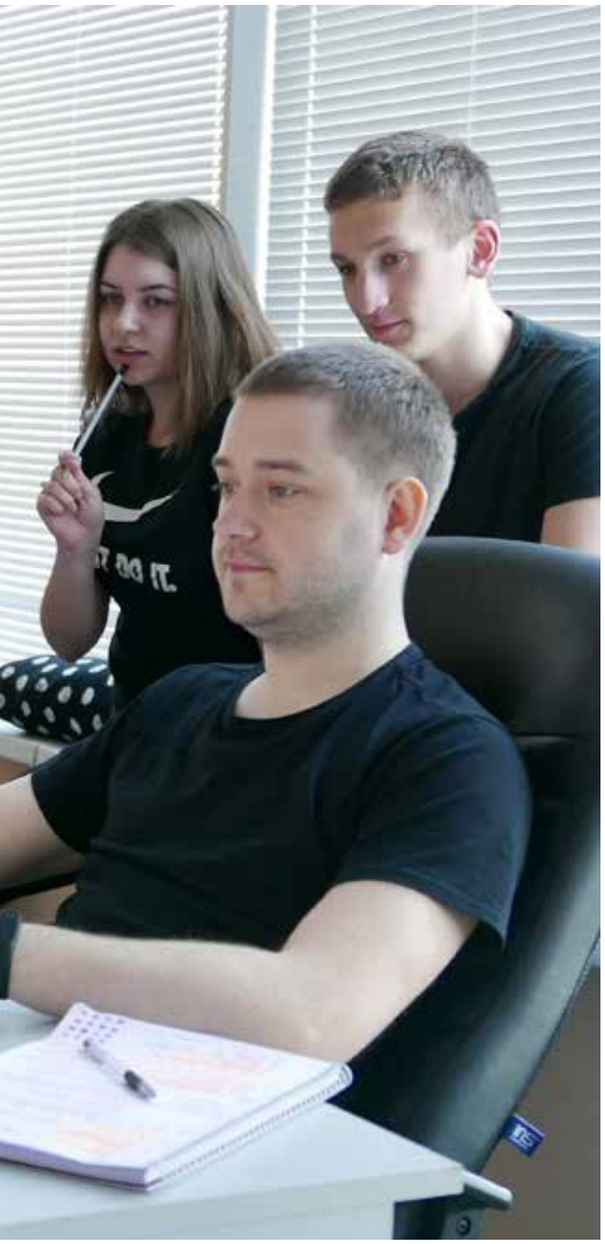
The first one is creativity, the ability to distinguish itself among competitors. What makes a business noticeable? A unique product, the ability to work quickly and accurately, scalability, and continuous development. Digital services and automation influence these indicators. Today, it is commitment to digitalization that makes businesses more efficient and scalable and opens up opportunities for taking a creative approach. If you want to solve a problem, you need to use a non-standard creative approach that will make the business strategy successful and the business itself noticeable. We should not forget about innovation, without which it is impossible to develop in a tough competitive environment.

OUR STORY

Creativity and innovation are the core of numerous projects developed at Artezio. We bring innovation to different business areas and transform classic business processes. Thanks to the ideas of our team, we changed the look of the healthcare sector in one of the largest European cities. Based on an innovative approach, we automated and transformed a huge number of processes in the field of energy and logistics. Our digital solutions have become the "fuel" to accelerate the development of businesses with complex processes in the oil production and refining sector. Evaluating our projects, we see how much business success depends on creativity and technological innovations. They are able not only







to distinguish a company from others, but also to make it truly successful.

Creativity and innovation are the essential components for success. But they need to be combined in the right proportions; not just applied to solve a problem, but done according to the interests of a business and the final result. Thus, we should always get a solution that will work effectively according to the goal. This requires an Agile approach because it can guarantee that a project meets clients' expectations and it will help effectively customize the development process taking into account all the nuances. By applying Agile in our projects, we provide a bridge between technology and business, creating the conditions under which enterprises can flexibly influence the digitalization processes of their tools. Therefore, it is the business that best knows its needs, plays a key role in the development of projects, and gets the best result.

Creative, Innovative, Agile are the concepts that can exist separately. Artezio helps technology-driven companies develop outstanding software products combining these concepts and offering a truly new pathway to success.

ARTEZIO

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Artezio CEO Pavel Adylin

Pavel Adylin has two degrees in electronics and banking as well as having significant experience and expertise in the financial industry. He began his career as a software engineer in the research area. Since 1993, Pavel Adylin has been involved in the creation of a number of commercial companies acting as a senior executive where he has managed IT projects, provided general management, and business development. In 2000, he founded his own company Artezio and became its CEO. Pavel Adylin has determined the pace and development strategy from the first day of the company's existence to the present. Thanks to his influence and decisions, the company has achieved rapid expansion and today has its own development centers in different countries of the world.



Artezio COO Dmitry Rodionov

Dmitry Rodionov is an expert in software solution promotion and business development. He is the Head of Artezio's representative office in the US and defines the commercial relations in the US market. Before joining the company, Dmitry worked with a multinational IT service provider. At Artezio, he held senior business development positions and now is the Head of the US office. Dmitry is the driver of numerous key projects for the company. He has initiated the development of high-tech solutions for banking, financial, healthcare sectors, etc.



"Business has only two functions—marketing and innovation."

—MILAN KUNDERA

CHAPTER 10

MARKETING, ADVERTISING & MEDIA



INVIDI TECHNOLOGIES CORPORATION

INVIDI TECHNOLOGIES LEADS THE WORLD IN DEVELOPING AND IMPLEMENTING ADDRESSABLE TELEVISION ADVERTISING.





ELEVATOR PITCH

INVIDI's platform empowers marketers to target individual households that represent likely purchasers. For television distributors, INVIDI increases the value of advertising inventory.

OUR STORY

Before INVIDI developed this innovative technology, the same ads were delivered to all households, regardless of whether they matched the advertiser's target audience. This imprecise approach resulted in wasted reach. In other words, advertisers were delivering to households that had no interest in their products or services. In contrast, INVIDI's addressable technology sends out, in a privacy-protected manner, television ads to individual households that match marketers' target audiences. In the United States, INVIDI's solution is deployed by DirecTV, DISH Network, Verizon FiOS, and, soon, Altice. We are also deployed in several European and Latin American countries, with further global expansion planned.

In addition to wasted reach, INVIDI has tackled and overcome two other significant hurdles in television advertising: viewer distribution over a wide universe of networks and the draw of advanced analytics promised by internet marketing. Since the advent of cable television in the early 1980s, the audience reach achieved by any one program diminished greatly because there were so many new networks. And the rapid rise of online advertising provided marketers with a medium that could not only target a specific audience but also analyzed and attributed results with extraordinary accuracy.



Phil Fine, Senior International Program Manager and Mike Festa, Distinguished Software Developer







Cindy Mariani, SR Director of Financial Operations; Somnath Chandrahasa, Principal Ad Insertion Technologies SW Dev Architect; Manoj Patel, Director of International Operations; Glen Sangimino, VP of Operations; Alden Lloyd Peterson II, VP System Architecture and Effie Lally, SR Accounting/ HR Coordinator & Executive Assistant

INVIDI's addressable technology successfully responded to both challenges. By pooling the viewers watching any given commercial break, INVIDI reaggregates the audience to the point where, in the words of INVIDI's CEO Dave Downey, "We can run a Super Bowl-sized audience every night." And because the technology is targeted to individual households, ad campaigns can be tracked, measured, and optimized, as in online advertising, but vastly improved in the superior medium of television.

INVIDI recognizes that viewers are watching television programming using different methods: traditional linear television, online streaming, and mobile devices. In response to the changing viewer landscape, INVIDI is optimizing its addressable technology to work seamlessly with all distribution channels.

In 2017, recognizing its market leadership, impact, and potential, a consortium consisting of AT&T, DISH Network, and WPP (one of the largest advertising companies in the world) acquired INVIDI.

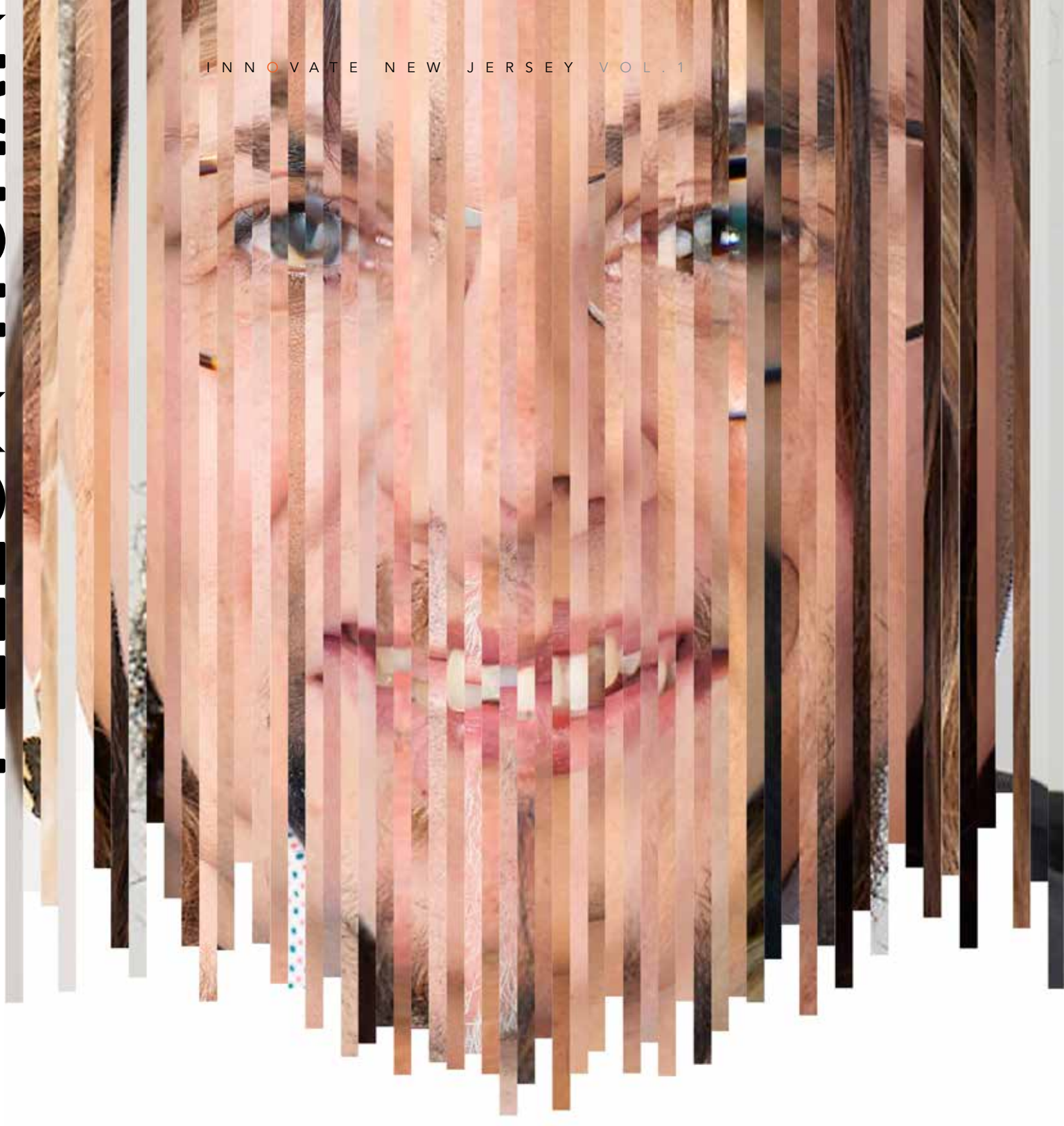
In 2019, INVIDI increased its global leadership position within the addressable advertising marketplace by acquiring Pulse, an international streaming platform. Pulse recently set a record for the largest number of commercials served simultaneously – over 18 million during the International Cricket Championships.

While headquartered in Princeton, INVIDI continues to deploy its solution internationally. Of late, INVIDI has made significant progress in distributing its solution in Europe, Latin America, and Asia and aims to transform television across the world.

INVIDI

invidi.com

PLEASED TO MEET YOU
FELLOW HUMAN



ARTIFICIAL INTELLIGENCE IS NOTHING WITHOUT THE RIGHT HUMAN INTELLIGENCE BEHIND IT.

We are Marketsmith. We put our whole selves into everything we do. We are content creators, data scientists, client specialists, brand communicators and creative crafters. We're the humans behind the technology. The life breath that begins machines learning, intelligence accumulating and stories spinning.

We are MARKETSMITH



The Outcomes Agency

Marketsmith offers a powerful suite of unique product offerings that can be utilized by clients as an integral part of their campaign planning, as off-the-shelf solutions available to all marketers, or in consultation with our staff of data scientists and analysts to make the most of your data. Each solution is powered by our proprietary Marketsmith IQ platform, designed by and for marketers. How you choose to use them is up to you. Making sure that you use them well is up to us.



MERCHANDISE INTELLIGENCE

Merchandise Portfolio Optimization for Retailers

Get a comprehensive view on your entire product line to support critical business decision making.



RETAIL INTELLIGENCE

Understand your total retail performance. Every store. Every day.

A transformational product that delivers fast, actionable insights quickly and easily, from massive amounts of store data.



MODELING AND DATA SCIENCE

Where Science Meets Soul

Our capabilities are built on proven, patented technology and powered by machine learning and AI, informed by our experience.



DYNAMIC SCORE CARDS

When We Score, You Win

We ensure outcomes by delivering our clients customized, digital scorecards based on their specific needs, goals and objectives.

NEW JERSEY ROOTS

We're an agency with international reach but we're New Jersey to the core. Marketsmith is Jersey born and its roots in the community matter. When it comes to media buying, relationships and understanding the landscape – we know Jersey. And we give back to the state that's provided a base for our roots to grow. We're proud to be part of philanthropic endeavors co-founded by our CEO ranging from ending child hunger to providing sanctuary to unadoptable pets. As we say, "We do great work so we can do good things."



CEO Monica C. Smith founded Marketsmith, Inc., in 1999 on the belief that technology and humanity are inextricably linked when it comes to creating successful consumer-centric marketing campaigns. Today, Marketsmith is a leader in in data-driven direct-to-consumer strategy, and is the only woman-owned and operated advertising and martech agency of its kind.

We'd love to help your business on its journey from challenger to champion, or provide the tools and intelligence to keep you on top. Reach out at

MARKETSMITHINC.COM/CONTACT-US

MARKETSMITH



MARKETREACH

TELEMARKETING DONE PROPERLY IS AMONG THE ONLY MARKETING METHODS TO INCITE TWO-WAY COMMUNICATION.

ELEVATOR PITCH

MarketReach tackles the important but time-consuming task of acquiring those coveted in-person or phone sales appointments to help grow their client's business, faster! Additional integrated marketing techniques help support the entire sales pipeline by offering clients a leg-up to get in their prospect's door through multi-channel marketing activities.

OUR STORY

It's a new decade and yes, Cold Calling still works

The prospecting side of sales is a restless and evolving component of the total sales process. It could not possibly sit around and remain the same. Change in sales processes were inevitable, whether we liked it or not.

Modern-day buyers no longer have to rely solely on the information given from a salesperson since research is at their fingertips. Information on a company's reputation or client reviews are just a click away. However, the transaction of the sale, particularly in B2B, is still often made between the vendor and buyer.

So how do companies get a chance to present buyers their value proposition?

Enter MarketReach. Outbound telemarketing still has its place when it comes to getting salespeople more at-bats with their hard-to-access prospects. Telemarketing and Appointment Setting remains an effective solution for direct engagement, particularly for B2B strategies, but also in engaging the B2C marketplace. Telemarketing done well is among the only marketing methods to incite two-way communication. It is this form of direct engagement that effectively manages a business relationship, finds underlying needs and pain points, and nurtures leads into clients.

Cold calling is alive and well – but a cold call with smart research, and a consultative approach with asking questions to both receptionists and decision-makers replaces the old way of telemarketing.

"Over 15 Years ago, pre-LinkedIn, you couldn't research your prospect," says MarketReach CEO, Amanda Puppo. "You could make the ultimate intro-to-close back then that sounded like, 'Hi Bob, my name is Amanda from XYZ Vending company, I'll be in your area next week, and I'd like to pop in for 10 minutes to talk about some breakroom options, can we meet Tuesday or Thursday?' "





Amanda Puppo, CEO

Today's decision-maker is savvier and less tolerant from a typical ice-cold telemarketing call with no rapport, no substance.

Yes Marketing, Qualification IS your job!

According to Hubspot, salespeople claim that only 7% of leads are qualified. A travesty, indeed! Good closers require qualified leads, and if they can work a steady pipeline of these leads, they will close more deals, faster.

63% of companies simply cite "not enough of them" as a barrier to growth.

Differentiation Through Innovation

MarketReach's proprietary phone sales presentation employs 12 principles that are the most cutting-edge in the industry. The priorities for staff excellence provide a unique advantage to reach key executive-level decision makers. MarketReach's innovative methods increase engagement and build rapport while aligning client solutions to each prospect's individual needs. MarketReach's premium service relies on a high-level understanding of the client's offering, thorough script guideline development and effective staff training. Initial prospect research, along with methodologies and carefully crafted phone outreach are what differentiates its appointment setting capabilities.

The Division of Labor

Good closers only belong in one place in the sales process – and that is at the closing table. Asking a good closer to do the bulk of his own prospecting is like asking an established owner to produce their own invoices for hundreds of clients instead of deferring that to the office manager. How much you do you pay that salesman to do the necessary grunt work side of sales?

Facilitating Sales, and Moving the Needle for Clients

A family-owned vending and catering company expanded their business to include additional offerings, and immediately recognized a need to adopt strategies for B2B marketing, sales and lead generation. They had a good closer that had been with them for six months that they wanted to feed a pipeline to get deals closed faster, and also for retention of the salesperson.

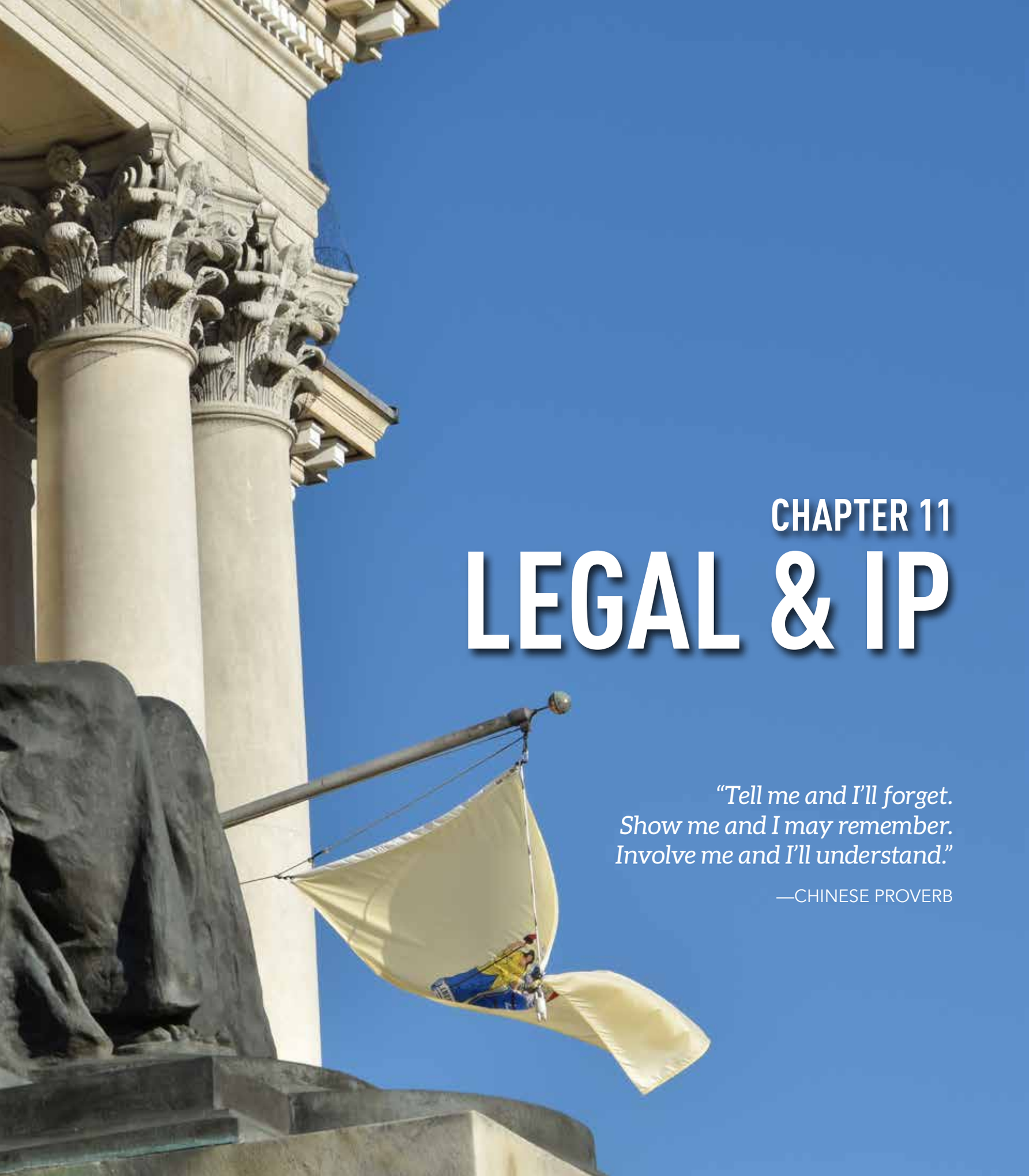
The campaigns yielded $1.2+ million closed sales and an additional $1 million in projected sales with prospects in their pipeline. The closing ratio from high quality appointments was 35%. These are the numbers that get MarketReach excited and points towards a successful long-term client relationship.

More Value for Clients

MarketReach's bread and butter is still in setting highly qualified meetings for clients through one-to-one phone engagement, however, the company now offers ancillary services to support an entire sales pipeline. Services include a LinkedIn Connection & Awareness program, monthly email newsletters, and sales collateral. By using a multi-channel approach, the MarketReach team has been able to reach a larger audience with the right message at the right time, delivering more value to clients. For more information, log on to MarketReachResults.com or call 609-448-6364.

MarketReach
marketreachresults.com


NEW JERSEY
NEW JERSEY



CHAPTER 11
LEGAL & IP

"Tell me and I'll forget.
Show me and I may remember.
Involve me and I'll understand."

—CHINESE PROVERB

DLA PIPER

DLA Piper was ranked the No. 1 legal advisor for global M&A deal volume by Mergermarket and Thompson Reuters and was ranked among the top five law firms for venture capital in PitchBook's annual global league tables report.





ELEVATOR PITCH

As home to Thomas Alva Edison and nine-time Nobel Prize winner Nokia Bell Labs, New Jersey has a history of attracting top innovators in their fields. So it should come as no surprise that in 2010, DLA Piper opened its Short Hills office to offer sophisticated legal expertise on a global scale to client companies navigating complex business challenges.

OUR STORY

DLA Piper started the office with four attorneys committed to working in partnership with the region's technology and life science entrepreneurs. That alignment served the office, its clients, and the larger entrepreneurial ecosystem well. Today, more than 25 lawyers represent a broad cross section of private equity firms and private and publicly listed companies operating across industry verticals, legal jurisdictions, and development stage. "Contributing to the development of entrepreneur-led startups into larger commercial enterprises and New Jersey's ecosystem as a whole has been a unique and exciting role," says Andrew Gilbert, co-managing partner of DLA Piper's Short Hills office, global co-chair of the firm's Life Sciences sector, and a member of its Corporate practice. "I primarily work with companies in the technology, life sciences, and healthcare industries, as well as investment firms that serve those sectors."

With DLA Piper, clients have found a partner not only committed to serving the region's innovators, but also a firm that is utilizing technology and data to better serve its clients. Earlier this year, DLA Piper was ranked the No. 1 legal advisor for global M&A deal volume by Mergermarket and Thomson Reuters and was ranked among the top five law firms for venture capital work in PitchBook's annual global league tables report.

While advising on a transaction, Gilbert said he and his colleagues make frequent use of the firm's extensive collection of data related to past matters handled by its lawyers. "A key advantage we have is our ability to capture historic deal data through our internal systems and deploy it for the benefit of our clients," Gilbert said. "As we're negotiating an agreement, we don't get stuck on a particular issue—we have a lot of precedent to look back at, analyze, and act upon. This helps us move through potential obstacles more quickly and results in a cost-effective and efficient result for the client."

The ability of the firm's lawyers to collaborate directly with one another—even though they may be located on opposite coasts or continents and in different









time zones—is an important advantage, Gilbert said, adding that he frequently works with DLA Piper attorneys in the Silicon Valley, London, Hong Kong, Atlanta, Austin, and Washington, DC, markets.

"New Jersey is an especially active market for the fintech and biotech sectors, and players in these areas are dealing with increasingly complex challenges and evolving regulatory environments," he said. "The scope of our platform, both in terms of geography and our wide range of practice groups that collaborate to work on matters, means we are uniquely suited to offer clients sophisticated but practical legal solutions that are tailored to them."

DLA Piper's fintech practice advises financial services clients on leveraging technological innovation, protecting their technology and trade secrets, and establishing compliance with relevant laws and regulations. Along with fintech, the firm has also launched practices devoted to artificial intelligence, proptech, and blockchain and digital assets. DLA Piper's Life Sciences sector team combines subject-matter experience with considerable knowledge of the sector, including the scientific, medical, regulatory, commercial, and enforcement environments facing biopharmaceutical, medical device, research, and diagnostics clients.

"We continue to make strides in improving our ability to serve today's innovators in science, technology, medicine, finance, and more, whether they are large, established corporations, startups, or investors," Gilbert said. "We know today's innovation economy will continue to evolve and are excited by the firm's historic role in growing the ecosystem and future opportunity to accelerate advancements that matter."

dlapiper.com



MORGAN LEWIS

ELEVATOR PITCH

At Morgan Lewis, we work in collaboration around the world—always ready to respond to the needs of our clients and craft powerful solutions for them. From our offices in strategic hubs of commerce, law, and government across North America, Asia, Europe, and the Middle East, we work with clients ranging from established, global Fortune 100 companies to enterprising startups.

OUR STORY

Our team of more than 2,200 lawyers and specialists provides comprehensive corporate, transactional, litigation, and regulatory services in major industries, including energy, financial services, healthcare, life sciences, retail and e-commerce, sports, technology, and transportation. We focus on both immediate and long-term goals with our clients, helping them address and anticipate challenges across vast and rapidly changing landscapes.

We approach every representation with an equal commitment to first understanding, and then efficiently and effectively advancing, the interests of our clients and arriving at the best results. If a client has a question, we'll







immediately find the person in our global network with the answer. If there's a shift in the legal landscape, we're on top of it, and our clients will be, too.

For more than 25 years, the Morgan Lewis Princeton Office has served the needs of major corporations and emerging growth companies in this dynamic technology community and from around the world. The "Route 1 Corridor" is home to numerous financial services, life sciences, and technology companies. The office's lawyers serve a wide range of clients, from early-stage biotechnology startups to global pharmaceutical companies, as well as private equity, venture capital, and investment banking firms focused on the life sciences, financial services, and technology sectors.

Our corporate, finance, and business transactions lawyer's focus on life sciences, technology, financial services, and healthcare clients as well as a public and private securities and mergers and acquisition transactions. We advise these companies at every stage in the business life cycle, with particular strength in counseling pharmaceutical, biotechnology, and medical device companies as well as the entities that invest in them, such as venture capital and private equity funds.

The firm's labor and employment lawyers handle the full spectrum of labor, employment, and benefits issues, counseling companies large and small on preventative strategies and litigating employment disputes in federal and state courts and regulatory agencies.

Our team of federal and state court litigators, part of the more than 700 litigators in the Morgan Lewis national litigation team, handles a wide range of business disputes, with a special emphasis on large-scale, high-profile class action and other complex litigation including securities, patent, toxic tort and Superfund, and product liability litigation.

Founded in 1873, we stand on the shoulders of nearly 150 years of achievement, but we never rest on our reputation.





Morgan Lewis

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morganlewis_law

morganlewis.com



Steve Cohen
Managing Partner,
Morgan Lewis



GIBBONS P.C.

OUR STORY

Gibbons is known as a "go-to" law firm in New Jersey for public and private sector clients engaging in trailblazing projects, transactions, and litigation with statewide implications. To guide the innovators who drive the state's economy, Gibbons has to be equally innovative with its legal and client services. Some creative solutions we have recently crafted for some of New Jersey's key thought leaders are described here.

- One of the country's leading power producers recently designed and built a work-in-place laboratory mirroring its entire grid, which enables its collaboration with various parties to adapt, test, and analyze, in a laboratory environment, technological advancements and power grid enhancements prior to implementation into the actual grid. This project was the first of its kind in the nation. Gibbons, representing the power producer, played a key role by creating unique multiparty, multimember data licenses to build the laboratory, facilitating the robust exchange of confidential data among 15 different organizations while protecting the various members and heightening the laboratory's effectiveness.
- A leading international boutique law firm engaged Gibbons to create a joint venture connecting lawyers and nonlawyer professionals with one of the premier global consulting and accounting firms. This combination of two major categories of professionals that have not traditionally forged global relationships was motivated by significant new market growth opportunities that have arisen thanks to changing rules governing the way lawyers, accountants, and other consultants can work together. Creating this relationship required in-depth navigation of the existing rules of the respective professional areas and merging them into a single, visionary joint venture that received national attention.





- Representing the New Jersey Legislature in connection with laws to permit wagering on sporting events in casinos and racetracks, Gibbons helped make way for legal sports betting throughout the US. After various sports leagues—the NCAA, NBA, NFL, NHL, and MLB—sued to enjoin implementation of these laws, Gibbons presented an innovative defense seeking to declare unconstitutional the federal law the sports leagues claimed the legislation violated. The case made its way to the U.S. Supreme Court, which, in a groundbreaking decision, decided in favor of the defendants. The New Jersey bill became state law, and several other states are poised to follow suit.
- Gibbons worked closely with a life sciences client to obtain approval for a pioneering "abuse deterrent opioid," a first for the industry. As part of this process, Gibbons assessed a long list of interested parties with built-in conflicts of interest among them, in order to create a custom internal governance policy with consistent standards among the parties. This governance policy ultimately enabled the historic approval of this cutting-edge product.
- An early-stage rideshare services innovator approached Gibbons with a soon-to-be-granted patent application. Gibbons immediately recognized the application's weak claims and vulnerability to capture rights within the rideshare security space, including ADA requirements. Gibbons modified the application in a realistic, market-wise way. The new application significantly boosted the client's intellectual property protections and prospects, particularly in light of recent public outcry about passenger safety in rideshare vehicles.
- Gibbons represents numerous innovative clients that are investing billions of dollars to transform New Jersey's cities and brownfields, using public-private partnerships and creative financing to achieve results that are literally and figuratively groundbreaking: bringing market-rate housing back to downtown Newark with the first new residential high-rise building in years; reviving tourism in Asbury Park with the first new hotel in decades; constructing the first new multifamily housing project in Atlantic City on a property cleared for redevelopment but left vacant for over fifty years; and planning the construction of a new community on one of the state's most complex brownfields.

With its Newark headquarters and offices in Trenton and Red Bank, Gibbons has a prominent statewide presence to base operations when helping to execute some of the most significant corporate transactions, real estate projects, lobbying initiatives, and wide-ranging litigations in New Jersey.

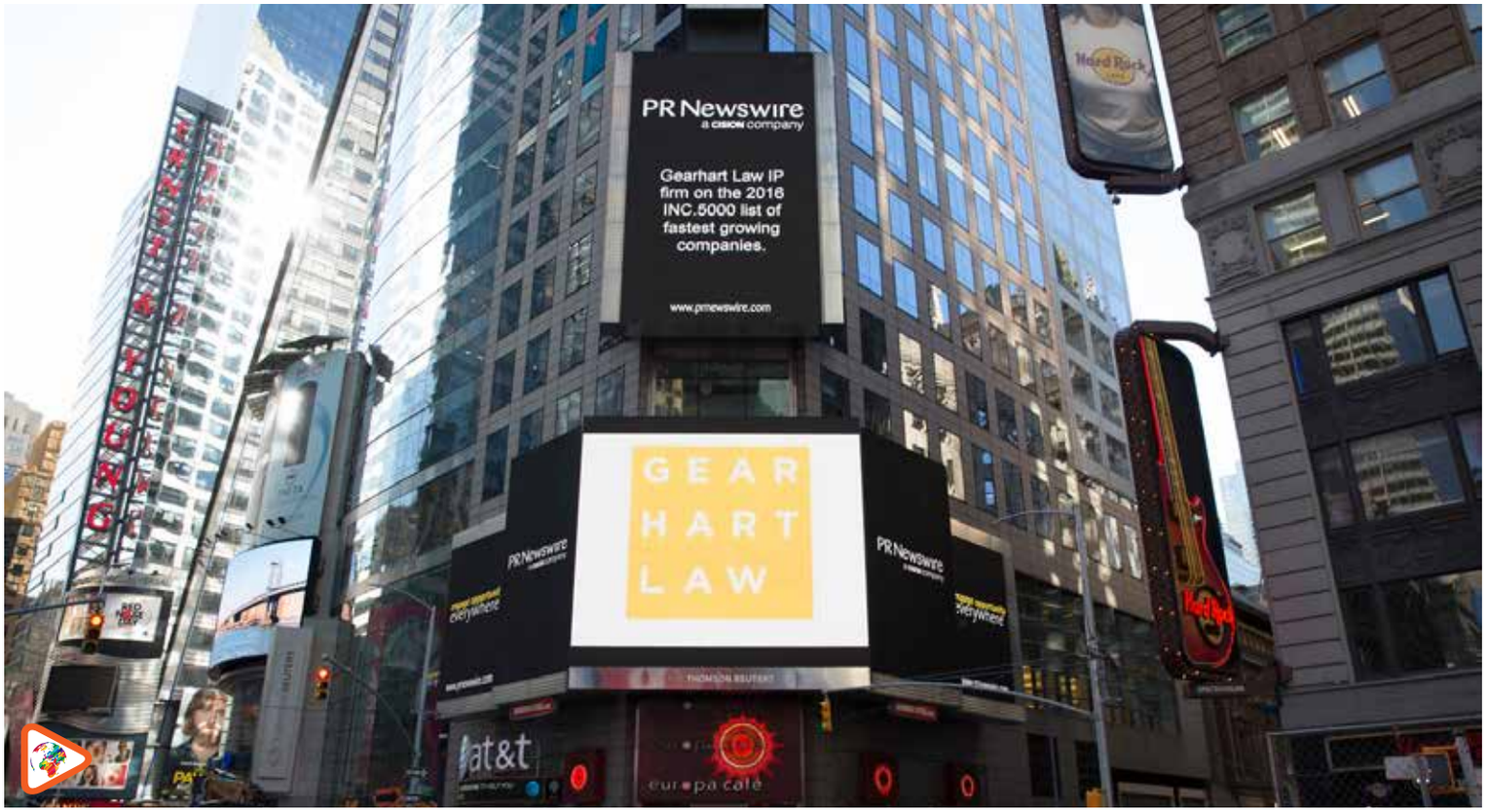


Patrick C. Dunican, Jr.
Chairman and Managing Director



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GEARHART LAW



Part of the Gearhart Law Team

ELEVATOR PITCH

The principals at Gearhart Law have been protecting clients for almost three decades. In fact, from individual entrepreneurs to global businesses, we've helped launch more than eighteen hundred companies all over the world.

OUR STORY

Founded in 2006 by Richard Gearhart, Gearhart Law is literally geared towards protecting individual inventors, entrepreneurs & startups, corporate & international partners. The firm was developed by Gearhart with the specialized needs of entrepreneurs in mind in the New Jersey, New York, and Philadelphia area. Most attorneys work as generalists, so they don't have the specialized experience and training to the deliver the quality that's necessary to handle the intricacies of:

- Patents
- Trademarks
- Copyrights
- Trade Secrets
- Prosecution
- Litigation
- Filings
- Trademark Watch Service
- Freedom to Operate

The firm's vision, expertise and craftsmanship help entrepreneurs in these highly technical and complex areas where it's always recommended to seek out legal advice from reputable professionals like Gearhart Law. The firm goes the extra mile for its clients, placing an emphasis on creative legal solutions and custom crafted protection strategies that are tailored to each client's business and technology.

Entrepreneurs

The firm maximizes IP protection, delivering great value by creating an IP portfolio that is attractive to investors, and a portfolio that is scalable into all



Richard Gearhart interviewing David VanEgmond of FanDuel at the NJTC Venture Conference at NJIT



Richard and Elizabeth Gearhart with participants in Passage to Profit at iHeart Studios



Richard giving a guest lecture at Rutgers MBS (Masters of Business and Science) program





Richard Gearhart, Elizabeth Gearhart, Andy Breckman at iHeart radio studio taping Passage to Profit

markets and geographic areas as a company grows. Gearhart Law can help you leverage your IP budget to their best effect by proving expert advice.

Investors

Investors want to ensure that all IP bases are covered. They want their investment to be free from third party Intellectual Property threats. And they want an Intellectual Property portfolio that will create business leverage for products as sales grow, both domestically and internationally. They want IP that will stand up to the scrutiny when challenged in the marketplace or reviewed during an exit. The principals at Gearhart Law have extensive experience in all aspects of patent and trademark due diligence, both from the investor side and from the acquired side.

Gearhart Law's Chief Marketing Officer, Elizabeth Gearhart is creatively and consistently upping the marketing efforts for the firm, but most importantly the success of its clients. The firm is always aware of current events in the IP world, USPTO changes, and trends across social media. Unlike most firms, Gearhart Law also keeps the IP space educational, innovative and fun with a radio show and podcast on iHeartRadio, 'Passage to Profit'. Gearhart Law's Richard and Elizabeth Gearhart co-host the weekly show, every Sunday night on the iHeart app and WOR 710 at 8:05pm. The show features an interview with an accomplished speaker and a pitch contest. The generous sponsors ensure that entrepreneurs get to pitch for free to thousands of listeners.

Whether you need help navigating the details of patent law for your latest invention or you need assistance protecting and safeguarding your intellectual property, you can trust that we're always here to help. The Gearhart legal team strives to build deep rooted relationships with our clients.

- We are here when you need us.
- We provide proactive information about the process and issues that may affect your business
- When you have a question, you can talk directly with the individual who is working on your matter.

At Gearhart Law your success is our success.

GEARHART LAW

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PASSAGE TO PROFIT
MOVING IDEAS

MOSER TABOADA

INTELLECTUAL PROPERTY ATTORNEYS

ELEVATOR PITCH

Providing high quality Intellectual Property and commercial legal services, custom-tailored to each client's specific business needs. From established Fortune 500 Company to emergent start-up, every client is provided timely and cost-effective legal services.

OUR STORY

Moser Taboada is a boutique Intellectual Property (IP) law firm that was formed in 2005 by Raymond Moser, whose forward thinking vision set the groundwork for the firm we are today. Ray and current partners, Alan Taboada and Len Linardakis, are New Jersey natives with over 50 years of patent and trademark prosecution experience, and knowledge of the diverse network of opportunity available throughout the world.

Fortunate to reside and work close to the beautiful Jersey Shore, our firm is proud to serve a number of local businesses, and to gratefully support homegrown cultural institutions such as the Count Basie Center for the Arts in Red Bank.

In addition to servicing local businesses, our firm provides legal solutions to large companies that are global leaders in such areas as telecommunications, integrated circuit manufacturing technology, materials science, solar energy technology, artificial intelligence, internet of things devices, smart energy systems, pharmaceuticals, as well as designing protective safety wear for the healthcare and manufacturing industries.

Our Business is Knowing your Business®

From the onset of our representation, we work together with our clients to gain a deep understanding of why they want to protect their IP so we can create a strategy that fits their business model and business goals. We provide clear, practical, creative solutions to satisfy their immediate business needs, maximize the value of their IP portfolio, and achieve their long-term goals.

Moser Taboada is constantly analyzing how we can better serve our clients. Our docketing software systems and workflow procedures are routinely analyzed by our office systems group to improve office management, client relations and overall workflow efficiencies.

Our Approach is Innovative

Moser Taboada has IP practitioners (attorneys, patent agents and patent engineers) working in the US and India. Our US offices are located in: Shrewsbury, New Jersey (headquarters); San Jose, California; and St. Petersburg, Florida. Our Indian offices are located in New Delhi and Bangalore.

Our US-based practitioners provide IP legal services to clients throughout the world, while our Indian offices provide back office administrative and support services to our US practitioners. This combination of on-shore and off-shore practitioners enhances our ability to provide high-quality work at a reasonable cost. Our IT systems allow our multinational support service team to operate seamlessly in support of providing global IP protection to our clients. We have protected IP for clients in 195 different countries.

Virtual In-House IP Counsel® Program

As featured in The Financial Times, FT.com, 2016, Moser Taboada's Virtual In-House IP Counsel® program enabled our client, Ansell Ltd, to be selected most innovative In-House Legal Team in 2015.

"A team of just 11 attorneys at Ansell supports the $1.6bn global healthcare business by using technology and leveraging external relationships. An outsourcing arrangement with Moser Taboada, the intellectual property boutique, helps monetize intellectual property assets and generate profits."

In essence, we provide "in-house" IP counsel services to clients that lack in-house IP counsel. Such services can include regular on-site visits to the client, establishing programs to solicit invention disclosures from employee/inventors, offering web-based docketing services that are accessible to our clients, selecting the best form of IP protection to match a client's business needs, and developing strategies for holistically protecting an IP portfolio.

For many companies, this program is a cost-effective way to receive on-demand IP legal support from a broad team of legal experts.

The Future is Bright

We look forward to collaborating with and providing IP protection to the best and brightest innovators in New Jersey and beyond.





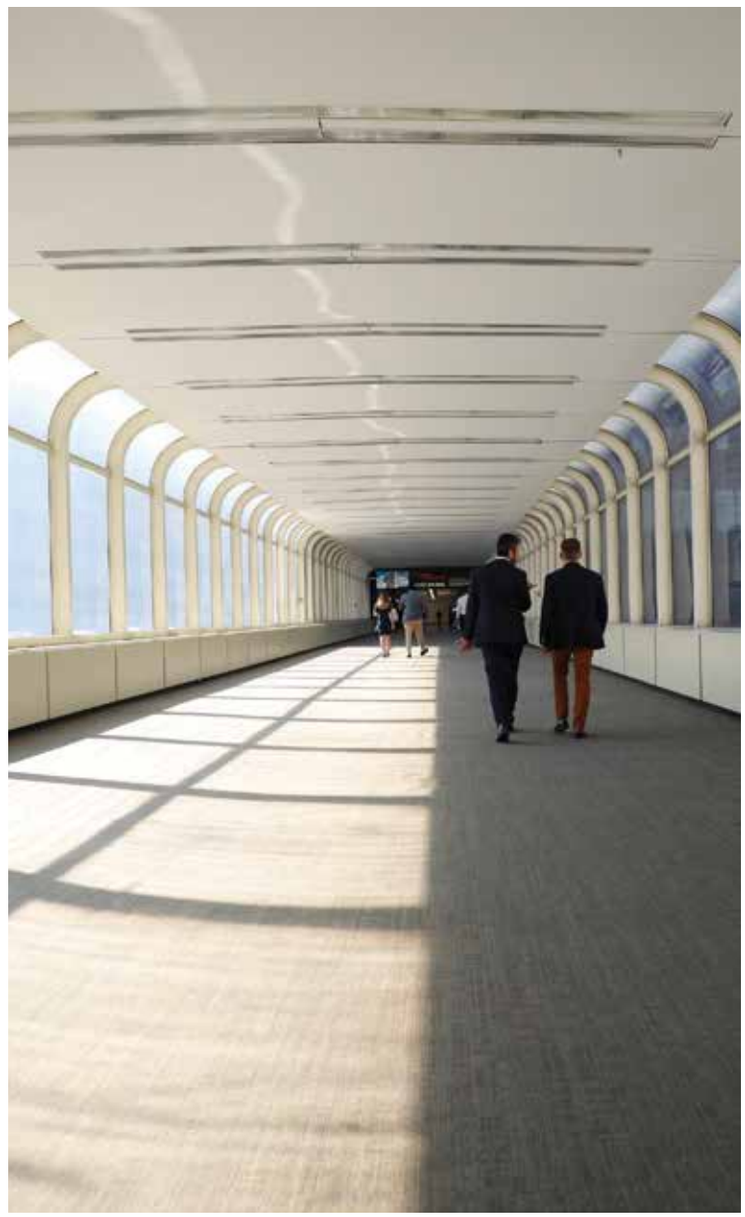


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McCARTER & ENGLISH

OUR EXCEPTIONALLY SKILLED LAWYERS DELIVER CREATIVE SOLUTIONS AND OUTSTANDING VALUE TO INNOVATIVE CLIENTS NATIONWIDE. WE EMPOWER CLIENTS THROUGHOUT THE DEVELOPMENT CYCLE—FROM IDEATION TO CREATION, CAPITALIZATION, IMPLEMENTATION, COMMERCIALIZATION, AND MONETIZATION.





"We regard the McCarter & English team as a highly skilled group of operators who are very well-versed in our business and space." —*Chambers USA*

"They are a cohesive unit that works efficiently and takes the time to understand our business and our goals." —*Chambers USA*

Global recognition.
Our dynamic practices and highly skilled lawyers rank highly for our excellent performance and client services. Delivering excellent results to entrepreneurial, tech, tech-enabled, and life sciences enterprises and the investors who support them has placed our Venture Capital & Emerging Growth Companies practice among the top 10 law firms globally in *Pitchbook* and among the top practices nationwide in *Chambers*.







Dave Sorin – Chair, Venture Capital & Emerging Growth Companies Group

Deep industry experience.
Immersed in the investment community, we work closely with clients to understand their business goals and form life-long relationships. We regularly guide institutional and private investors in all kinds of equity and debt financing transactions, from pre-seed to growth stage financings and everything in between.

Collaborative approach.
It is our enduring philosophy of collaboration and partnership—with our clients and with each other—that is key to our long tradition of delivering excellent results. As an interdisciplinary firm that has grown dynamically, we have the ability to serve clients nationally in any industry.

Innovative solutions.
Our lawyers stay on the pulse of emerging technologies that are disrupting virtually every industry and sector—such as blockchain, smart contracts, and digital currencies—to anticipate the legal needs of our innovative clients and deliver excellent results.

McCarter & English

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mccarter.com



CHAPTER 12

MANUFACTURING



"Whatever you can do, or dream you can, begin it. Boldness has genius, power, and magic in it."

—JOHANN WOLFGANG VON GOETHE



ECI TECHNOLOGY

IS A TRUSTED GLOBAL SUPPLIER OF CHEMICAL PROCESS CONTROL EQUIPMENT FOR SEMICONDUCTOR AND OTHER ADVANCED TECHNOLOGY



ELEVATOR PITCH

ECI Technology has built the foundation of wet chemistry process controls—in semiconductor labs and fabs—helping clients to precisely manage chemical conditioning and supply in processing environments—qualifying incoming wet chemistry, managing process control of plating bath solutions and wet processes, and monitors and optimizes process solutions for reuse—all critical enablers in advanced semiconductor manufacturing. Particular chemicals supplied to semiconductor processing tools depend on the processes being performed on wafers in the tools. ECI Technology's in-line analyzers monitor semiconductor processes include etching, cleaning, chemical mechanical polishing (CMP) and wet deposition (e.g., copper electroless, electroplating, and other chemical bath deposition techniques). In all wet processes, accurate mixing of reagents at desired ratios is particularly important because variations in concentration of the chemicals detrimentally affect process performance. For example, failure to maintain specified concentrations of chemicals for an etch process can introduce uncertainty in etch rates and, hence, is a source of process variation and production defects.

OUR STORY

Fostering Precision-Control Chemistry Innovation

ECI Technology, a privately held company headquartered in Totowa, New Jersey, was founded in 1987 developed chemical process laboratory equipment to help the early American chip manufactures scale to production. Its first-of-its kind wet-chemistry control equipment enabled microchips to work faster and at smaller geometries. Fast forward to today, ECI is the leading global supplier







of proprietary chemical process control equipment with patented technology enabling advancements in semiconductor, advanced Wafer Level Packaging (WLP), printed circuit board (PCB), micro-electro-mechanical systems (MEMS), and light emitting diode (LED) industries as well as electronics R&D labs developing next-generation technologies. ECI is driving chemical metrology innovations, empowering customers with improved control and monitoring of their wet process manufacturing.

ECI's award-winning culture, led by CEO Marianna Rabinovitch, encourages individual thinking, idea collaboration and the constant drive to achieve the company's goals. ECI maintains its global presence with four international offices strategically located in Japan, Korea, and Taiwan and representatives in China, Europe, Singapore, and Israel to support its equipment and development activities across more than 15 countries. ECI has exclusive service and distributor representation serving the electronics industries and deploys a full spectrum of mechanical, electrical, and process engineers in service, technical support and maintenance. ECI Technology is an ISO 9001:2015 certified company.

Enabling Semiconductor and Advanced Technology Manufacturing

Transforming How the World Connects, Computes and Communicates

Built on decades of innovative research and critical IP, ECI works with semiconductor manufacturers, process tool manufacturers (OEMs) and material suppliers to provide optimized control solutions for new and established processes. The analyzers interface seamlessly with process tools to monitor chemical concentrations and automatically control replenishment systems. The speed and accuracy of ECI's measurements permit precise control of bath composition to ensure void-free plating. Today, as the rate of development in Packaging and PCB processing matches the break-neck pace notoriously maintained by the semiconductor industry, ECI leverages its deep expertise and adaptability to help its back-end customers tighten process windows and maximize yields as they strive to meet the fast-changing demands of their industry.

Growing NJ's High Technology Sector

As the world's breakthrough technologies expand, ECI Technology is committed to grow high-tech research and development, engineering and manufacturing in New Jersey. Headquartered in the heart of New Jersey's Research Corridor we are expanding our broad analytical expertise aimed to help pharmaceutical and biomedical companies integrate quality measurements in line with wet process condition-monitoring to accurately control product quality and connecting those measurements to closed-loop control.

ECI Technology's process control capabilities has help customers reach their scalability benchmarks and has won numerous awards for its achievements. Most notable, the company has won the New Jersey Technology Council's prestigious Electronics Company of The Year Award. Over the past years ECI Technology was twice awarded the prestigious Deloitte's Technology Fast 50 in New Jersey and Fast 500 in North America. It's interesting to note, that ECI Technology succeeded to achieve an impressive increase in revenue and profitability solely based on its organic growth. In June of 2005, ECI Technology CEO, Marianna Rabinovitch was awarded the prestigious Ernst and Young Entrepreneur of The Year Award.

ECI
TECHNOLOGY
ecitechnology.com

CHROMIS TECHNOLOGIES

MAKING ADVANCED MATERIALS FOR A BETTER WORLD



ELEVATOR PITCH

Headquartered in Warren, New Jersey, Chromis Technologies is one of only a few companies in the world capable of making amorphous fluoropolymers—advanced materials with very unique properties—used in myriad industrial applications, including clean energy production, biomedical and chemical sensors, optical fiber, 3D printing, semiconductor manufacturing, anti-reflective coatings, and many others.

OUR STORY

Reducing Greenhouse Gas Emissions

Natural gas is considered the most environmentally friendly carbon-based fuel. Its global production has been steadily increasing, due in large part to the fracking revolution. Natural gas as produced at the wellhead, however, typically contains a mix of components besides methane, including heavier hydrocarbons (e.g., ethane, propane, butane), as well as impurities such as carbon dioxide. The latter is a well-known greenhouse gas.

Chromis makes amorphous fluoropolymers optimized for membranes that can separate carbon dioxide from methane in natural gas production. A membrane



is basically a barrier that allows certain gases to pass through it, while blocking others. Once separated from methane, the carbon dioxide can be "captured" by pumping it back into the ground to enhance production of the well, or catalyzed and transformed into renewable feedstocks (e.g., ethylene, propylene) for the chemical and plastics industries, instead of being released into the atmosphere where it would contribute to global warming.



Enabling the "Hydrogen Economy"

Fuel cells generate electricity and heat using an electrochemical reaction, not combustion, emitting only water if hydrogen is used as the fuel source. They are a critical component of the "hydrogen economy," a term that refers to the vision of hydrogen as a low-carbon energy source for distributed power generation and intermittent-source (e.g., solar, wind) energy storage, and to replace natural gas for heating and gasoline for vehicle transportation. Today fuel cells are contributing to environmental stewardship and helping corporations achieve strategic emissions reduction goals and commitments.

Membrane Electrode Assemblies ("MEAs") are the heart of fuel cells, comprising a membrane, catalyst layers (anode and cathode), and diffusion media. The membrane component of a MEA can let protons pass through from anode to cathode, but not electrons (a "Proton Exchange Membrane") or vice versa (an "Anion Exchange Membrane"). Chromis makes amorphous fluoropolymers that improve the performance and reduce the cost of both types of membranes, making fuel cells an increasingly viable alternative to other forms of clean energy.

Transmitting Data at the Speed of Light

Higher data rates are driving the displacement of copper wire cables by optical fiber links in data center and consumer electronics applications over increasingly shorter distances. The advent of active optical cables ("AOCs") has made this transition very convenient. An AOC has the same standard electrical



inputs (e.g., HDMI) as a traditional copper-wire cable, but uses optical fiber for high-speed data transmission "between the connectors." Sophisticated technology in the connectors performs electrical-to-optical conversion at the source and then reverses it at the destination.

Using our optical-grade amorphous fluoropolymers, Chromis makes high-bandwidth, low-attenuation optical fiber under our GigaPOF® brand at our Warren, New Jersey, extrusion facility. You can find Chromis GigaPOF® polymer optical fibers in AOCs and other high-speed cables wherever greater durability and resistance to breakage from tight bends and kinks compared to glass optical fibers are required.

Innovation via "Rational Design"

We work with our industry partners to discover unmet needs and unique problems that can be solved by our custom synthesis technology platform. These market-driven insights, and our deep knowledge of specialized fluorochemistry techniques, inform the formulation of new materials whose properties and performance are optimized for the specific application. This "rational design" approach to innovation reflects our commitment to using our capabilities to make advanced materials for a better world.



CHROMIS TECHNOLOGIES

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chromistechnologies.com

APPLECHEM

ELEVATOR PITCH

Applechem is a cosmetic technology supplier with a diverse range of specialty performance materials designed for enhancing personal care and color cosmetic formulations. Our products emphasize consistent performance as well as user-friendly processing, with a focus on quality-of-life improvements for cosmetic laboratory formulators through to chemical plant engineers.

OUR STORY

Applechem was founded in 2003 by Dr. Samuel Lin in a tiny laboratory within the Enterprise Development Center (EDC) of the New Jersey Institute of Technology.

As one of the state's largest technology incubation centers, the EDC provides an environment where the state and federal government, universities, and investors collaborate with entrepreneurs to create young and dynamic technology companies. Here is where Applechem embarked on its critical years of research and development. With the vision of becoming a pioneering cosmetic technology company, Applechem began developing cutting-edge functional materials to unlock new possibilities for cosmetic formulators. It started with the creation of a new type of formulation tool for skin and hair care applications that takes advantage of the benefits of natural oils—a hybrid, elastomeric gel that consists of both bio-based oils and advanced polymers. This unique technology structures natural oils by creating a micro-sponge polymer network, an almost spring-like mattress structure at a microscopic level.

"It's been a very interesting journey," says Applechem founder Dr. Samuel Lin. "We spent our first two years developing our patented OleoFlex technology, and another year immersed in scale-up commercialization before we felt ready to introduce the product to market. None of this would have been possible



Hallder Pezo, Production Manager





OleoFlex elastomeric gel technology





Shu Lin, CFO

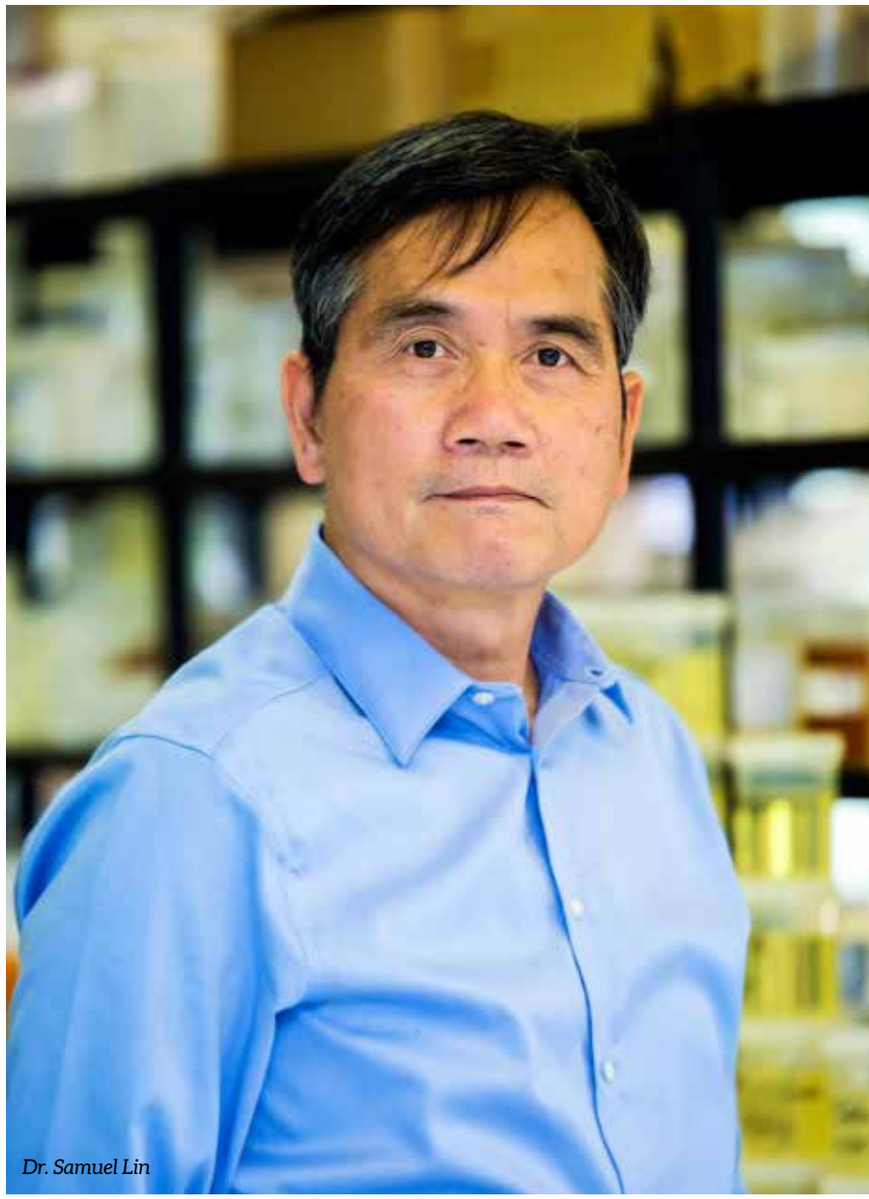
without the help of the EDC as well as grant support from the USDA. This collaboration with Applechem represented an opportunity to apply my years of R&D experience at Unilever as well as my background in polymer technology, and seeing our work validated with market success has been very rewarding."

Sales of OleoFlex started off slow but began to take off a year later as the market started to adopt the new technology. Applechem's first big break came when Bath and Body Works incorporated OleoFlex into a brand new line of scrubs and skin care products, which has since become one of the retail giant's most popular products and has won multiple consumer awards.

The commercial success of OleoFlex helped fuel more innovative research projects at the Applechem lab. In 2006, Applechem debuted its first-generation G-Block product, a range of zinc oxide and titanium dioxide dispersions engineered to address the instability and consistency issues that traditionally affected older generation dispersions. Customers will likely find G-Block dispersions in many of the popular natural and clean beauty sunscreens in both the United States and European marketplaces. This market sector has experienced explosive growth in the past few years as consumers continue to focus on sustainable, safe formulas while moving away from chemical UV filters.

This in turn helped fund the development of new Applechem technologies, as Dr. Lin and his team sought to apply their polymeric expertise in multiple product applications, which resulted in the development of the Sensogel, Sorbithix, and G-GEL rheological modifiers. "We wanted to create a broad product portfolio that represented Applechem principles," says Dr. Lin. "These products gave us an opportunity to reach out and drive innovation in the hair care, skin care, and color cosmetics markets."

In 2016, after experiencing years of continuous growth, Applechem moved to a larger, more expansive facility in Parsippany, New Jersey. Applechem achieved ISO 9001:2015 Quality Management certification a year later as the company sought to bolster its growing reputation as a global supplier of high-quality specialty ingredients. "It's been a bit crazy and humbling to think of how far we've come since our beginnings at the EDC," concludes Dr. Lin. "We hope to make Applechem a successful example of how government, academia, and private industry can work together to create new technologies that boost domestic economic growth."


Dr. Samuel Lin

"We deeply believe that an Applechem product should open up new avenues of research, innovation, and ingenuity for our customers." **—Samuel Lin**

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applechem
create possibilities

BROTHER INTERNATIONAL CORPORATION, USA

OUR HIGH QUALITY AND INNOVATIVE PRODUCTS HELP CUSTOMERS THRIVE





Brother's Bridgewater, New Jersey, Office

ELEVATOR PITCH

A customer-centric technology company that develops a wide range of quality products and solutions that enable people to take their ideas and businesses further.

OUR STORY

The origin of Brother traces to 1908, when Kanekichi Yasui established a sewing equipment repair business in Nagoya, Japan. His sons, the Yasui brothers, built on that heritage with a passion for quality and a spirit of independent development, and launched the Brother brand in 1928, beginning with sewing machine production and expanding into electrical appliances. With that, began the rise of Brother as a machine manufacturer, leveraging its expertise in motor design and manufacturing technology to drive business diversification.





Billboard at TD Bank Ballpark, Bridgewater, NJ

> *"Brother continually drives modernization and stays competitive by always having a plan for change and improvement. The founders were dedicated to quality, service, affordability and efficiency and their innovative spirit has carried Brother forward and helped advance the company's mission,"*
>
> *—Don Cummins, President, Brother International Corporation, USA*

In the 1950s, Brother expanded globally. Now, its America's headquarters in Bridgewater, New Jersey, is home to nearly 400 employees who embody the "at your side" spirit the company was founded upon and that has become the DNA of the Brother group. In addition to its headquarters, Brother has facilities in California, Illinois, and Tennessee, as well as subsidiaries in Canada, Brazil, Chile, Argentina, Peru, and Mexico.

Brother offers diverse products, from printers for commercial, office, specialty, and consumer use, to gear motors for industry, as well as commercial and consumer sewing and crafting equipment. Brother products are used in businesses and homes around the world. And, no matter the era, Brother's business ventures always embody the "at your side" philosophy while keeping a finger on the pulse of the marketplace.

"Brother continually drives modernization and stays competitive by always having a plan for change and improvement. The founders were dedicated to quality, service, affordability, and efficiency and their innovative spirit has carried Brother forward and helped advance the company's mission," said executive Don Cummins, President, Brother International Corporation, USA.

Brother's global parent, Brother Industries Limited, has been honored as one of the Top 100 Global Innovators by Thompson Reuters/Clarivate Analytics four times in the last decade. Throughout its history, Brother has pioneered many industry firsts that have leveled the playing field for small and midsized companies by making productivity technologies widely accessible. In the early '90s, Brother led the market with the FAX-600, a facsimile machine priced at half the conventional model, high-quality compact laser printers that were affordable for small business and home use, and even handheld laminated P-touch label machines. Today, Brother enjoys a foothold across industries thanks to a rich product portfolio that helps its customers overcome barriers to success.

Brother is behind-the-scenes providing mobile solutions that serve the public sector, supplying the gear motors that power conveyor belts and ice machines, producing high-quality T-shirts with industrial garment printers, and sewing seatbelts into vehicles with industrial sewing machines. In short, Brother is behind product offerings and solutions that may surprise you.

At Brother, innovation doesn't just begin with products; it starts with its people and a corporate culture that provides ample opportunities for learning, development, and community involvement. Brother is dedicated to corporate social responsibility and sustainability, both globally and locally. The Brother Earth program was established to reduce the burden on the environment in all steps of development and manufacturing of products. Locally, Brother is committed to each of the communities in which it resides.

In New Jersey, Brother employees support clean air and clean up projects throughout the year. The company also supports many community programs by partnering with organizations such as PeerForward to open doors to higher education for students, United Way, Relay for Life, Rutgers University, and the Fashion Institute of Technology. And, for decades Brother has sponsored the popular local Somerset Patriots baseball club, which brings the community together. Brother encourages employees to support these and other organizations that nurture local communities.

"New Jersey is an important part of Brother's heritage. The state's great people and resources enable our company to serve customers across the Americas." said Tony Melfi, Senior Vice President and Chief Financial Officer at Brother International Corporation and proud life-long New Jersey resident.

Drawing confidence from its past, Brother takes pride in its mission for tomorrow and continues to pursue growth and new challenges, while remaining "at your side" to advance ideas, businesses and communities forward.

brother
at your side

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SUUCHI

A NEXT-GENERATION SUPPLY CHAIN PLATFORM FOR FASHION BRANDS AND RETAILERS.



ELEVATOR PITCH

Our proprietary software, the Suuchi GRID, coupled with our curated network of freelancers, factories, and mills, connects fashion brands with real-time supply chain visibility.

OUR STORY

Founded in 2016 by Suuchi Ramesh, Suuchi, Inc. is a one-stop solution for the entire apparel supply chain for fashion brands and retailers of all sizes. Through our curated network of freelancers, mills, and factories, Suuchi is able to collapse the supply chain under one roof, creating a nimbler production process from ideation to shipment.

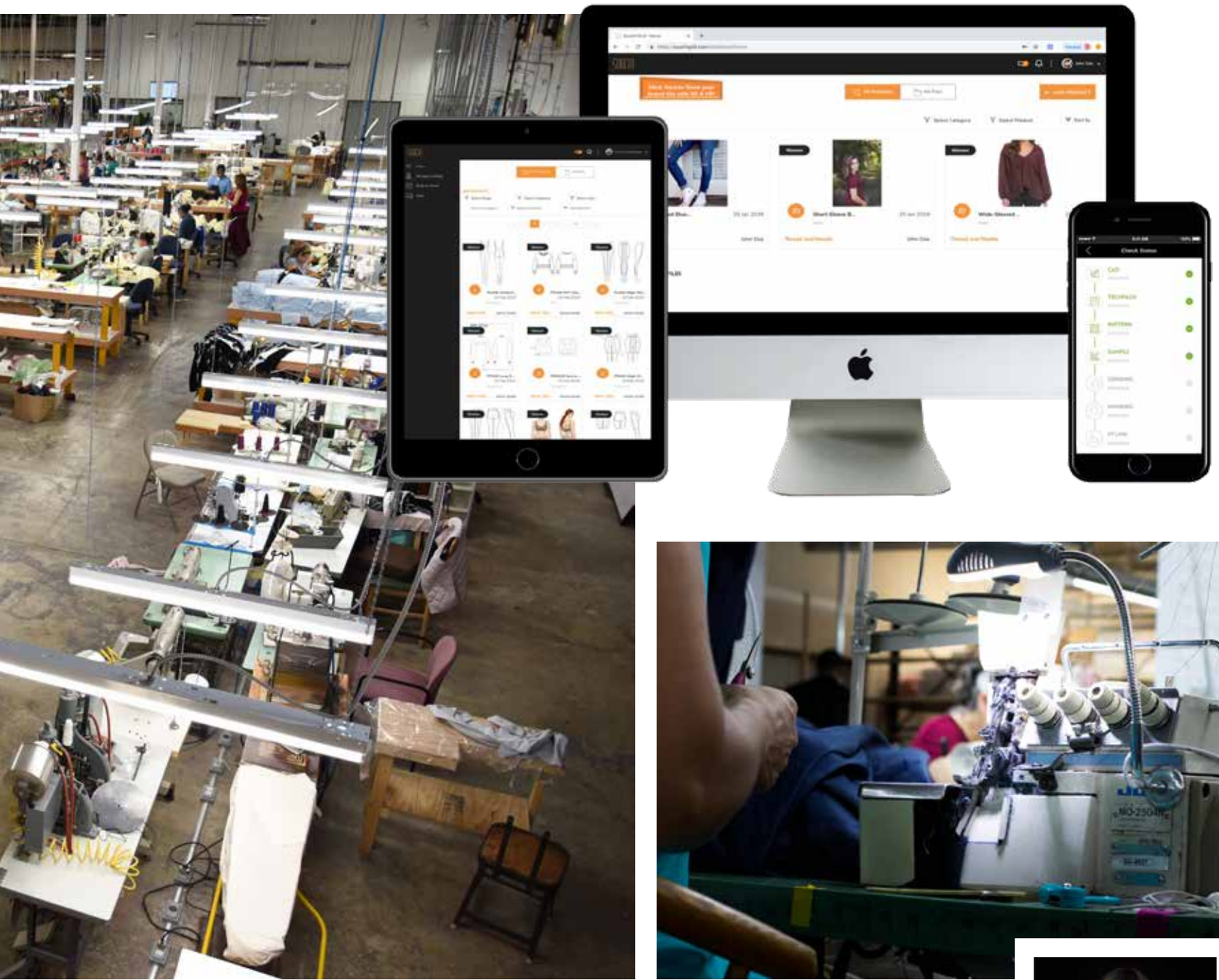
Through the Suuchi GRID, brands can track timelines, communicate in real time, sell complete transparency, and run data analytics based on their product lines. Companies can also have the GRID track their existing network and provide the same functionality.

Through these combined solutions, Suuchi is digitally transforming retail, enabled by megatrends of just-in-time production, shop-floor integration, and supply chains created for consumer demand.

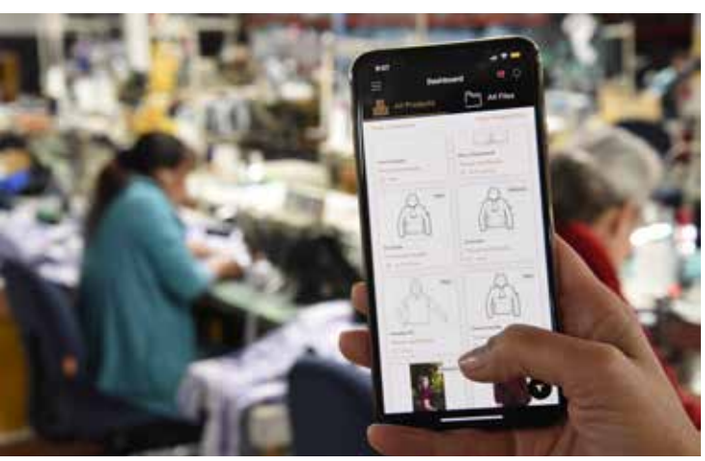


The Network

All of Suuchi's partners are vetted through SGS to ensure that all factories, vendors, and mills are up-to-date on compliance, but also meet the standards for sustainability, capacity, quality, and turnaround times. Our network of over 350 factories, vendors, and mills extends across the United States and Central and South America. This allows our brands to have the ability to scale across categories and production batch size while keeping all production managed through one partner. Through this, our brands are able to double revenue, get to market 20 times faster, and increase overall lifetime customer value in as little as two years.







The Software

The apparel industry is one of the last to embrace revolution through technology. Many major retailers continue to operate on email with Excel sheets and have little to no visibility into the supply chain. This is where the Suuchi GRID comes into play as a skill and language agnostic solution. The GRID allows retailers to track their entire supply chain with real-time updates, communication, and the ability to pull predictive data analytics through the web view or mobile app. The GRID has the ability to track production through the Suuchi network or can be implemented into a brand's existing network of mills and factories. While many product life-cycle management (PLM) tools separate out at different stages of product development, the GRID consolidates the entire supply chain into one software for full, transparent management.



Suuchi Ramesh
Founder & CEO

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PRINCETEL

ELEVATOR PITCH

Princetel is a for-profit enterprise that applies commercial strategies to maximize improvements in human and environmental well-being. The company's management is passionate in providing a sanctuary for its employees, creating the best products, offering its customer exceptional services, and maintaining a low carbon footprint. Bucking the current trend, the company manufactures fiber-optic rotary joint and electric slip-ring products in its US facilities and markets them around the world, including emerging economies such as India, China, and Russia. The company has attracted a loyal following from customers around the world in markets such as military, biomedical, wind energy, geophysical, broadcasting, robotics, mining, machinery, entertainment, and communications. Founded in the fall of 2000, the company has become a reliable force in optical and electric rotary technology innovations.

Princetel's successful line of fiber-optic rotary joints has grown to cover more than a dozen models and three dozen channels in one device. Fiber channels from 1 to 36 remain the standard offerings. They can be either SM, MM fiber, or the mix of the two. They are designed for rugged environments such as extreme temperatures, humidity, mechanical disturbances, and water submersion (pressure compensation). Fiber-optic rotary joints (FORJs) are key coupling devices in winches, robotic vehicles, wind turbines, medical OCT systems, satellite antennae, high-definition broadcasting systems, and submarines. Princetel's FORJ products are designed to comply with the popular standards such as Telcordia GR1209 and GR1021 in key areas for reliability. All models meet or far exceed MIL-STD-810G and MIL-STD-167-1A for shock and vibration.





OUR STORY

In 2016 Princetel acquired the Wendon Company of Stamford, Connecticut, a slip-ring maker that dates back to the 1950s. The new alliance is now capable of satisfying the need for power in some very important applications. Princetel also collaborates with numerous partner companies to develop a broad range of electrical slip rings to match Princetel's standard FORJs. Unique features such as water seal, pressure compensation, and explosion proof are available. Hybrid electrical/optical slip rings are integrated products in applications where both power and telemetry pass through the rotation junction.

To complete the circle in a fiber circuit, Princetel developed a line of highly integrated fiber media converters. They are ideal for ROVs and other robotic vehicles. Standard video, serial data, high definition video (3G-SDI), gigabit Ethernet, and CWDM solutions are among the standard offerings. Princetel also provides custom configurations so a mixture of media converters are bundled together on one or multiple fibers.

Princetel's award-winning fiber polishers offer our customers a convenient tool to terminate fibers in their own facilities. They meet both field and production needs for fiber connector and ferrule polishing. Our portable polishing machines (up to 2 connectors/ferrules) come with either a unique hand crank or a 6-12 VDC motor, which can be powered through a wall adapter or car cigarette lighter. The production polishing machine (up to 12 connectors/ferrules) features stainless chassis, center pressure, digitally controlled speed/force/time, speed/force ramping, and universal fixture.

Princetel sets for itself high standards on ethics. We believe in long-term mutually beneficial relationships with our customers, vendors, and employees. Our design philosophy reflects the company's strong belief in advanced functionality, reliable performance, contemporary styling, pleasant ergonomics, lean manufacturing, and environmental sustainability. Our headquarters operation in Hamilton, New Jersey, resides in a LEED Platinum certified building, the only industrial building with that rating in the state of New Jersey.

The positive energy resulting from the unique company culture has rewarded the company with

- A highly diversified (17 different countries) and stable workforce (less than one [1] voluntary departures every four [4] years);
- A very loyal customer base;
- A reliable vendor and service provider network;
- A steady and healthy growth (25% compounded annual revenue growth since 2005).

Princetel is on-track for another decade of dynamic growth and exciting social engagement.







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princetel.com



"Listen to anyone with an original idea, no matter how absurd it may sound at first. If you put fences around people, you get sheep. Give people the room they need."

—WILLIAM MCKNIGHT



CHAPTER 13

BUILDING, ARCHITECTURE & REAL ESTATE

ADVANCE REALTY INVESTORS

ELEVATOR PITCH

Advance Realty Investors' narrative began 40 years ago, when Peter J. Cocoziello developed a small office building in West Orange, New Jersey. Since then, Advance has grown into one of the most innovative and respected real estate investment, development, and management companies in the Northeast, with a diversified, 15-million-square-foot portfolio including residential, industrial, retail, mixed-use, and Class A office properties.

Throughout this journey, Advance has learned that building a successful real estate company is far more than just blueprints and rent rolls. What Advance prides itself on is the ability to create strong communities within our properties while reimagining the lifestyles of tomorrow.



OUR STORY

Today, Advance remains active in the office sector across New Jersey, but now incorporates various mixed-use elements into our properties to suit the needs of today's progressive clients and tenants. The company's extensive experience in the research and development sector, provided the opportunity to acquire a former Sanofi pharmaceutical campus in Bridgewater, New Jersey, in 2013. Advance has successfully revived the 800,000-square-foot campus, now known as The New Jersey Center of Excellence, into a thriving Research & Development hub for tenants of all sizes. This repositioning strategy was designed to enhance the campus' appeal to the modern workforce. Today the campus is home to high-profile tenants including Nestle Health Science, Ashland, Kashiv, Nevakar, and Avantor.

Advance continues to be active in New Jersey's booming luxury apartment sector with successful endeavors in the Town of Harrison and the City of Hoboken. Offering easy access to public transportation and short commutes into Manhattan, both communities are ideal for Millennials and other busy professionals seeking the conveniences of an urban environment outside of the big city. In these competitive markets, Advance has been diligent in differentiating our properties from others by incorporating creative and unique amenities as well as stylish design elements. In designing for today's generation, Advance focused on collaborative amenities such as fitness centers with dedicated workout areas and Peloton bikes; community working spaces; private dining and wine tasting rooms; game rooms with golf simulators; and multiple lounge areas both indoors and outdoors. At Steel Works and Cobalt Lofts—Advance's premiere rental buildings in Harrison's burgeoning Riverbend District—all units come outfitted with built-in smart home technology, including Amazon Echo Dot systems, prewired speakers, and the Samsung SmartThings HUB.



Harlow, Hoboken, NJ

Advance has also been at the forefront of the state's rapidly evolving retail sector, which has been transformed seemingly overnight by the rise of Amazon and other online shopping outlets. This coupled with Advance's hard work and diligence has brought successes at Paramus Crossroads located in Paramus, New Jersey, The Shops at Ledgewood Commons in Roxbury Township, and Windsor Center in East Windsor—all of which have been transformed from traditional suburban plazas into dynamic, walkable lifestyle retail centers. At each of these retail destinations, visitors are offered a wide range of options including shopping, dining, wellness, and recreation. Where most would agree that today's retail future can be challenging, Advance continues to adapt and reinvent these properties by pursuing a mix of tenants that provide New Jerseyans with a vibrant and dynamic shopping experience.



Cobalt Lofts—Riverbend District, Harrison NJ



Linden Logistics Center, Aerial Rendering, Linden, NJ

Additionally, Advance has undergone a rapid expansion into New Jersey's thriving industrial sector with over eight million square feet in the current project pipeline. The Linden Logistics Center, a former brownfield, is being transformed into a 4.1-million-square-foot logistics center—the largest industrial development in the Port of NY/NJ area. Advance is also developing a 3.3-million-square-foot industrial park in Logan Township, New Jersey, which will cater to the quickly evolving southern New Jersey Submarket. These large-scale projects, along with other recent industrial acquisitions in Pine Brook and Mahwah, illustrate the demand for this sector and the growth outside of the traditional New Jersey Turnpike corridor.

The commercial real estate climate is perpetually in flux, and to be successful one must embrace change and adapt quickly. Advance has done just that by reimagining real estate for four decades and has never been more excited about the future of its organization and the opportunities that lie ahead. Advance believes that progressive thinking combined with its deep-rooted experience will ensure future success in creating innovative, high-quality business environments and living communities suited for tomorrow's complex needs.



Riverbend District, Harrison, NJ



Nestle Health Science—NJ Center of Excellence, Bridgewater, NJ



Peter J. Cocoziello
Founder & CEO

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REALTY INVESTORS

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BEYOND YOUR OFFICE SPACE: THINK OUTSIDE YOUR CUBICLE AND HOT DESK

ELEVATOR PITCH

Mission 50 Workspaces evolved from an emerging office trend- the need to supply remote workers and startups with more efficient office space. Whether you're an entrepreneur starting a "business engine" or a remote corporate executive seeking community, Mission 50 Workspaces is the smart office space solution. Our ample resources and nurturing atmosphere make it easier to achieve business success.

OUR STORY

Recently, coworking has seen a need for new vision. In the past, emerging brands competed with bigger and bigger amenities- until sustainability became questionable. With this, purpose has been lost and the business consumer confused. Responsible growth is necessary for success of tenants, and this is what Mission 50 Workspaces exercises as the strong arm for that growth. The latter is flexed mainly by one simple pillar "just be curious". What do the consumers need? We listened to our consumer, and instead of creating chaos with over-amenitized spaces, we found the long-term answer in small spaces and big ideas. The most valuable commodity is bringing people together with events to share ideas, not just amenities.

A fifty-thousand square foot lobby is stunning, but it overstimulates the senses instead of the business plan. Large spaces geographically invite people to spread out and don't necessarily contribute to the tenant's bottom line. Intimate smaller spaces invite people to engage, that enables connectivity beyond the modem and over-sprawled amenities. Floorplans for over-zealous amenities shouldn't trump the business plan of consumers. We're in the business of helping entrepreneurs develop strong relationships to be successful.

EXPANSION AND NEW FRONTIERS

Mission 50 Workspaces takes great pride in the success of companies that call us home. And we look forward to providing even better services to our business community. In the second quarter of 2020, Mission 50 is set to expand its footprint within Hoboken. Greg Dell'Aquila's first step, is now one strong leap for entrepreneurship within the Garden State. The "just be curious" motto, has created a precision aim for more of what works for the community. Let the colonization begin, and let's share more than office space, lets share your business with the world! Contact our team to complete your mission.



"It's your Universe, Mission 50 Workspaces is here to help you discover more ways to live in it and grow your business colony"



"Well designed offices lead with small spaces and big ideas- not amenities"



Greg Dell'Aquila
Managing Member

Hudson County Chamber of Commerce Legend Award
Hoboken Chamber Icon Award
Hoboken Rotary Club President
Hoboken Chamber President
Top Young Developer of New Jersey

LEADERSHIP WITH VISION

Greg Dell'Aquila, a second-generation leader and innovator within commercial office space, is the Neil Armstrong of coworking in New Jersey. First to launch, Dell'Aquila initiated the coworking boom in Hudson County- that spawned a colony of competitive co-work brands dispersed throughout the Garden State. More importantly, he has created an environment for all sized businesses to flourish and break ground. The latter is feasible due to the elements of well-designed offices, that lead with small spaces and big ideas. Business colonies can activate and flourish due to efficient design, cost structure and community of networks.

SPACES AND AMENITIES

Phone Booth
Cold calls without interruption
Ideas on Tap
Cold brew on tap to stimulate ideas
Open Shared Space
Get work done and rev up a new project
Conference Rooms
A meeting showroom for your new business plan or big idea
You've Got Mail
Virtual mailboxes for real businesses

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mission50.com

THE GARIBALDI GROUP



Jeff Garibaldi, Jr.
Director, Support Services

ELEVATOR PITCH

The Garibaldi Group is a boutique, independently owned commercial real estate firm established in 1919. We pride ourselves on our ability to adapt to the real estate landscape at every turn. Building off our successful partnership at Bell Works, our team aims to cultivate more groundbreaking commercial projects around New Jersey and strengthen the state's innovation economy with more boots on the ground.

OUR STORY

New Jersey is indeed "a barrel tapped at both ends" and we've spent the past 100 years embracing this challenge. Since 1919, we've invested in our clients who believe in New Jersey's potential by providing top tier representation. With a dedicated team in place, we believe in building relationships that last, not "one-and-done" transactions.

Our determination is evident in the continued success of our Corporate Services team who is now responsible for a portfolio of over 35 million square feet nationwide. Since 1999, the team has remained a pillar of our commercial real







estate business, consulting clients on consolidating their footprint, lease administration, site selection, and other duties that are increasingly outsourced in today's corporate arena.

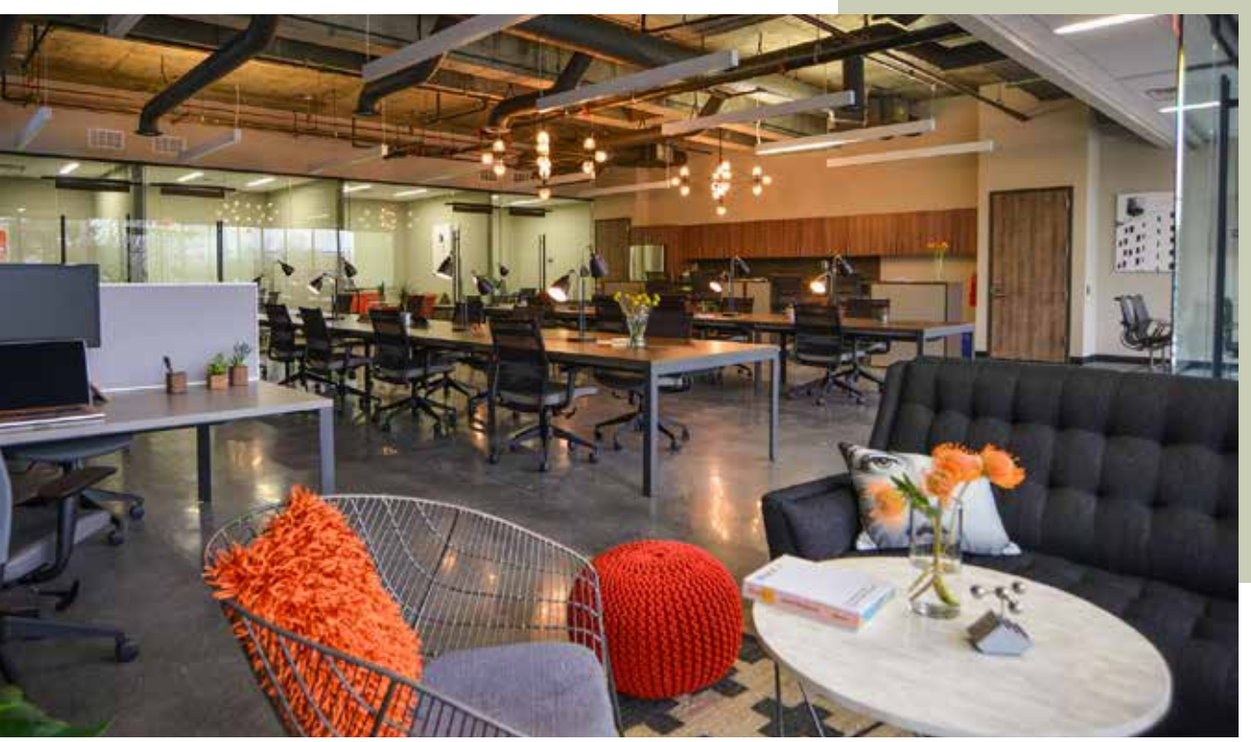
Today, we are focused on taking the experience gained from partnering with larger corporate clients and combining it with the hands-on work with rapidly growing technology startups. This allows us to offer a platform that helps young and growing businesses at any stage plan, prepare, and advance to that next level.

In 2013, The Garibaldi Group was hired as the leasing agent for over one million square feet of vacant office space in Holmdel at the all-but-abandoned Bell Labs complex. Our team believed in the plans that Ralph Zucker and his firm, Somerset Development, had crafted for repurposing the iconic campus, but "there was so much unknown when we walked into that situation," Jeff Garibaldi, Jr., said.

"Ralph was a serious guy who had a serious vision. He clearly had the town behind him, which was a huge step for the project. As long as he could live up to what he was proposing, we thought it would be successful," Garibaldi said. "By no means did we think it would be this successful."

Our dedicated team has leased 95% of the office space at Bell Works, totaling nearly 1.25 million square feet.

At our headquarters, we've also leveraged the suburban success of Bell Works' Co-Lab, renovating the first floor of our building to create a brand new co-working space in Chatham, New Jersey. The Station, as we've aptly named it, is now 70% leased three months after opening.





Jeff Garibaldi, Sr., President

"The Bell Works project has challenged, motivated and enabled us every single day, and The Garibaldi Group is a better company for it. When we first moved our team into the building in 2013, the atrium floor was littered with puddles from leaky skylight panels and the project was running on a hope and a prayer. At the time, I would regularly quote Bruce Springsteen: 'Someday we'll look back on this and it will all seem funny.' Today, we get to smile."



Jim Garibaldi, CEO

"Our philosophy has been, and continues to be focused on cultivating an entrepreneurial-spirited, boutique, and independent real estate firm. We strive to have a company of quality individuals, who are both highly skilled and of high character. This enables us to be nimble and agile, always in a position to pivot when we see change in the business climate."



Michael Staskiewicz, Managing Broker

"In the book, *The Laws of Lifetime Growth*, Dan Sullivan talks about the Zen concept of 'the beginner's mind.' It states that if you always approach life from the perspective of a novice, no matter your experience, you'll find novel solutions. That really began to resonate with me. The Garibaldi Group's desire (or openness) to be innovators in our industry helped confirm my sense that this could be the place for the next chapter of my career."

Garibaldi

garibaldi.com



AVISON YOUNG

THE WORLD'S FASTEST-GROWING COMMERCIAL REAL ESTATE SERVICES FIRM, WITH 120 OFFICES IN 20 COUNTRIES

ELEVATOR PITCH

Avison Young is the world's fastest-growing commercial real estate firm as it continues its global expansion. Headquartered in Toronto, Canada, Avison Young was founded in 1978 and today is comprised of approximately 5,000 real estate professionals in 120 offices in 20 countries.



OUR STORY

In October of 2012, Avison Young opened its New Jersey office in Morristown. Since then, under the leadership of Principal and Managing Director Jeffrey Heller, the team has grown to more than 110 professionals, including the opening of a second office in the Metropark region.

The Avison Young New Jersey team is staffed with experienced, accredited professionals including CPAs, engineers, project managers, attorneys, MBAs, and architects, each providing superior real estate services to a client base of corporate and institutional owners and occupiers. The firm provides an extensive best-in-class service platform in the disciplines of industrial and office brokerage, property management, project management, construction management, capital markets, development consulting, marketing, market research, valuation advisory and debt.

A Culture of Innovation and Collaboration

The unique Avison Young culture always puts their clients first and our rapid growth is a testament to the commitment we've made to both clients and







employees. The organization is designed to be highly collaborative and focused on one thing: creating the best solutions for our clients to deliver long-term success. Because of the value Avison Young delivers, new clients and top talent are joining the firm every day.

New Jersey is the nation's most densely populated state with one of the largest office markets in the country as well as the nation's third-largest warehouse and distribution market. Real estate decisions for companies in New Jersey in today's business environment are complex and driven by rapid and constant change. These companies need a real estate partner who understands their goals and challenges and offers long-term strategies for increasing flexibility and to sustain performance through market fluctuation and uncertainty. Avison Young strives to be that partner by understanding that real estate is cyclical. We follow the natural rhythm of our clients' business and focus on long-term goals and performance.

Avison Young is a principal-led company, a unique partnership structure that incentivizes internal collaboration and aligns our solutions with client objectives. Our approach eliminates service-line silos so our capabilities and services are offered together around client requirements, not business units. We say what we are going to do, and then we do it—and when needed, we partner with outside resources to serve our clients' best interests to offer the best solution.

Avison Young brings experienced resources, expertise, and talent to the table to best serve our clients every day.

AVISON YOUNG

avisonyoung.com

CUSHMAN & WAKEFIELD



ELEVATOR PITCH

Fueled by ideas, expertise and dedication across borders and beyond service lines, Cushman & Wakefield, a leading global real estate services firm, creates real estate solutions to prepare its clients for what's next in today's ever-evolving marketplace. The company is confidently global and expertly local in every facet of commercial real estate.







OUR STORY

Creating Meaningful Value

The forward-thinking company has approximately 51,000 employees in 400 offices and 70 countries. Within each of those offices, the purpose remains the same – to do work that creates meaningful value for its clients, the communities it serves and far beyond, as well as the company, its people and shareholders. Increased business complexities will continue to generate fresh opportunities for innovations and new ideas to increase clients' productivity today and position them for the future.



At Cushman & Wakefield, exceeding clients' expectations is the goal; setting the standard for the best practices across the globe, and here in New Jersey, is the result. The firm has annual revenue of more than $8 billion across core services of property, facilities and project management; leasing; capital markets; valuation and advisory services.

Where it All Began

The company was founded in New York in 1917. Expanding first throughout the United States and then globally, Cushman & Wakefield today has offices across the world, including more than 200 employees based in three New Jersey offices (East Rutherford, Morristown and Iselin).

From its earliest days, team members understood that every touch point with a client is an opportunity to deliver an exceptional experience and put them at the center of what's next.

Cushman & Wakefield takes great pride in its diverse and inclusive culture, which is one of mutual respect and support. Notable recent recognitions include being named to both Forbes' "America's Best Employers" and "America's Best Employers for Diversity" 2019 lists, and "Best for Vets Employers 2019" by Military Times, as well as recognition as a "Best Place to Work for LGBTQ Equality" and a 100 percent on the "Human Rights Campaign's Corporate Equality Index 2019."

Without surprise, global trends are changing the way commercial real estate is leveraged in business today. Clients of Cushman & Wakefield know they can depend on its global size and scale paired with local expertise, comprehensive suite of services, fully integrated technology platform, industry-leading capabilities and leadership across major markets of the world.

cushman-&-wakefield
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cushmanwakefield.com



CUSHMAN & WAKEFIELD'S GLOBAL DATA CENTER ADVISORY GROUP

INNOVATIVE SOLUTIONS AND EXPERTISE AT THE INTERSECTION OF BUSINESS, RISK & COST

ELEVATOR PITCH

As global technology rapidly changes, the demand for data center space – on global and local scales – is increasing at an accelerated rate. Drawing on its deep market expertise, Cushman & Wakefield's Global Data Center Advisory Group (GDCAG) leads the way in providing innovative solutions, thought leadership, and real estate services to occupiers, landlords, investors and operators.





OUR STORY

At the Forefront of the Industry and Right Here in New Jersey

Established in 1996, Cushman & Wakefield's GDCAG was the first of its kind in the commercial real estate industry. The group's specialists average 40 years of real estate experience and 30 years of data center expertise, including work on colocation facilities, powered shells, Business Continuity Seating, trading floors, cloud services, edge computing, latency sensitive operations and network operations centers. Sean Brady, who serves as the group's managing director, was one of the founding members of Cushman & Wakefield's GDCAG and over the past three decades, has consistently serviced clients in this specialized sector in New Jersey and on a national basis. The cohesive GDCAG team operates on a foundation of shared expertise, mutual respect and support.

Cushman & Wakefield's GDCAG serves clients of all sizes and industries in the New Jersey/New York area and around the globe, understanding that every client requirement is unique. Its multi-disciplined team has the experience to develop long-term strategies grounded in a balance of flexibility, risk management, cost reduction, corporate goal fulfillment, and infrastructure quality.

An All-Encompassing Edge

Clients rely on the GDCAG's expertise, innovative thinking and responsiveness to help guide them through this rapidly-changing industry. Scalability, reliability and security are always the focus, but the costs are substantially high in this sector, making the right financial decisions crucial. The team lends added value through its understanding of global dynamics and their impact on local markets.

Its comprehensive suite of services includes global strategy development, site selection, strategic asset analysis, portfolio optimization, transaction services, business continuity, landlord/provider representation, project and development services, valuation and advisory services, as well as capital markets services, including sale-lease-backs, investment sales, equity placement and structured financing. And its due diligence covers it all for clients, including the relationship and proximity of locations to surrounding development and infrastructure, security risks, demographic profiles of surrounding communities, access to low-cost power supply, and the proximity of potentially hazardous facilities and/or land features, and the region's transportation infrastructure.

A leading global real estate services firm, Cushman & Wakefield is known for delivering exceptional value for real estate occupiers and owners, always readying clients for what's next. The company has approximately 51,000 employees in 400 offices and 70 countries. Cushman & Wakefield has annual revenues of more than $8 billion across core services of property, facilities and project management, leasing, capital markets, valuation and advisory services.



Sean Brady
Managing Director and
GDCAG Co-Founder

CUSHMAN & WAKEFIELD

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cushmanwakefield.com



CHAPTER 14

EDUCATION & TRAINING



"The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time and still retain the ability to function."

—F. SCOTT FITZGERALD

NEW JERSEY INSTITUTE OF TECHNOLOGY

ELEVATOR PITCH

Education. Research. Innovation. It's been the cornerstone of a history shared between New Jersey Institute of Technology (NJIT) and its home city of Newark, dating back to the university's beginnings as a small technical school founded by the city's industrialists in 1881.



OUR STORY

Today NJIT has risen as one of the leading research institutions in the US, joining the Nation's Top 100 Universities according to the *U.S. News & World Report*'s 2020 College Rankings.

That rise has come alongside Newark's modern renaissance as one of the most dynamic emerging tech hubs on the East Coast—Panasonic, Amazon's Audible, PSEG, Prudential, and Verizon are among the industry giants that now reside in the Brick City, which boasts a growing workforce with more than 53,000 tech jobs (CBRE's annual Scoring Tech Talent Report) and one of the fastest data infrastructures in the world.

Creating more than $2.8 billion of economic value for the state of New Jersey and $635 million of annual output to Newark's economy each year, NJIT has been at the heart of the talent pipeline fueling the region's burgeoning tech landscape—more than 520 companies visit campus yearly to recruit NJIT students, who now average starting salaries over $64,000 annually.

NJIT ranks No. 1 nationally by Forbes *for the upward economic mobility of its lowest-income students, and 53rd out of more than 4,000 colleges and universities for the mid-career earnings of graduates, according to PayScale.com.*

From within its 45-acre campus grounds at the center of the Newark's vibrant University Heights district, NJIT's growing research enterprise has helped drive its contributions as a STEM talent creator for both city and state. NJIT's yearly research expenditure now tops $170 million across all fields, from life sciences and engineering to data science and information technology, supporting more than $2.3 million in undergraduate research funding since 2015.

NJIT was elevated in 2019 to an "R1" institution by the Carnegie Classification® of Institutions of Higher Education, the highest possible ranking held by just 131 of the top research institutions in the US.

Over the past decade, more than $400 million has been invested in campus development to support interdisciplinary applied research at NJIT's research centers and labs, including the university's state-of-the-art 10,000-square-foot Makerspace—a rapid prototyping and manufacturing workspace where entrepreneurial collaboration has thrived since the facility's 2017 opening to support students, faculty, and New Jersey businesses in fields of design and production.

NJIT's campus is home to New Jersey's oldest and largest technology business incubator, with more than 90 companies in residence.

Spurring commercialization and entrepreneurship among NJIT's diverse technology and research community are VentureLink, the state's largest high-growth startup incubator that has grown to house more than 60 technology companies in residence since launching in 2017, as well as the New Jersey Innovation Institute (NJII), an NJIT corporation formed in 2014 that now generates more than $65 million in contract work annually by applying the intellectual and technological resources of the university to challenges identified by industry partners around the world.

Here, you'll read about NJIT's dynamic research and industry engagement that is creating meaningful societal impact: from the successes of New Jersey tech startups blossoming at VentureLink's 110,000 square-foot campus headquarters (page 74), to student-led product innovations and entrepreneurial ventures at NJIT's Makerspace (page 288), to NJII's work to solve critical global challenges in sectors ranging from healthcare delivery systems and biopharmaceutical production to defense and homeland security.

We invite you to discover the latest in NJIT's continued story as New Jersey's public polytechnic research university—improving quality of life through technological discovery, and sparking innovation for more than 135 years.

NJIT
New Jersey Institute of Technology

NEW JERSEY INSTITUTE OF TECHNOLOGY'S RISE IN RESEARCH









OUR STORY

NJIT's designation in 2019 as an R1 university by the Carnegie Classification®, indicating "very high research activity," capped NJIT's swift, strategic rise as a research university. In 1979, the university's research expenditures totaled $375,000; today they reach $170 million. Since 2014, total external R&D expenditures have been nearly doubled.

In its strategic plan, NJIT names research as one of the university's five critical priorities and places it at the very center of university life, emphasizing four core areas of multidisciplinary research: data science and information technology, the nexus of life sciences and engineering, sustainable systems, and a transdisciplinary category that addresses the large systemic challenges of "smart cities," for example.

The university supports research in numerous ways, and takes seriously its role in nurturing talent on campus. Over the past four years, 12 young researchers have won CAREER awards from the National Science Foundation and Young Faculty Awards from the Department of Defense, described by the agencies as among the most prestigious. Their work ranges from the development of novel soft solid materials such as smart gels used as sealants and valve controls to the creation of new methods to design lenses and mirrors to precisely control the intensity pattern and phase of light beams in applications such as optical data storage and astronomy. In 2014, NJIT inaugurated its own seed grant program to support interdisciplinary projects between fields as diverse as architecture and biomedical engineering.

Over the past six years, NJIT has hired nearly 130 new faculty members across STEM and other disciplines, increasing its faculty from 268 in 2014 to a projected 345 by 2020. They include experts on topics such as machine learning, data analytics, biomaterials, and biomechanics. More than 80 new labs, centers, and research institutes have been created for a total of more than 110. Each year, 350 undergraduate students spend significant time working closely with faculty in these hubs, including the 120 who returned to campus last summer to take part in research projects.

As part of a $400 million capital-building program, NJIT is transforming research and educational facilities on campus. The gut-level renovation of the five-story Central King Building and the construction of a new 24,500-square-foot Life Sciences and Engineering Center are bringing students and faculty new teaching and research labs. NJIT's new Microfabrication Innovation Center houses advanced equipment and a cleanroom environment for the fabrication of micro- and nanoelectronic and microfluidic devices and sensors that will transform technology across a range of areas and accelerate work on smart devices.

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research.njit.edu

NJIT New Jersey Institute of Technology





MAKERSPACE AT NJIT

FABRICATING THE FUTURE IN NJIT'S NEWEST INVENTION HUB

OUR STORY

Since opening in 2017, the Makerspace at NJIT, a training-focused, rapid prototyping facility that is central to both the university's hands-on learning mission and its growing relationship with New Jersey's manufacturing community, has given rise to a number of ingenious devices used in research experiments, club team contests and startup ventures: inserts for hockey skates; a novel composting appliance created for a capstone project; a device to explore new energy sources deep below the Earth's surface; and syringe prototypes for a healthcare startup that monitors the temperature of medications.

Adedotun Oyefeso, a forward on NJIT's ice hockey team, sought to address his own problem—flat feet crimping his speed across the ice—by manufacturing at the Makerspace an insert that lifted his heel slightly. He ended up founding a startup to begin making it for amateur players without access to customized parts.

The senior capstone team, composed of four women engineers, envisioned their composting device as "an everyday appliance in the average house, like a microwave oven." Homeowners would deposit their biodegradable waste into it from a sealable opening in the kitchen and later remove it for reuse from a second opening on the outside of the house. In the meantime, the decomposing waste could potentially generate enough energy to heat a room.



As the Makerspace's scope rapidly expands, its space is poised to double to 21,000 square feet. The equipment inside ranges from small 3D printers to large industrial machines such as an additive metal 3D printer that uses powdered stainless steel to print parts; an optical scanner that effectively digitizes real-life objects, enabling reverse engineering; and a continuous fiber 3D printer that is capable of depositing strands of carbon fiber, fiberglass, or Kevlar inside 3D-printed parts, to add considerable strength.

With funding from the National Science Foundation, Bruno Goncalves da Silva, an assistant professor of civil and environmental engineering, built a device in







the Makerspace that will allow him to assess the possibility of tapping into vast stores of renewable, carbon-free energy within the Earth's crust.

"So far, success in harnessing the Earth's own heat has been mostly limited to tapping the boiling hot water that bubbles up with little prompting close to the surface," Goncalves da Silva said. "The main challenge is to tap into deeper and less-fractured hot rocks. This would make geothermal energy accessible in many more locations across the world. In order to achieve this goal, we need to fracture the rock in order to increase its permeability."



But it is not only students and faculty who use the facility; it is also available to industrial partners to participate as mentors, trainers, and instructors, to companies to collaborate with students and faculty members on research and development projects, and to employees to receive customized training tailored to their needs.

Businesses in the region, including companies in VentureLink, NJIT's community-based business incubator, are already advancing their prototypes there. A startup called ThermaProx, with a device that will alert healthcare providers with heightened precision if a medication in transit has reached a temperature that may have compromised it, is a case in point. The device is a proxy sensor clipped to individual vials and syringes that mimics the temperature profile of the dose of vaccine or insulin on its final journey, rather than simply recording the ambient temperature in which it traveled.

"The rapid, inexpensive production of our syringe rod and syringe clip in the Makerspace allowed us to show prototypes to potential buyers and investors without long waits and large expense," enthused Nathaniel Cooperman, a company co-founder.

The Makerspace is primarily, however, an integral part of NJIT's curriculum and educational mission. The 10,000-square-foot expansion, now underway, will provide additional space for collaboration, including open areas to congregate, breakout rooms to brainstorm ideas, training rooms for instruction, and additional CAD stations and equipment to design, build, and test early prototypes.

"The expansion will allow users to bring ideas from concept to reality in one facility," said Daniel Brateris, the director of experiential learning for Newark College of Engineering, who designed the Makerspace.

Newark, NJ 07102 | +1-973-596-6510

njitmakerspace.com

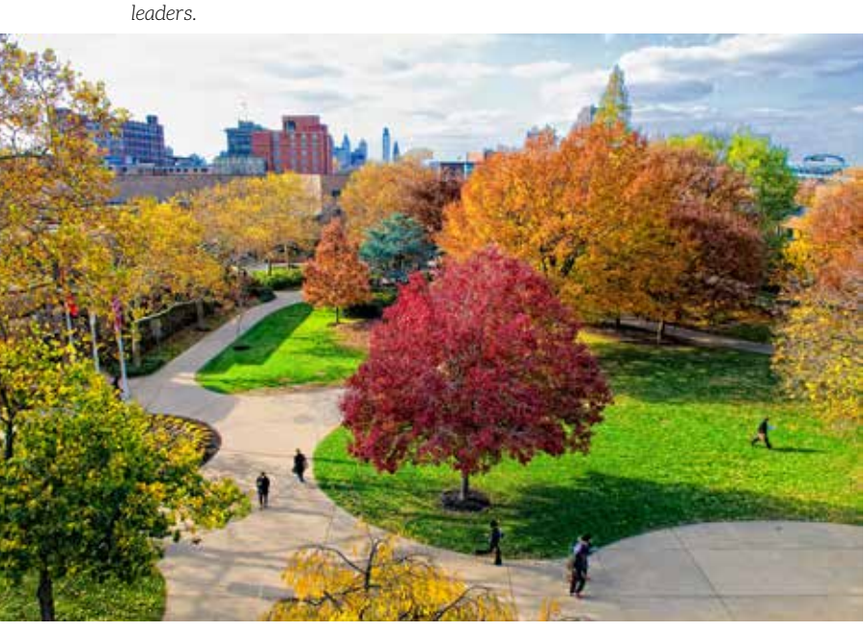
RUTGERS UNIVERSITY–CAMDEN

A PROMINENT NEW JERSEY LOCATION FOR INNOVATION IN THE SCIENCES, HEALTHCARE, BUSINESS, LAW, AND THE HUMANITIES.

Improving drugs that help fight addictions. Enhancing the quality of sleep. Identifying DNA at crime scenes. Stopping the spread of diseases. Preserving the planet in the face of global changes. Fighting the pervasiveness of cancer. These are just some of the many complex goals that Rutgers University–Camden faculty and students in the sciences are working on every day at state-of-the art facilities on the campus only a short walk or ride across the Ben Franklin Bridge from Center City Philadelphia. "The core of what we are doing is breaking boundaries and bringing fresh ideas and solutions," says Nir Yakoby, an associate professor of biology and director of the Rutgers–Camden Center for Computational and Integrative Biology.



The Rutgers–Camden nursing school is a prominent source of skilled healthcare leaders.



The grounds of the Rutgers–Camden campus



Joint Health Sciences Center

OUR STORY

With more than 7,400 undergraduate and graduate students, Rutgers–Camden is an essential part of Rutgers, The State University of New Jersey, one of the nation's oldest and most respected institutions of higher education. "At Rutgers–Camden, innovation is a key part of our mission," says Chancellor Phoebe A. Haddon. "Every day, we develop ideas and programs that make the world a better place."



Nursing and Science Building interior





Business and Science Building



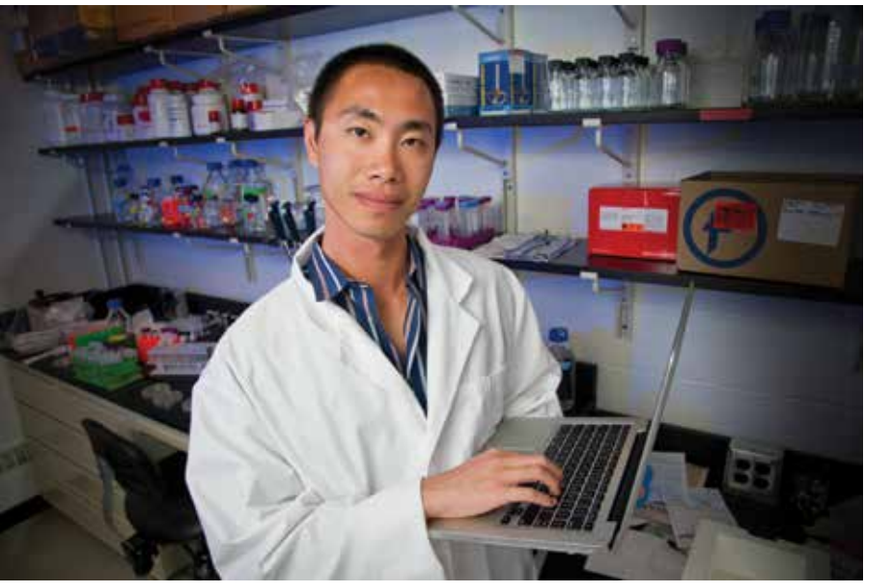
Nursing and Science Building

Two new buildings—the Joint Health Sciences Center, opened in 2019, and the Nursing and Science Building, opened in 2017—have added more than 200,000 square feet of space for research and education at Rutgers–Camden. These new buildings have augmented the "Eds and Meds" corridor in downtown Camden that connects the university and the city's vibrant medical and sciences community to create an international hub for research innovations in the biosciences.

In addition to cutting-edge work done by researchers in the Rutgers–Camden Center for Computation and Integrative Biology, the Rutgers School of Nursing–Camden is a regional leader in nursing education and outreach. Across campus, the Rutgers School of Business–Camden hosts the Daniel J. Ragone CPA Center for Excellence in Accounting and a Financial Markets Lab, as well as a highly ranked professional MBA program. The Rutgers Law School location in Camden is home to both the Center for Corporate Law and Governance and the Center for Risk and Responsibility, significant sites for research and legal innovation in these fields. A Vast Research Agenda



Rutgers–Camden delivers the world-class Rutgers degree in a personalized setting.



Computer scientist Desmond Lun advances DNA research.



Doctoral student Sruthi Murlidaran (foreground) and physics professor Grace Brannigan

The generation of path-defining breakthroughs drives the research faculty at Rutgers University–Camden, which is home to many renowned innovators in biology, chemistry, computer science, and physics. These scientists teach and conduct research in the university's Center for Computational and Integrative Biology and regularly collaborate across disciplines to find innovative approaches to worldwide concerns.

New Approaches to DNA Evidence

The creation of new scientific approaches to forensics, specifically in evaluating DNA evidence from crime scenes, are happening at the Rutgers University–Camden Laboratory for Forensic Technology Development and Integration. Researchers Catherine Grgicak, the Henry Rutgers Chair in Chemistry, and Desmond Lun, a computer science professor, are among the scholars in this center who are producing the next generation of scientific analysis to support law enforcement nationwide. Lun's work has received a $1.7 million U.S. Army Research Office grant to create a software program based on a computational method for analyzing DNA evidence, while Grgicak has grant support from the U.S. Department of Justice's National Institute of Justice for her research.



Urban biologist Amy Savage conducting field research. Photo by Lauren Nichols of yourwildlife.org

Both Grgicak and Desmond Lun created the Project Research Openness for Validation with Empirical Data (PROVEDIt) database at Rutgers–Camden that is helping to bring more reliability to the interpretation of complex DNA evidence. Information from the PROVEDIt database can be used to test software systems and interpretation protocols, and as a benchmark for future developments in DNA analysis. The PROVEDIt database offers free access to approximately 25,000 samples.

Finding Answers in Physics

Sean O'Malley, associate professor of physics at Rutgers University–Camden, has been involved in research supported by numerous grants, including four from the National Science Foundation (NSF). His research seeks to advance and enhance the use of lasers in magnetic resonance imaging (MRI) systems, and—as part of a Rutgers–Camden research team—contributed to the discovery of two new bands of high-frequency electroencephalographic (EEG) activity that could lead to a better understanding about brain activity and its role in memory.

The Impact of Ants on City Environments

Amy Savage, an assistant biology professor, studies urban ants, which perform important ecosystem services in cities like helping to control bug populations and breaking down discarded food before it rots. Her research, which has been supported by the NSF and the US Geological Survey, focuses on the impact of ants in cities.



Undergraduate student researcher Morgan Dwyer



Laser-driven research advances MRI systems.

Bacterial Cell Research

Eric Klein, an assistant professor of biology who leads the university's Bacterial Cell Biology Lab, is the recipient of a $1.2 million grant from the NSF to study the mysterious properties of a bacterial species known as Caulobacter crescentus, a type of bacteria widely found in freshwater lakes and streams. It is a model organism for studying asymmetric cell division and cell shape.



Research at the Rutgers–Camden CCIB engages innovation across a wide spectrum of science



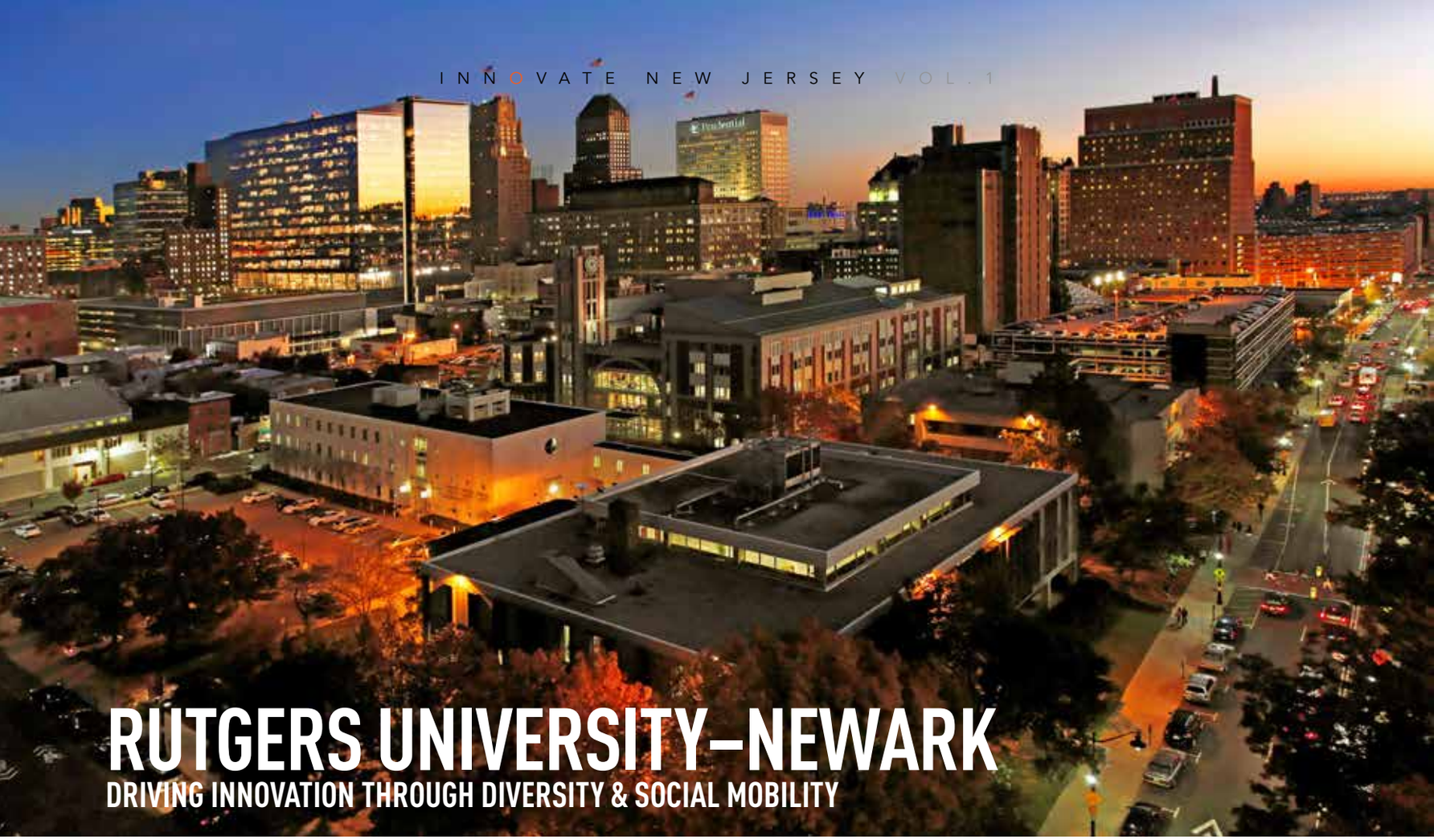
CCIB Director Nir Yakoby (center) works with student researchers

Developing Diversity in the Sciences

The Maximizing Access to Research Careers–Undergraduate Student Training for Academic Research (MARC U*STAR) program at Rutgers–Camden is paving the way for underrepresented students to succeed in the biomedical sciences by providing tuition assistance, research experience, and a monthly stipend to do research in labs during their junior and senior years. Funded by a $1.2 million grant from the National Institutes of Health, the MARC U*STAR program at Rutgers–Camden partners students with faculty mentors who support and encourage them to pursue a PhD or MD/PhD dual-degree. Rutgers–Camden is the only university offering the program in New Jersey and the Philadelphia region.

For more about Rutgers–Camden, visit **camden.rutgers.edu.**
For more about the Center for Computational and Integrative Biology, visit **ccib.camden.rutgers.edu.**

RUTGERS
UNIVERSITY | CAMDEN



RUTGERS UNIVERSITY–NEWARK

DRIVING INNOVATION THROUGH DIVERSITY & SOCIAL MOBILITY

Rutgers University–Newark is a leading urban research university that leverages diversity and high-impact scholarship to cultivate the talent essential to transform communities and change the world. An anchor institution in our home city, we are not just in but of Newark. The RU-N community has long recognized that our location is both a defining influence in our story and a distinctive strength. Our long-standing recognition as one of the most diverse research universities in the United States reflects the diversity of our city and region.

OUR STORY

We attract and cultivate globally competitive talent on many levels, from generations of students hungry for the opportunities afforded by a first-rate higher education in a major American urban center, to faculty who vigorously embrace the opportunity to produce high-impact scholarship and engage the community while preparing these students for professional success and informed citizenship. Our location is also a magnet for professional staff committed to advancing our research, pedagogy, and social impact within an inclusive campus culture focused on excellence. These factors underlie Rutgers-Newark's perennial recognition as one of the nation's most effective universities at facilitating social mobility.

We seek to forge mutually beneficial, sustainable partnerships that pool the talent of our faculty, staff, and students with that of experts across the public, private, and nonprofit sectors, which not only makes for better, more creative solutions to the grand challenges facing our world, but creates more effective learning environments. Our work toward this end is organized under five broad

Rutgers-Newark (foreground) is proudly embedded in the heart of New Jersey's largest city and cultural capital



Undergraduate students using a remote sensor to see below the surface of New Jersey's Meadowlands

areas that capture much of the scholarly expertise and civic-oriented interests in anchor institution work:

- Building Inclusive Educational Pathways to Increase Postsecondary Attainment
- Achieving Equitable Growth through Urban Entrepreneurship and Economic Development
- The Arts and Culture
- Strong, Healthy, and Safe Neighborhoods
- Science and the Urban Environment



Geochemist Ashaki Rouff with vegetables harvested from a community garden where she helped remove soil contaminants



Rutgers–Newark's debate team, perennially among the best in the US, with recent national championship trophies

Our strategic activities in these areas range from cross-disciplinary initiatives rooted in community, to partnerships with diverse "communities of experts," to co-created spaces in the city and region. A few examples include:

- A Center for Urban Entrepreneurship and Economic Development and Center for Law, Inequality & Metropolitan Equity that are core contributors in the City of Newark's efforts to advance equitable growth while mitigating gentrification that threatens to displace longtime residents, 85% of whom identify as African or Latinx American;
- A broad-based collective impact network of 40+ organizations working together to increase college attainment in Newark, The Newark City of Learning Collaborative;
- A new Honors Living-Learning Community emphasizing "local citizenship in a global world" that has been lauded as a national model in The New York Times;
- Express Newark, a 50,000-square-foot university-community arts collaboratory in the historic Hahne & Co. building downtown;
- Catalyzing the Newark Public Safety Collaborative, a group of scholars, law enforcement, city officials, nonprofits working on re-entry of formerly incarcerated city residents, and community members using evidence-based approaches to increase the safety and security of neighborhoods and decrease recidivism; and
- The work of environmental geochemists from the university working with community groups to identify and remediate the presence of toxins in the soils of community gardens.

When you partner with Rutgers–Newark, you:

- Fuel an engine of economic prosperity and social mobility for diverse new generations of change makers;
- Leverage the 'diversity bonus' to create better, smarter solutions that result when people of many backgrounds tackle problems together;
- Increase educational access and pooling ideas and resources across the public, private, and nonprofit sectors to create more sustainable, equitable communities; and
- Spur collaboration and learn what it means to live and work across differences that threaten to divide us.

To explore partnerships, please visit **Newark.rutgers.edu** or email RU-NCommunications@rutgers.edu.

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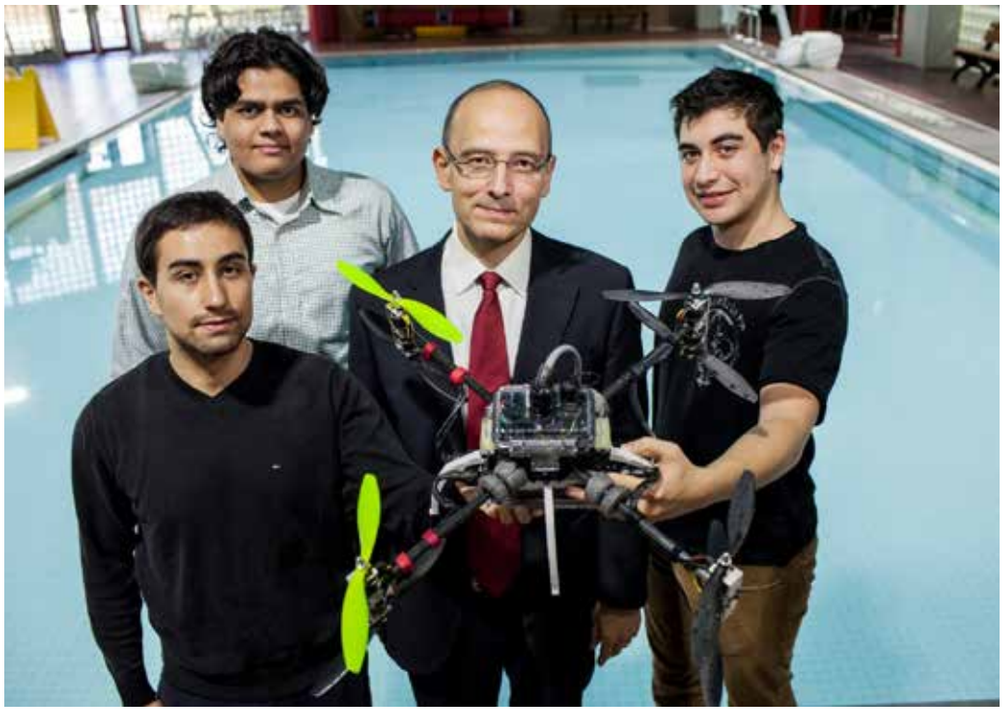


Rutgers–New Brunswick's iconic Old Queens building and Class of 1902 Memorial Gateway.
Photo: Alan Goldsmith

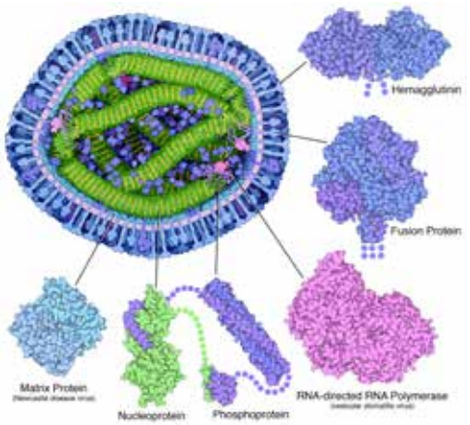
RUTGERS UNIVERSITY–NEW BRUNSWICK

NATIONAL EXCELLENCE IN TEACHING, RESEARCH, AND SERVICE

Rutgers University–New Brunswick is the flagship home of Rutgers, The State University of New Jersey. We are a leading national research university committed to excellence in teaching, research and service that improves our local, national and global communities. A member of the Big Ten Conference and Association of American Universities, we are one of America's nine original colonial colleges and one of the first land-grant institutions. Our diverse campus community hosts world-class programs in philosophy, oncology, physics, theater, urban planning, oceanography, and other fields.



The Rutgers Naviator is one of the first drones equally adept in the sky and underwater. Photo: Bill Cardoni



Proteins that help the measles virus infect cells. The RCSB Protein Data Bank is the world's only open-access, digital data resource for the 3D biomolecular structures of life. Image: David S. Goodsell and the RCSB Protein Data Bank

Cutting-Edge Technology

Caliburn, New Jersey's most powerful computing system, supports unprecedented levels of data-driven research in astronomy, the humanities, mathematics, medical informatics and other fields. Caliburn has the computational power of more than 10,000 standard desktop computers and has already performed computing that would have taken a desktop more than 6,000 years. Caliburn provides a competitive advantage to researchers, students and industry leaders across the Garden State. More info: oarc.rutgers.edu.

The **Rutgers Naviator EVA-1**, created at the Rutgers School of Engineering, is one of the first drones to be equally adept in the sky and underwater. It can support search and rescue missions, evaluate storm damage to bridges and underwater infrastructure and monitor environmental disasters such as oil spills or algae blooms.

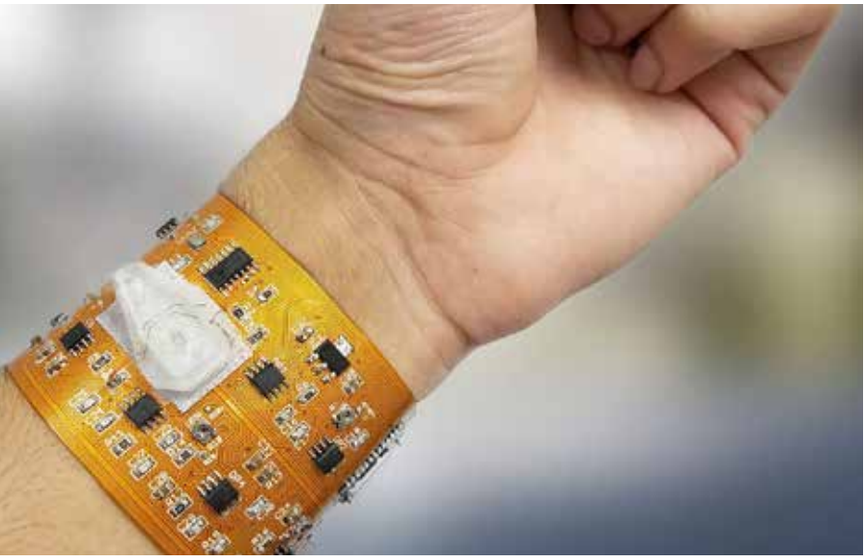
At the Forefront of National Security

The **Rutgers Institute for Secure Communities (RISC)** uses cutting-edge research, data and scholarship to help law enforcement and intelligence agencies prevent violence and protect vulnerable communities. As a federally designated Intelligence Community Center for Academic Excellence, it offers a Critical Intelligence Studies program that prepares students for careers in the intelligence community.



As New Jersey's only National Cancer Institute-designated Comprehensive Cancer Center, Rutgers Cancer Institute of New Jersey provides cutting-edge treatments. Photo: John O'Boyle

The **RCSB Protein Data Bank** at Rutgers is the world's only open-access, digital data resource for the 3D biomolecular structures of life. It plays a central role in the discovery of lifesaving drugs, basic and applied biological and medical research and patent applications. Medical professionals, biopharmaceutical and biotechnology companies and others download nearly 2 million data files each day on the complex and beautiful molecular structures of proteins for a vast array of applications. Replicating its archive would cost an estimated $15 billion. The data bank was recently awarded $34.5 million in federal grants over five years to expand its reach.



Rutgers engineers have created a smart wristband that will enable a new wave of personal health and environmental monitoring devices. Photo: Abbas Furniturewalla

Innovations For Public Health

As New Jersey's only National Cancer Institute-designated Comprehensive Cancer Center, **Rutgers Cancer Institute of New Jersey** provides cutting-edge treatments driven by onsite, investigator-initiated research including clinical trials, precision medicine and immunotherapy. In partnership with RWJBarnabas Health, Rutgers Cancer Institute cares for both adult and pediatric cancer patients across the Garden State and throughout the region.

"Lab on a Chip" and **"Smart Wristband"** technologies developed by Rutgers engineers could enable a new wave of wearable devices to monitor personal health, identify diseases and watch for exposure to bacteria, viruses and other contaminants.

A Rutgers Robert Wood Johnson Medical School scientist's **"Virtual Biopsy"** device uses sound vibrations and near-infrared light to quickly evaluate skin lesions without using a scalpel or causing discomfort.

Agricultural Advancements to Feed the World

The meatless Impossible Burger and its growing popularity began at Rutgers–New Brunswick's Food Innovation Center, a unit of the Rutgers New Jersey Agricultural Experiment Station, which connected Impossible Foods with the food science and manufacturing expertise to perfect their product and get their operation off the ground. The **Food Innovation Center** supports entrepreneurs and established food companies from concept to commercialization, with expertise in business, marketing, food safety, product design and scale-up methods.

Discoveries at **Rutgers' Waksman Institute of Microbiology** may help improve corn yields and nutritional value through genetic discoveries of how corn synthesizes starch and protein. The research could benefit millions of people who rely on corn for nutrition worldwide.

Rutgers agricultural researchers have created many **new crop varieties**, from the Rutgers Tomato™, Pumpkin Habanero Pepper™ and Rutgers Scarlet Strawberry™ to mildew-resistant varieties of sweet basil and new cranberry varieties noted for their yield, quality and genetic diversity. These crops meet



Farmers across the US and overseas are growing Rutgers-bred cranberry varieties known for their yield, quality and genetic diversity. Photo: Matt Rainey



The Pumpkin Habanero Pepper, developed through Rutgers' exotic pepper breeding program, has more heat than a bell pepper but less of a kick than a traditional habanero. Photo: Cameron Bowman

the evolving needs of farmers, grocers and consumers. This proud tradition dates back even before the 1930s when Rutgers created the famous Jersey Tomato through a partnership with Campbell's Soup Co.

Environmental Stewardship

The **Rutgers Institute for Earth, Ocean, and Atmospheric Sciences (EOAS)** is a global leader in the study of climate change and ecological risk, oceanic and atmospheric observation and prediction and polar research. Its pioneering researchers, spanning six Rutgers schools, are investigating the 21st century's most pressing scientific challenges to protect our ecosystems and communities.



Rutgers–New Brunswick's robotic underwater gliders gather data in oceans across the world. Photo: Nick Romanenko



Our Mason Gross School of the Arts is a renowned public arts conservancy with a community of dancers, filmmakers, musicians, theater artists, visual artists, and designers. Photo: Christopher Cartmill

The **Rutgers University Center for Ocean Observing Leadership (RU COOL)** is changing the field of oceanography and the ways scientists understand hurricanes, weather, marine life and climate change with high-frequency radar and robotic underwater gliders that gather data in oceans across the world.

The **Center for Structured Organic Particulate Systems (C-SOPS)** convenes a cross-disciplinary team of researchers from major universities to work with industry leaders and regulatory authorities for science and engineering solutions to improve the ways pharmaceuticals, foods and agriculture products are made.



Rutgers engineers built one of the first production-scale continuous manufacturing facilities inside an engineering building on our Piscataway campus. Photo: Dennis Connors

Social Accountability

Through its ongoing **Scarlet and Black** project, Rutgers is exploring the university's historical relationships with the legacies of slavery and racism affecting African Americans and the displacement of Native Americans from their land. The books published through this project reflect Rutgers' commitment to diversity, inclusion, transparency and excellence in scholarship and research, including our graduate school's #1 ranking in African American history.

The **Center for American Women and Politics** within Rutgers–New Brunswick's Eagleton Institute of Politics is a nationally recognized source of research and current data on women's political participation in the United States. It works to improve the representation of women in government with Ready to Run, a nonpartisan "electoral boot camp" for women with political aspirations.

Excelling in the Arts

Rutgers–New Brunswick's **Mason Gross School of the Arts** is a renowned public arts conservancy and a community of dancers, filmmakers, musicians, theater artists, visual artists and designers. Mason Gross provides rigorous training under the tutelage of professional working artists; the Rutgers Conservancy at Shakespeare's Globe in London; and professional performances and exhibits in major New York City venues and the New Brunswick Performing Arts Center. Mason Gross has a community of notable alumni across the worlds of theater, cinema, design, dance and music.

For more information about Rutgers-New Brunswick, visit **newbrunswick.rutgers.edu.**

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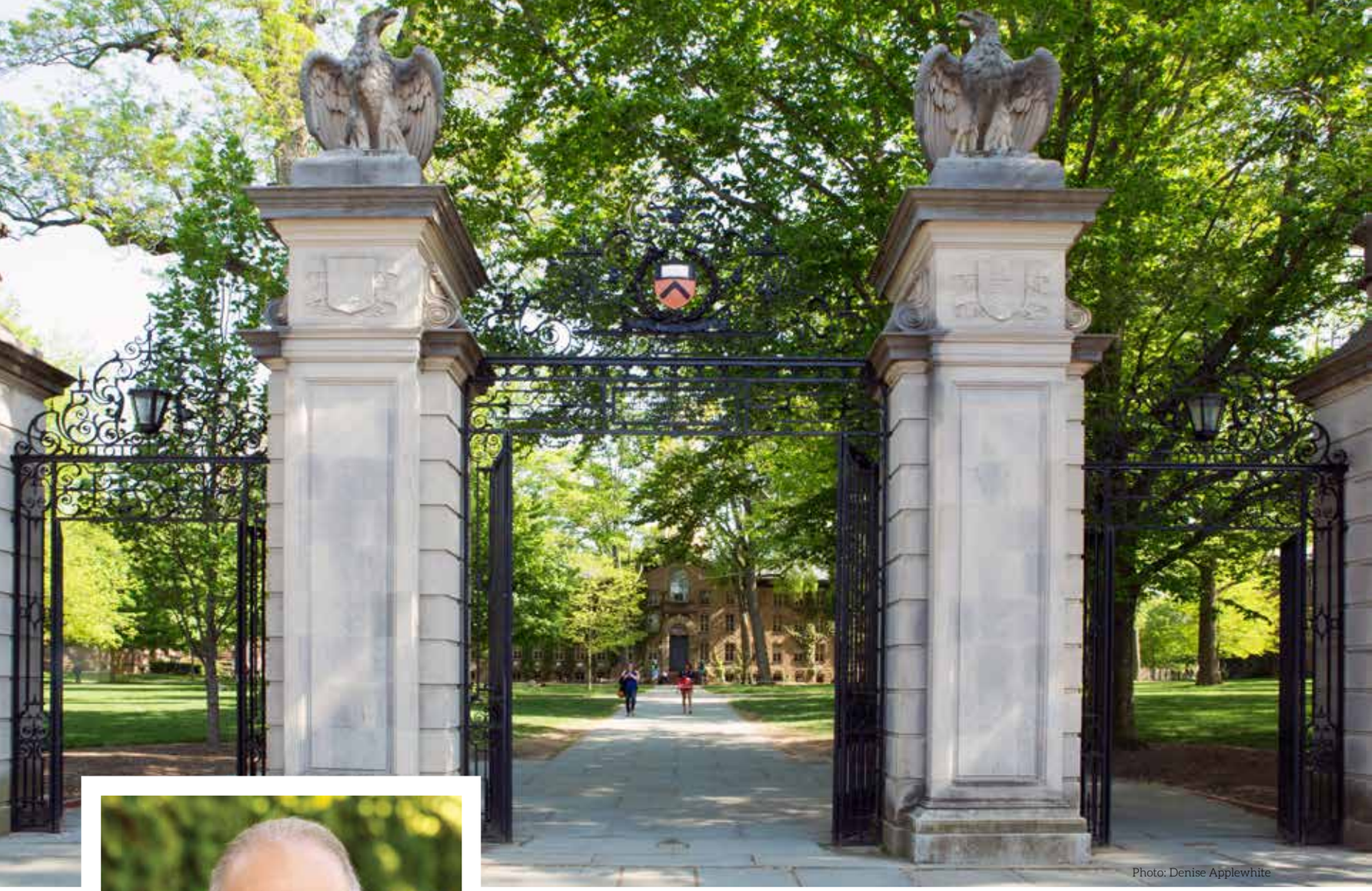


Photo: Denise Applewhite



Photo: David Kelly Crow

"At Princeton, making an impact in society at large enhances the quality of our education and research, both of which are central to the University's mission. Through our growing culture of innovation, the University is now even better placed to ensure that the ideas and innovations of its faculty and students reach the broader world."

Pablo G. Debenedetti—Dean for Research; Class of 1950 Professor in Engineering and Applied Science; Professor of Chemical and Biological Engineering

PRINCETON UNIVERSITY

OPEN THE GATES TO INNOVATION

OUR STORY

With nearly 30 Nobel prizes awarded to Princeton's faculty and staff, Princeton University is often thought of as a source of extraordinary fundamental work that can be somewhat removed from practical applications. While many of today's Princeton researchers continue to pursue curiosity-driven knowledge, increasing numbers among them also want to help solve the major challenges of our time in realms ranging from healthcare to sustainability to information systems.

Rigor and relevance. This is Princeton research and innovation today.

It's an exciting time at the University. Princeton has brought energy and determination to new programs that nurture and unleash the enterprising spirit of the University's faculty, students, staff, and alumni. In a state with a venerable history of discovery and innovation, Princeton has proactively broadened its efforts to connect research with the greater innovation ecosystem in New Jersey and beyond.

Encouraging entrepreneurship

Princeton University promotes entrepreneurship by offering education and training, advisory support, collaborative spaces, and funding resources. While many efforts serve the University community, the **Princeton Innovation Center** aims more broadly: Science startups who wish to apply for residency in this incubator do not have to be connected to the University, and the Center's entrepreneurship programming is open to all. In addition, Princeton University works to connect with entrepreneurs around the globe, bringing them the latest science and innovation through a robust slate of outreach events.



The Andlinger Center for Energy and the Environment offers one of several corporate affiliates programs across the University. These initiatives provide opportunities for industry to deeply engage with scholars and develop innovative solutions for the most difficult challenges of our time. (Photo: Bumper Dejesus).









Additional photos: Denise Applewhite and Sameer A. Khan/Fotobuddy



Photo: David Kelly Crow

"When I talk about innovation or entrepreneurship, it's about bringing out what we do here as fundamental research into the real world. Princeton is part of that world, and we have a responsibility to make sure that the discoveries made here can make a difference."

Rodney D. Priestley—Vice Dean for Innovation; Professor of Chemical and Biological Engineering

Expanding research collaborations with industry

Princeton has spurred a significant increase in corporate engagement, developing novel opportunities for academic researchers to collaborate with industry. Multidisciplinary efforts such as the **Princeton Catalysis Initiative** and the **Andlinger Center for Energy and the Environment** offer scientists, engineers, and scholars the opportunity to explore the intersections of what were once separate fields—intersections at which breakthroughs are often made and that attract interest from industry.

Establishing academic leadership to advance research-driven innovation

Dean for Research Pablo Debenedetti has named Professor Rodney Priestley to the newly created position of **Vice Dean for Innovation**. This role provides University-wide academic leadership for innovation and recognizes the intrinsic relationship between research and innovation at Princeton. As a polymer scientist, Priestley has collaborated with industry and launched multiple companies related to his own research.

"In the Nation's Service and the Service of Humanity"

In keeping with its informal motto, Princeton is accelerating the societal impact of its inventions and opening new opportunities for its powerful research to make a difference in people's lives.



Photo: Fotobuddy/Sameer Khan

"When you think about the history of Princeton, you think about rigor, a place that does foundational research. But what's exciting right now is the way Princeton is bringing together rigor and relevance to tackle major societal challenges and making those really take flight and get transferred out to the real world."

Jennifer L. Rexford—Chair, Computer Science Department; Gordon Y.S. Wu Professor of Engineering

PRINCETON UNIVERSITY

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FAIRLEIGH DICKINSON UNIVERSITY

School of Pharmacy & Health Sciences

ELEVATOR PITCH

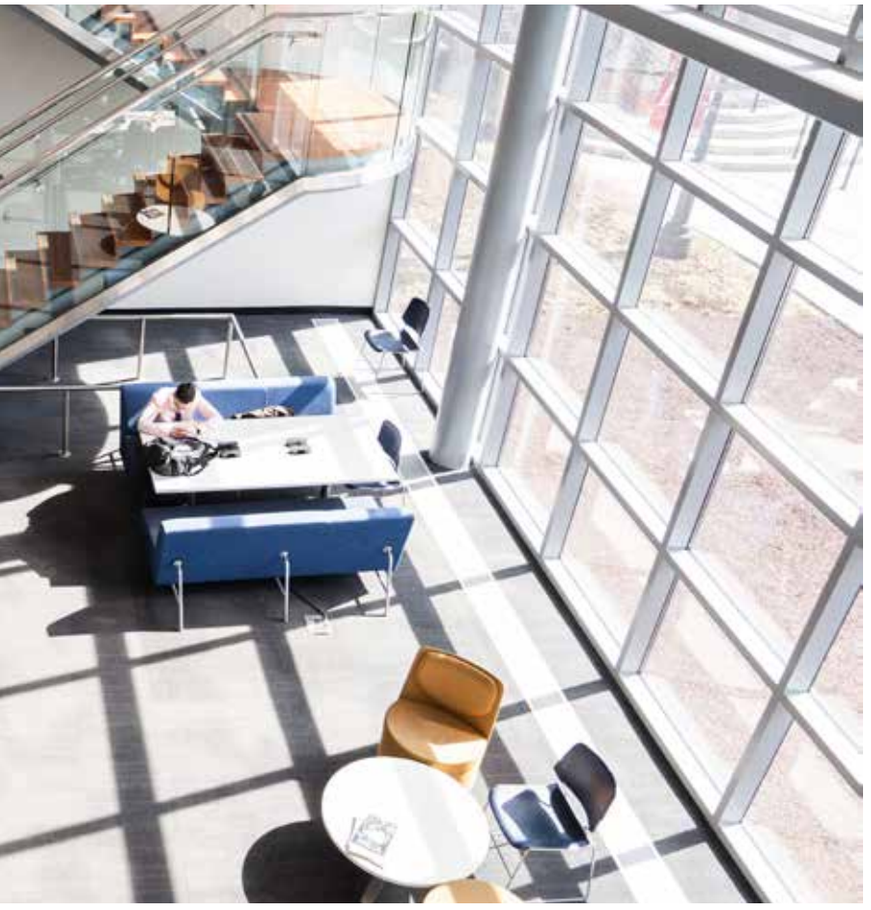
The Fairleigh Dickinson University School of Pharmacy and Health Sciences was founded on the premise that creating and building a new program could provide an educational experience to prepare students for the revolutionary changes in the way in which healthcare is practiced now and in the future.

The advent of technological innovation and breakthroughs in new modes of treatment, the onset of personalized medicine and the rapidly changing face of healthcare delivery are all factors that were considered when building the School of Pharmacy and Health Sciences.

Through unique degree offerings and combinations, hands-on clinical experiences and a personalized, interprofessional delivery of the curriculum, the School is focused on preparing future leaders for diverse roles across the healthcare continuum through a culture of learning, scholarship, innovation and advocacy.







OUR FOCUS

The focus of the School is to integrate all of its health science offerings around a common core mission, vision and set of values to assure that leadership, faculty, staff and students all focus on the common mission of educating future healthcare leaders to address the uniquely evolving challenges and opportunities facing our society now and long into the future.

The mission of FDU's School of Pharmacy & Health Sciences is to create a values-based, student-centered learning experience that prepares graduates who are committed to improving the health of individuals and populations through leadership roles in pharmacy practice, healthcare research and related healthcare fields.

Students within our program are exposed to a breadth of courses and experiences to reinforce these five core values, which include:

- **THINK** critically, analyze data, detect and solve problems on a path through lifelong learning.
- **COMMUNICATE** knowledge, skills and the confidence to practice pharmacy as an ethical professional and leader.
- **ADVOCATE** and participate as a team member on an interprofessional team that may consist of physicians, nurses, pharmacists, ethicists, other health professionals and patients.
- **LEAD** for individual patients and patient populations through the practice of pharmacy.
- **IMPLEMENT** the safe and effective medication therapy management that individualizes patient care and ensures adherence, and supports the ideas of prevention and wellness.

PHARMACY

The Fairleigh Dickinson University pharmacy program was created to provide students an opportunity to advance the practice of pharmacy in both traditional and non-traditional settings. The school was founded on the premise that the role of the pharmacist is advancing beyond a dispensing function and into a clinical decision-making role that puts pharmacists as essential members of the healthcare decision-making team.

As a program educating future pharmacists and leaders, it is our goal to instill a set of five core values into each student and graduate of our program. We believe that these five, non-negotiable tenets must be a part of every pharmacist in practice today and in the future as they seek to advance healthcare practice to a more patient-centered, personalized approach.

Additionally, a unique aspect of the program that has provided tremendous value to students includes the dual-degree opportunity for students who are eligible and qualify. During the four years within the program, eligible students have the opportunity to pursue their Doctor of Pharmacy degree alongside a master's degree that aligns closely with their skills and interests. Students may select from a dual degree Master of Business Administration (MBA), Master of Public Health (M.P.H.), Master of Public Administration (MPA), Master of Arts in Industrial/Organizational Psychology or Master of Arts in Communication Studies. By aligning these master's courses with their existing curriculum,





students receive both degrees concurrently, aligning their learning from both courses of study to synergistically overlap and provide opportunities for real-life application of their coursework.

Pharmacist graduates of our program are well equipped to pursue opportunities in community, clinical and industry pharmacy through a wide array of learning experiences across the clinical year of the program, providing for a set of experiences that are both customizable and widely reaching. Students learn alongside subject matter experts and leaders to garner a knowledge and understanding of what areas of pharmacy align with their interests and strengths. This effectively prepares them to emerge as leaders and agents of change within a wide array of opportunities. Graduates readily enter into practice with vastly-reaching opportunities and pursue jobs in community pharmacy, hospitals and health systems, the pharmaceutical and biotechnology industries and in other unique and emerging areas where they can bring value.

PUBLIC HEALTH

The Master of Public Health (M.P.H.) Online Program at Fairleigh Dickinson University seeks to educate leaders who promote, enhance, and improve the health of individuals and populations in local, national, and global settings. In alignment with the University's global mission of training world citizens, the M.P.H. program will focus on ways to enhance access to health promotion services, understand the ethical and social responsibility for providing access to healthcare while minimizing or eliminating health disparities, and to understand the role of the public health practitioner as a leader and advocate with both a local and global perspective. The program is focused on incorporating the five core values of health science programs within the University to prepare confident public health experts who, in turn, will engage with the patients and populations they treat and serve.





The M.P.H. degree requires completion of 45 credits, including a didactic core courses, specialization track electives, and a culminating experience: practicum and capstone. The specialization tracks include areas of Health Analytics, Health Policy, Population Health in Addiction and Recovery, or students may opt for a Generalist track and pursue elective courses in any combination of these three areas. The teaching and learning will be focused on inclusion of active learning activities that include small group interactions, case studies, flipped classroom pedagogy, as well as integrated care groups that are focused on interprofessional education with students in pharmacy, nursing, psychology, and other health profession programs.

A critically important aspect to the program includes an interprofessional, team-based approach to learning that includes regular interactions with students from other health professions to focus on incorporating the Interprofessional Education (IPE) plan set forth by the School of Pharmacy and Health Sciences and adopted across the health professions (IPEC, 2016; WHO, 2010). The mission of this interprofessional education (IPE) plan is to bring together members of the care team to build relationships and facilitate discussions, to develop best-practice approaches for innovative and effective methods of interprofessional (interprofessional) practice. The goal is to educate current and future health professionals with focus on collaboration, respect and ethics toward the promotion and delivery of patient-centered, team-based decision making.

The M.P.H. program also utilizes the University's extensive healthcare partnerships to leverage high quality experiences as part of its longitudinal practicum and capstone experience. The penultimate goal of this experientially focused portion of the curriculum is to provide students an immersive, hands-on experiential learning focused on real-life public health problem solving and decision making, analysis and understanding of unique challenges within different areas of public health, and a comprehensive exposure to applications that reinforce concepts learned in classes and applied to practice. Students are provided an opportunity to present their experiences as part of the comprehensive capstone course, which will connect experiential learning to the five core values of the program.





PHYSICIAN ASSISTANT PROGRAM

PAs are medical professionals that improve healthcare access and quality, practicing in every state, setting, and specialty. They diagnose illness, develop and manage treatment plans, prescribe medications, and often serve as patients' principal healthcare providers. (AAPA)

The Bureau of Labor Statistics projects the employment of PAs to grow faster than for all other occupations. Data released by the Association of American Medical Colleges indicates that the shortage of physicians could climb as high as 120,000 by 2030 and in response to that shortage and other factors, the PA profession is predicted to grow by 72% by 2025 (Public Health Reports).

The FDU PA Program has developed a 2.5 year curriculum leading to the Master of Science (MS) in Physician Assistant Studies. The mission of theFDU PA Program is to " prepare future PAs, socially responsible members of inter professional teams, empowered to promote health, provide compassionate patient-centered care, and advocate for the well being of local and global communities". The curriculum encompasses a 44 week (excusing vacation and holidays) Didactic Phase followed by 65 weeks of Clinical & Advanced Clinical Phases. Learning experiences are designed to promote the acquisition of bouts sound academic knowledge and competent clinical skills. Clinical experiences are provided in a variety of healthcare settings with diverse patients across the lifespan. The program fosters professional attitudes, adherence to ethical standards, and commitment to patient-centered care; and has developed for its students (included in the tuition) local and global service learning opportunities.

The PA Program also guides students in the development of research studies that culminate in the dissemination of findings and prepares its graduates to successfully obtain national certification and state licensure(s). Throughout, it cultivates a commitment to lifelong learning and service.

FDU has applied for Accreditation-Provisional from the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) and anticipates matriculating it's first class in June 2011, pending achieving Accreditation-Provisional status at the September 2030 ARC-PA meeting.





OCCUPATIONAL THERAPY

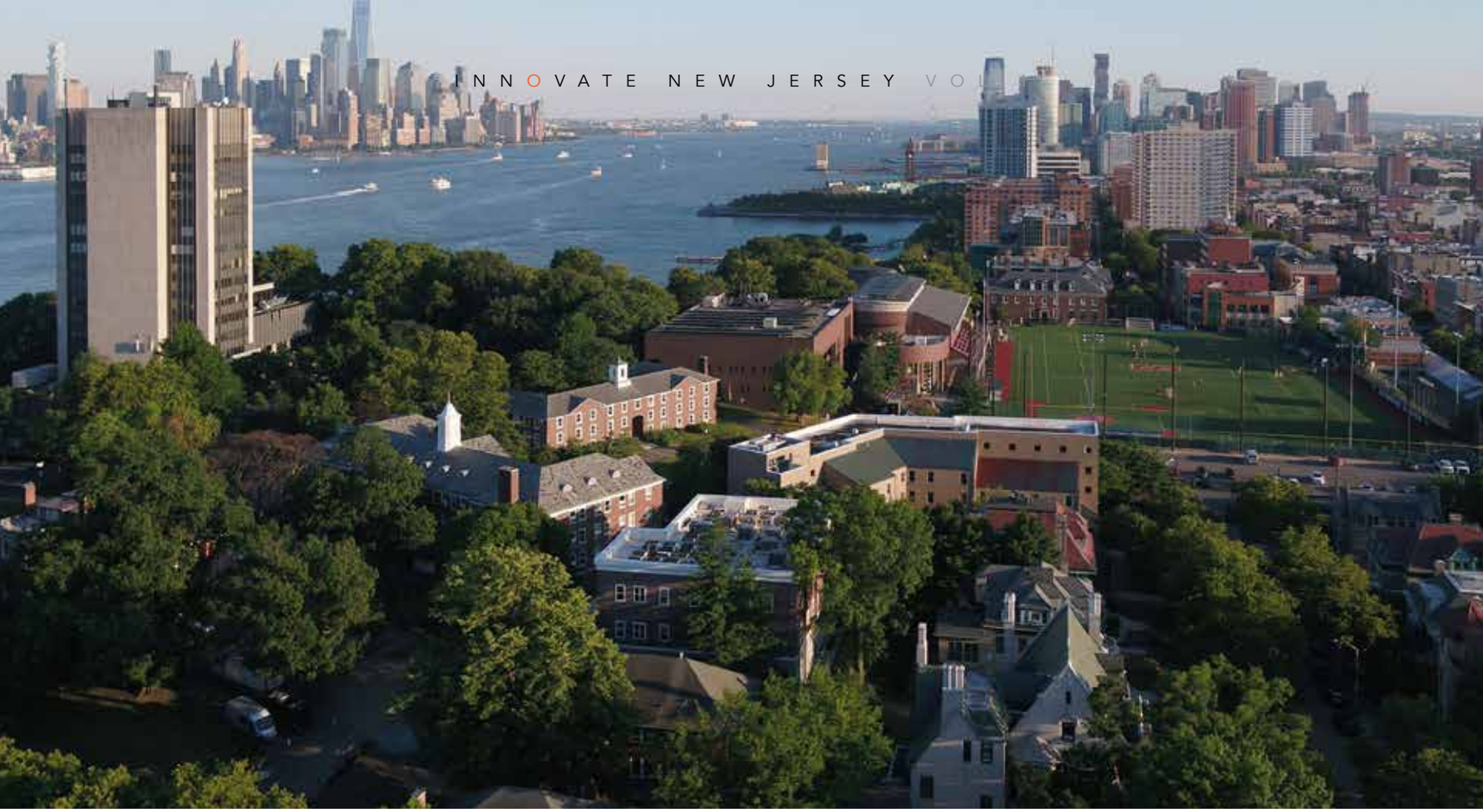
The post-professional Occupational Therapy Doctorate (PPOTD) program at Fairleigh Dickinson University, slated to begin summer 2020, will seek to educate practitioners who support and assist patients limited by physical, social, developmental, cognitive or other disabilities or challenges as they work to optimize their health and wellness through development, recovery, maintenance and improvement of the daily skills needed for living. The program will be focused on incorporating the five core values of health science programs within the University to empower practitioners who, in turn, will empower the patients they treat and serve.

The PPOTD curriculum will include both didactic, laboratory and experiential courses and will be focused on inclusion of active learning activities that include, but are not limited to, small group interactions, case studies, flipped classroom methodologies and integrated care groups that are focused on interprofessional education alongside students in pharmacy, physician assistant studies, nursing, psychology and other health professions programs planned for the future. A critically important objective within the program is to offer an interprofessional, team-based approach to learning that includes regular interactions with students from other health professions to focus on incorporating the interprofessional education plan set forth by the School of Pharmacy and adopted across the health professions.

The mission of this interprofessional education plan is to bring together members of the care team to build relationships, facilitate discussions and develop best-practice approaches for innovative and effective methods of interprofessional practice. The goal is to educate current and future health professionals who are focused on collaboration, respect and ethics toward the promotion and delivery of patient-centered, team-based care.

The PPOTD program will also focus on providing students with a breadth and scope of practice knowledge across the continuum of care to assure that students become well-rounded, cross-functional health professionals who understand the role of the occupational therapist in a multitude of settings. The plan is also in place to provide interprofessional experiences throughout the program to afford students the opportunity to "round" and practice alongside other health professionals to apply the knowledge and understanding of the role of each practitioner that was learned during the didactic courses into real world contemporary practice.

fdu.edu/pharmacy



STEVENS INSTITUTE OF TECHNOLOGY

A leader in technology innovation since 1870, Stevens continues its remarkable growth and upward trajectory—educating the next generations of problem-solvers to think critically about the future



ELEVATOR PITCH

Stevens Institute of Technology is a premier, technology-centric research university located in Hoboken, New Jersey, across the Hudson River from New York City, producing pathbreaking research that addresses global challenges in areas including artificial intelligence, cyber security, healthcare, finance, robotics, systems, and sustainability. Stevens graduates consistently realize top ROI, earnings, and career outcomes.

OUR STORY

Established by "America's first family of inventors," the Stevens family, the university was associated with many of the key technical developments of the 19th century, including the first American steam locomotive and steam ferry, the T-rail—the predominant form of railroad track still in use today—and the creation of US patent law.

Early Stevens graduate Frederick Winslow Taylor (class of 1883) created the field known as scientific management, while his contemporary—master's degree







recipient Henry Gantt—invented the ubiquitous Gantt chart to assist with project management. ASME (the American Society of Mechanical Engineers) developed a close, lifelong association with the university, conducting a key organizational meeting on campus shortly after forming in 1880.

Faculty, students, and graduates have continued that legacy of innovation ever since, devising a new process for synthesizing penicillin and inventing bubble wrap packaging material and remote-access IMAP email, among countless other innovations. Stevens alumni co-founded Fortune 500 companies General Motors and Texas Instruments, while Stevens graduate Frederick Reines discovered the neutrino, confirming the Big Bang theory of the universe's origin and receiving a Nobel Prize for those efforts. Stevens graduate Aaron Cohen directed NASA's Apollo lunar module program in support of early US moon landings, later creating and directing America's Space Shuttle program.

Today the university continues to grow in size and impact. In 2019, Stevens added 34 new faculty and enrolled both the largest undergraduate and largest PhD classes in university history. Philanthropy is on the rise. Leading-edge research is conducted with the support and partnership of collaborators including Amazon, Google, Accenture, IBM, the National Institutes of Health, the National Science Foundation, and the US Department of Defense. Stevens researchers conduct pioneering work on blockchain technology; develop artificial intelligence that can detect deception, signs of dementia, or financial fraud; and produce eye-opening new visualizations that inform Alzheimer's disease treatment and concussion research.

In addition, the university's labs and centers create world-class flood modeling and forecasting to assist communities preparing for a future of climate change; advance our understanding of cancer metastasis and treatment; develop new methods of detecting infections and monitoring fetal heartbeats; and demonstrate compact, secure quantum communications networks, among other projects.

Stevens continually and actively protects intellectual property and realizes commercialization opportunities, for example through a recent agreement to license Stevens-developed graphene sensing technology to a biotech firm bringing novel wearable devices for diabetes patients to market. Entrepreneurship training is woven into the university's curriculum, while capstone team design projects build students' real-world skills prior to entering the workplace.

Recruiters from some of the world's leading firms—Amazon, Google, EY, Microsoft, Prudential, and UBS, among others—regularly return to career fairs on campus or otherwise recruit at Stevens, selecting students for internships



that typically lead to full-time position offers. Fully 96% of the university's graduates attain their desired outcomes within six months of graduation.

Stevens also stands firmly committed to enhancing diversity in STEM education and career fields, creating a series of new programs and initiatives designed to increase access to technology education for students from underserved communities. In a relatively short time, these programs have helped drive significant increases in the diversity of the university's incoming first-year classes.

Stevens: A university on the rise.



Nariman Farvardin
President

Passionate for the (im)possible.

STEVENS
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THE INNOVATION UNIVERSITY®

stevens.edu


Cooper Medical School of Rowan University



RowanUniversity

OUR STORY

One of the nation's top 100 public research institutions and the fourth fastest-growing public research institution in the US, Rowan University is transforming public higher education with an entrepreneurial approach to creating academic and economic opportunities, encouraging discovery, and distinguishing itself as an innovative leader. Just a few recent highlights prove its success—and capacity for growth and more achievement:

- In growth, with enrollment up more than 80% in 10 years, to 19,500. In programs, including doctorates. And in facilities, with new buildings for the William G. Rohrer College of Business and Henry M. Rowan College of Engineering to double enrollment for their high-demand programs, and Discovery Hall, the newest academic building, set to open in 2021.
- In recognition, as Rowan earned Carnegie R2 (High Research Activity) research status. *U.S. New & World Report* and other publications and organizations continue to rank Rowan highly. And faculty, staff and students consistently receive honors at national and international levels, including Fulbright, Goldwater, and Boren awards and funding from the National Institutes of Health, National Science Foundation, and National Endowment for the Humanities, among other organizations.



In a region rich with academic resources and high demand, Rowan University has unmatched agility and continually expanding capacity, especially in its two medical schools and research at the intersection of science, engineering, technology, and medicine.



Designed to help foster collaboration among talented faculty and gifted students, new academic and research facilities host small class instruction and practical research. Rowan Blvd. links the Glassboro campus to the community with student housing, retail, professional space, and more in the $426 million project.





- In research, with Rowan quadrupling outside funding in the last four years and supporting long-term partnerships and collaborations while developing new ones, including with Lockheed Martin, the US Army, and a host of business and government organizations.
- And in commitment to the community and the economy, including awarding the first $5 million of $50 million the University has pledged for 10 years to significantly enhance medical and bioscience research at Cooper Medical School of Rowan University (CMSRU) in the city of Camden. It also includes partnering with the Coriell Institute for Medical Research, Cooper University Health Care, and CMSRU to research genetic and biological factors to fight opioid addiction. And it includes Rowan's partnership with Rutgers-Camden and Camden County College to create a health sciences center in Camden—a new initiative in the city's "Eds and Meds" corridor that will foster medical and bioscience research and prepare students for careers in healthcare and biomedical research.

Rowan is dedicated to providing an accessible, affordable undergraduate education and to tackling research that addresses real-world problems—particularly at the intersection of science, engineering, technology, and medicine.

The University will continue to explore ways to improve higher education, making it more accessible and affordable; pursue practical research that addresses real-world problems in healthcare, the environment, technology, and other fields; and better the economy of the region, always transforming itself to meet the needs of an ever-changing world.

RowanUniversity

rowan.edu



MONTCLAIR STATE UNIVERSITY

TRANSFORMING INNOVATIVE IDEAS INTO REAL RESULTS

ELEVATOR PITCH

Just 12 miles from Manhattan, Montclair State University is positioned at the center of commerce and culture, with a burgeoning enrollment of 21,000 graduate and undergraduate students whose diversity reflects the region and world.

Over the past two decades, Montclair State has invested $765 million in building facilities—while pioneering 80 innovative graduate programs and recruiting leading academics and researchers to fill its expanding 252-acre campus.

The result: Montclair State is a nationally designated doctoral high-research activity and state-designated public research institution that attracted a record $17.84 million in research funding in 2018. In short: Montclair State is an ideal partner for innovation.



"The breadth of our research portfolio—from developing treatments for malaria to diversifying New Jersey's teacher pipeline—represents the upper echelons of scholarship making a real impact on issues of critical importance to New Jersey and the world," says Vice Provost for Research and Graduate School Dean Scott Herness.

OUR STORY

Exploring Character and Leadership Development in Scouts

Montclair State researchers are collaborating with national organizations like the Boy Scouts of America (BSA) to help address questions such as: How do adults shape character in young people? For scoutmasters and other adult volunteers, what kinds of training and experience help them build character in scouts? Family Science and Human Development Professors Jennifer Urban and Miriam Linver are seeking answers from 2,500 scouts and their adult leaders to help BSA strengthen its mission by pinpointing trainings and experiences that lead to the strongest outcomes in scouts.

The researchers, who also codirect the Institute for Research on Youth Thriving and Evaluation (RYTE) at Montclair State, have received first-year funding from a two-year $5.7 million Boy Scouts of America National Character Initiative subaward funded by the Stephen D. Bechtel Jr. Foundation to support the second phase of BSA BEST (Building Evidence in Scouting Together), an ongoing national-scale study exploring the role adults play in youth character development.

The researchers are encouraged by preliminary findings. "We expect that there are several different adult leader profiles that lead to positive youth outcomes," says Urban. "We're excited to find out what they are so we can help BSA foster strong adult leaders."

Diversifying New Jersey's Teacher Pipeline

Just 16% of New Jersey educators are teachers of color, according to the New Jersey Department of Education (NJDOE). The University has received a NJDOE "Diversifying the Teacher Pipeline: Recruiting Teachers of Color" grant enabling it to tackle this situation by partnering with Newark Public Schools in a 19-month pilot program. It has also joined forces with national educational partners to launch New Jersey's largest school district's first teacher academy to grow the next generation of teachers.

"Montclair State is again in the vanguard of teacher preparation and in helping to lead the recruitment and retention of teachers of color—as well as teachers for urban schools," says Montclair State Center of Pedagogy Executive Director Jennifer Robinson.

For students of color, this shortage of role models—and teachers who fully understand their racial, ethnic and cultural backgrounds—can contribute to lifelong achievement and opportunity inequities.

The Recruiting Teachers of Color project will extend the work of the University's innovative Newark-Montclair Urban Teacher Residency Program—a site-based teacher certification program for college graduates and career changers committed to urban education.

Montclair State, Newark Public Schools, and the American Federation of Students recently launched Newark Public Schools Teacher Academy—the first in a planned series of high school academies that will prepare Newark Public School students for careers in education and grow a pipeline of diversity for the state's teacher workforce. The launch began the planning phase for the Teacher Academy, which is set to open in 2020.









Developing New Treatments for Malaria

With nearly half the world's population at risk for contracting malaria after being bitten by mosquitoes infected with the single-cell parasite *Plasmodium*, the recent appearance of *Plasmodium* strains resistant to existing antimalarial drugs has sparked an urgent search for new antimalarial agents.

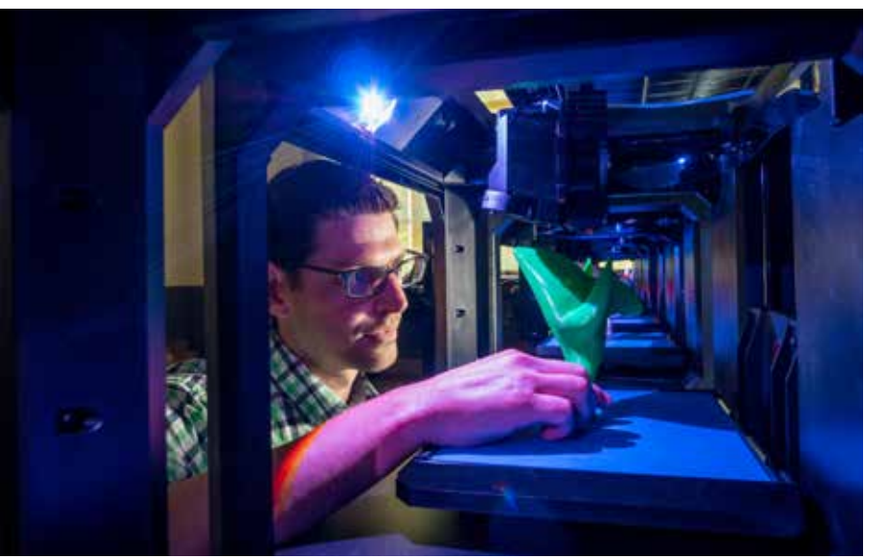
David Rotella, Sokol Professor of Chemistry, John Siekierka, Sokol Professor of Medicinal Chemistry and director of the University's Sokol Institute for Pharmaceutical Life Sciences, and Rutgers University researchers are sharing a three-year, $1.5 million award from the National Institutes of Health's National Institute of Allergy and Infectious Disease (NIH NIAID) to do just that.

"We're investigating inhibitors of a protein kinase in *Plasmodium* that plays multiple roles in its life cycle," explains Rotella. "We hope to confirm if this enzyme can inhibit the parasitic life cycle of *Plasmodium* at more than one point. If we can show that, it may be possible to combine this with other antimalarial drugs to treat infection and reduce—or very hopefully—prevent resistance from developing.

"So far, the results support our idea that this enzyme is a good target to explore for the treatment of malaria."







Keeping Water Clean After a Disaster

Water crises such as Puerto Rico's in the aftermath of Hurricane Maria are frequent byproducts of severe natural disasters. Recognizing that clean water is essential for post-disaster relief and survival, Earth and Environmental Studies Professor Yang Deng took a holistic approach to devise an innovative emergency water treatment that uses ferrate—an emerging and multifunctional treatment agent—to remove contaminants from disaster-polluted waters and prevent the spread of water-borne infectious diseases. His affordable solution is safe and easy to use in homes and communities.

"I was inspired by my personal experience with hurricanes," says Deng, whose research is supported by the University's PSEG Institute for Sustainability Studies and the New Jersey Water Resources Research Institute. "I feel it's an engineer's responsibility to find real world solutions for disaster-affected populations that support their survival."

Hurricane Maria's devastating impact on Puerto Rico also inspired a national award-winning news video made by a team of Montclair State University School of Communication and Media students who visited the island during spring break in March 2018.

"Hurricane Recovery in Puerto Rico" won a national student Edward R. Murrow award for Excellence in Video Reporting from the Radio Television Digital News Association (RTDNA) as well as Student Emmy® Best in News and Bricker Humanitarian Awards at the Television Academy Foundation 39th College Television Awards. Students also received a 2019 AWMF Gracie Award Local Television Award for "Carpe Diem: Mission to Puerto Rico News Magazine," which included material from the video.

The Future of Energy in New Jersey

Montclair State's Clean Energy and Sustainability Analytics Center facilitates research, analysis, and outreach regarding clean energy development in New Jersey, the nation, and abroad.

Funded in part by corporate partners and state agencies including the New Jersey Board of Public Utilities, organizations such as the Sediment Management Work Group, and ongoing National Science Foundation and US Department of Agriculture grants, the Center collaborates with faculty on numerous research projects.

It also contributes to New Jersey energy and environmental planning through faculty-student research and the development of state-of-the-art integrated economic models. According to Center Director and Earth and Environmental Studies Associate Professor Pankaj Lal, the Center—which also hosts events and education programs—is the future of energy in New Jersey.

Uniquely Innovative Academic Programs

As New Jersey's second-largest public university, Montclair State has long been a leader in educational innovation. The Departments of Linguistics and Computer Science have collaborated to offer the first MS degree program in Computational Linguistics in New Jersey. The two-year interdisciplinary program prepares students for professional success in a fast-growing field concerned with the statistical and rule-based modeling of natural language from a computational perspective, as well as the study of computational approaches to linguistic questions.

Since 2015, the MIX—Making and Innovating for X—Lab at the Feliciano School of Business has been an interdisciplinary hub for transformative innovation and digitally mediated making that promotes real world outcomes across campus—and beyond.

Housed in the Feliciano Center for Entrepreneurship & Innovation, the MIX Lab's 48 3D printing devices are a resource for the entire University. Undergraduate students from any major can earn a Certificate in Innovation Design and Digitally Mediated Making. According to MIX Lab Co-Director Iain Kerr, the award-winning certificate program is not just the only one of its kind anywhere, but it is also the most comprehensive, offering opportunities for everything from paid externships and a travel exchange with Austria's University of Graz to a Design Entrepreneur in Residence program for graduates.

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KEAN UNIVERSITY

ELEVATOR PITCH

Kean University provides access to a world-class global education for students from all backgrounds at its campuses in New Jersey and China. The University's innovative focus on undergraduate research opportunities and targeted student support services helps ensure students' success from their first day on campus to their first job after graduation.

OUR STORY

History

Founded in 1855, Kean was the first public post-secondary institution in New Jersey. Originally known as a teacher's college, Kean has evolved to become a hub for students studying health sciences, criminal justice, architecture, the liberal arts, design and business. In total, the University now offers over 50 baccalaureate degree programs and more than 60 graduate options for study, including doctoral degrees, master's degrees, professional diplomas and paths leading to state certification. With tuition rates among the lowest in the New York metro area, Kean offers an education that is affordable to all students.

Locations

The University's 180-acre main campus in Union offers brand new lab spaces for students to conduct experiments using the latest technology as well as community clinics that ensure students studying health sciences have experience working with patients before graduation. Its satellite locations near the beach in Toms River and Manahawkin as well as in rural Jefferson allow students to study natural environments from the oceans to the forests. And its campus in China, Wenzhou-Kean University, gives students the opportunity to gain a truly global education in English for the same price as studying in the U.S. Students can also learn from anywhere around the world through Kean Online.

Faculty

Kean's expert faculty are accomplished practitioners and scholars who provide personalized one-on-one advising to students while also offering outstanding classroom instruction and research. Faculty honors include admission into the prestigious American Association for the Advancement of Science and selection as Fulbright Specialists among others.





Research

Through its Center for Undergraduate Research and Fellowships, Kean offers students the chance to deepen their learning, develop critical thinking skills, and build a foundation for their professional lives through research with a sponsoring faculty member. The Freshman Research Initiative introduces first-year students to the skills and techniques needed for independent research or creative work through a six-week, faculty-mentored research project.

The Research First Initiative offers opportunities for authentic scientific research to Kean's science students in the College of Natural, Applied and Health Sciences and Kean's New Jersey Center for Science, Technology and Mathematics (NJCSTM) as early as their freshman year. It is designed to promote student interest in scientific research and encourage students to pursue careers in STEM.

The Research Recruits program is proactive, building bridges to faculty mentors for freshmen, sophomores and first-semester transfer students interested in an entry-level, yearlong research experience.

Through the annual Kean Research Days, students and faculty across academic disciplines collaborate on cutting-edge research about everything from global positioning systems to branding, and connect with industry leaders and visiting scholars from around the world.

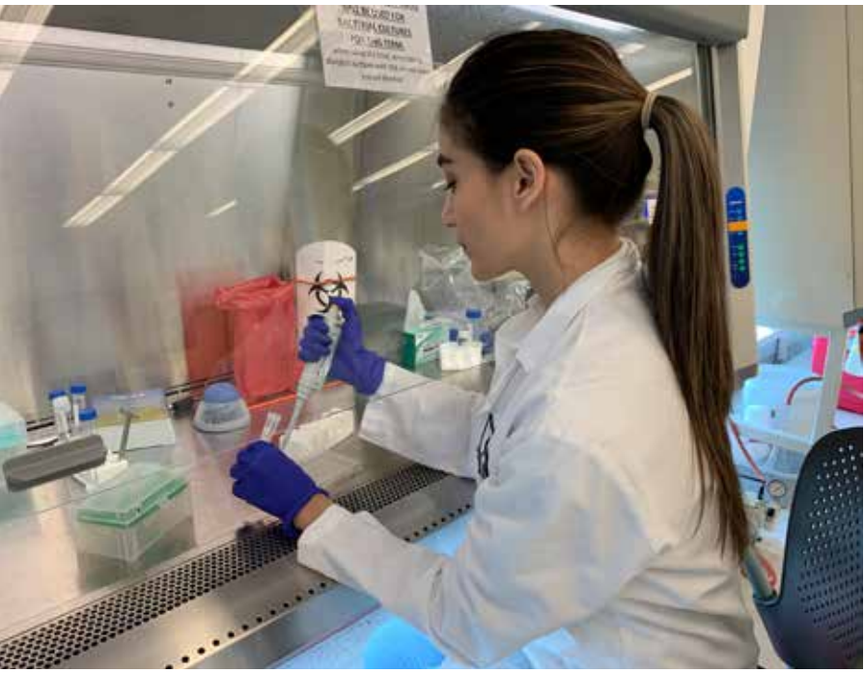
Students also have the chance to participate in professional-level internships and field placements to build their resumes before graduation. Each academic program provides a for-credit internship opportunity in addition to other paid opportunities.

Diversity and Global Reach

Ranked in the top five "Most Diverse Schools" in the U.S. by Diversity, Inc., the University promotes inclusion and is proud of its multicultural environment.

Kean's commitment to diversity and inclusion is evident in its academic programs. For example, the School of Computer Science and Technology is recognized as a leader in the education of women and traditionally underserved minorities in the field of technology. Kean received grants from Google to support a women in computing conference, research into computer science education for bilingual learners in high school, and a professional development program for high school computer science teachers.

Through its Wenzhou-Kean campus in China, Kean reaches around the world to promote innovation in STEM education. A Kean-sponsored STEM sister school program between New Jersey school districts and their counterparts in Zhejiang Province, China, brings teachers and administrators together from the U.S. and China to visit each other's classrooms and share best practices in STEM education.





Innovations in Student Support

Kean University is continually evolving higher education pedagogy in keeping with its mission of making a college education accessible to all. The University has a long history of educating first-generation college students and recognizes the challenges they face. Kean's First Gen Scholars program connects first-generation students to alumni mentors who offer support in their transition to college and in navigating their professional lives after Kean.

The Transition to Kean (T2K) course is required for all freshmen and new transfer students and acquaints them with the foundations for academic success at college, from study skills to time management and more.

Kean's Supplemental Instruction (SI) program is a peer-to-peer support program for students in traditionally difficult courses such as chemistry and mathematics. SI leaders, students who have already taken and excelled in the selected courses, are embedded in those classes again to attend lectures, take notes, act as model students and work with faculty. They hold informal review sessions for any students in the class seeking extra help. Students who participate in these sessions show higher final course grades than their peers.

Education of the Future

Kean is preparing students for jobs of the future that don't exist today. That means balancing the need to understand subject matter with the need to think critically and adapt to the changing world. For Kean's health sciences graduate students, it means learning in an interdisciplinary environment where occupational therapy, physical therapy and speech-language pathology students work as a team. For undergraduate architecture students, it means spending a semester in Rome, the birthplace of modern architecture. And for business students, it means working on real-world projects for companies stretching from Ireland to China. A global, world-class education truly inspires.









"Kean University has distinguished itself through a culture of discovery on campus that offers opportunities for our students to explore and grow through research. Students participating in research learn how to become creative problem solvers and effective team players and communicators, qualities that are critical for career success in any field." – Jeffrey H. Toney, Ph.D., Provost and Vice President for Research and Faculty, Kean University



"At Kean, we are cultivating a diverse community of thinkers in computer science and technology to help companies and organizations compete in today's domestic and global markets. Our program is over 50 percent minority enrollment and almost 20 percent female enrollment. We are proud that as our program enrollment has grown, our minority and female enrollments have grown at a faster rate." – Patricia Morreale, Ph.D., Executive Director, Kean University School of Computer Science and Technology



"Innovation in academic support is crucial to Kean University's mission of affordability and accessibility in higher education. Our students, many of whom are first-generation college students and first-generation Americans, benefit from our programs that offer them individualized support to help them reach their educational goals." – Neva Lozada, Ed.D., Director, Kean University Office of Student Success and Retention

KEAN UNIVERSITY 1855

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TCNJ THE COLLEGE OF NEW JERSEY

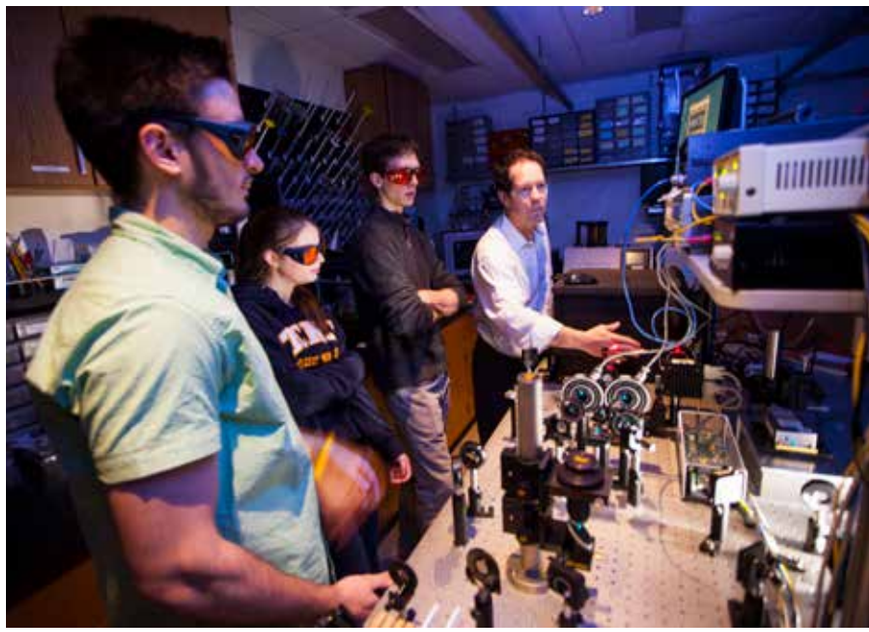
A SPIRIT OF INNOVATION

Since its founding in 1855 as a teachers' college, The College of New Jersey (TCNJ) is united in its dedication to learning, passion for new ideas, and promise to make a positive difference in the world through our scholarship and community service.

A highly selective institution, TCNJ is rated by *U.S. News & World Report* as the No. 1 public institution among regional universities in the northeast. TCNJ's roughly 7,200 undergraduate students are high performers: 71% of admitted students were in the top 25% of their high school class. TCNJ students choose from among 50+ majors/programs in seven academic schools (Arts & Communication; Business; Humanities & Social Sciences; Education; Engineering; Nursing, Health, & Exercise Science; and Science) or create their own major. What makes the TCNJ undergraduate experience distinctive and valuable is the ability for students to learn and achieve through an extraordinary combination of classroom studies and practical work, in the lab and in the field, all within a supportive and collaborative academic community.

This participatory, hands-on approach to study enables students to graduate as experienced practitioners in their chosen field, making them not only better able to perform their jobs, but also more desirable to potential employers or graduate schools. In fact, TCNJ's Class of 2018 first-year-out survey responses indicated that, within one year of graduation, 99% of alumni had a job, earning average salaries ranging from $48,000 to $65,000, or were enrolled in graduate school.





HALLMARKS OF A TCNJ EDUCATION

Partnership and collaboration are hallmarks of the academic experience at TCNJ, which is known for its strong sense of community and personal engagement. Students work closely with faculty and administration to design and participate in a meaningful approach to learning, which sparks innovation and creates a richer academic experience; undergraduate research, mentored internships, and field experiences are core to the rewarding TCNJ undergraduate experience.

In TCNJ's School of the Arts & Communication, for example, students can combine fields of study based on their personal interests, to create a novel career path, such as TV production and music scoring, or game design and public health. Students in the School of Engineering learn and work side by side with professors, who are both esteemed faculty members and experienced practitioners, and with external industry clients, through innovative industry partnerships that enable students to engage in real-world research and development.

EXPANDING POSSIBILITIES

In 2018, TCNJ opened an 89,000-square-foot, state-of-the-art STEM Building, which has an open floor plan and a collaborative, research-intensive environment: laboratories flow into design studios so students can seamlessly conceptualize, build, analyze, and experiment together.

TCNJ's School of Science has been purposeful in deeply engaging students in the process of learning and the creation of new knowledge. The college now ranks first among public colleges and universities nationally, and first on the East Coast among public and private colleges, for percentage of undergraduate chemistry students earning terminal degrees in the field (per National Science Foundation and American Chemical Society data).







The School of Engineering's faculty are renowned for research across all areas of engineering—biomedical, civil, electrical, computer, and mechanical. For more than a decade, the school has supported innovative companies by providing teams of expert faculty and high-achieving students to help design, develop, enhance, prototype, validate, and test new products and systems.

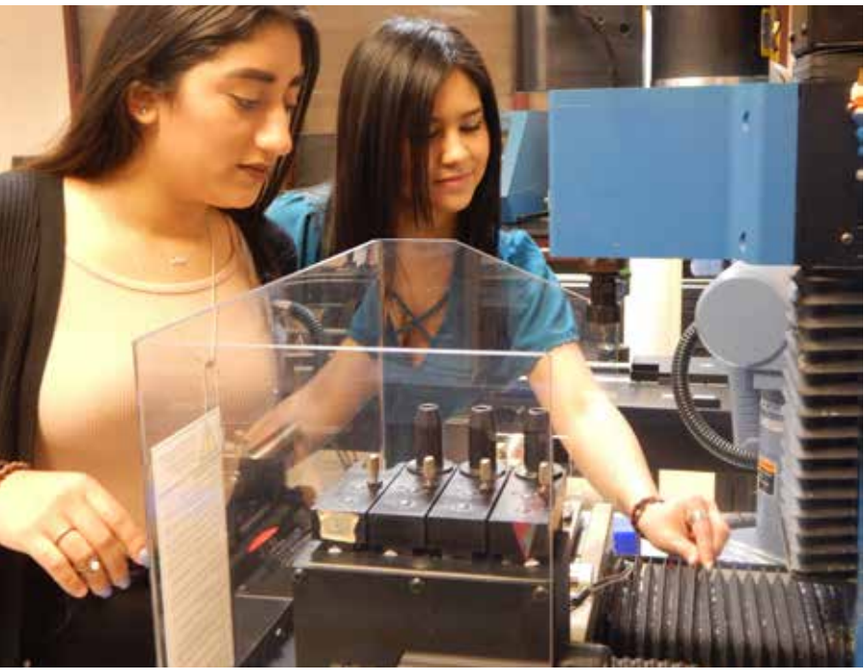
In 2019, the School of Business commenced its MBA program featuring an innovative T-style structure, which allows students to focus on their selected specialization in the first year, enabling them to apply new knowledge and skills immediately in the workplace. The School of Business is also accredited by the AACSB, signifying excellence in areas relating to strategic management and innovation, plus learning and teaching, academic and professional engagement, and active participation among students, faculty, and staff.

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tcnj.edu

NEW JERSEY'S COMMUNITY COLLEGES

EXPAND ECONOMIC OPPORTUNITY AND BUILD A SKILLED, INNOVATIVE WORKFORCE





ELEVATOR PITCH

In a rapidly changing world and intensely competitive global economy, New Jersey's community colleges are critical institutions of higher education and economic opportunity, able to reach a significant proportion of the state's population and offer affordable, high-quality education that serves the complex needs of students, employers, and local communities. New Jersey's 18 community colleges are rooted in our local communities, responding to the needs of students and employers, while understanding that we live in an increasingly connected global community. Community colleges impact our students, counties, and our state, and enable each to compete and thrive in the nation and the world.

OUR STORY

Many of New Jersey's 18 community colleges were created 50 years ago, and now enroll over 325,000 students at over 60 campuses, making them the largest provider of higher education in the state. New Jersey's community colleges are uniquely positioned to help the economy grow, industries thrive, and people succeed in an era of rapid economic, social, and technological change.

The New Jersey Council of County Colleges and the state's 18 community colleges have developed an ever-expansive vision of the future of higher education; a future that is agile, collaborative, and innovative, and that prepares individuals, at varying stages of their lives and careers, for success in an increasingly diverse society and global economy.

This vision for the future is summarized in a new report, *Vision 2028: Framework for the Future of New Jersey's Community Colleges*. The report was developed based on input from over 600 community college leaders and stakeholders through more than 25 meetings, a statewide Leadership Summit, and through online comments from members of the community college community, including students, alumni, trustees, faculty, staff, and others. The report is aligned with New Jersey's Plan for Higher Education developed by the Office of the Secretary of Higher Education.

With state and county support, New Jersey's community colleges are committed to working together in the years ahead, to develop new models of collaboration and cooperation and to lead partnerships with state and local government agencies, businesses and industry associations, high schools, county-based vocational technical schools, four-year colleges and universities, libraries, social services organizations, labor unions, community and faith-based organizations, foundations, and other stakeholders in order to increase access to post-secondary education, support the success of students, ensure access to valuable and relevant learning, and to serve as community engines.

At the heart of this vision for the future is a commitment from the state's community colleges to play a critical role in increasing the number of New Jerseyans who have earned a post-secondary credential or degree so that the state can meet its ambitious goal of 65% post-secondary attainment by the year 2025. Community colleges will work together and with partners to expand opportunities for all New Jerseyans in order to close equity and opportunity gaps by race, ethnicity, and geography.





Five imperatives are central to the community colleges' broader strategy for ensuring that more New Jerseyans are prepared to thrive and adapt and for ensuring that the state has a skilled workforce to propel economic growth.

These include:

1. Increase the Number of Individuals who have Earned Post-Secondary Credentials and Degrees
2. Prepare Residents for Change
3. Ensure Access to Lifelong Learning
4. Focus on Equity
5. Build Broad Partnerships

New Jersey's community colleges are committed to working together to advance four key priorities:

1. Increase access to post-secondary education for more New Jerseyans
2. Support the success of students
3. Ensure access to valuable and relevant learning
4. Serve as community engines

The New Jersey Council of County Colleges is committed to building broad, comprehensive partnerships. Employers, educational institutions, community-based organizations, and others interested in working with the community colleges on this critical work can visit www.njccc.org/vision-2028 to download the *Vision 2028* report and join this important effort.

New Jersey's Community Colleges:

1. Atlantic Cape Community College
2. Bergen Community College
3. Brookdale Community College
4. Camden County College
5. Essex County College
6. Hudson County Community College
7. Mercer County Community College
8. Middlesex County College
9. County College of Morris
10. Ocean County College
11. Passaic County Community College
12. Raritan Valley Community College
13. Rowan College at Burlington County
14. Rowan College of South Jersey
15. Salem Community College
16. Sussex County Community College
17. Union County College
18. Warren County Community College

NJ CCC New Jersey Council of County Colleges

VISION2028

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njccc.org

LINCOLN TECH

CAREER TRAINING EXCELLENCE SINCE 1946

ELEVATOR PITCH

Lincoln Tech has been one of the nation's premier schools for hands-on technical career training for nearly 75 years. Students can choose from career paths in automotive, diesel, computer-aided manufacturing, HVAC, electrical systems, healthcare, IT, and more. New Jersey campuses are located in Iselin, Mahwah, Moorestown, Paramus, South Plainfield, and Union. There are also 16 additional Lincoln Tech campuses in cities across the country.



OUR STORY

The end of World War II saw the return of hundreds of thousands of US servicemen who had bravely fought to preserve freedom and democratic ideals at one of the most perilous times of the 20th century. They returned home victorious, but also in need of new skills—skills they needed to help them build careers and new futures in the evolving society that would dramatically reshape the American economy.



Newark, New Jersey, would become one of the focal points of training and education for these valiant warriors—and in 1946 Lincoln Tech was established to lead the way.

Nearly 75 years later, Lincoln Tech schools are at the forefront of a new challenge—helping graduates and employers alike overcome the growing skills gap that threatens many of our state's most important industries. New Jersey companies are facing an unprecedented hurdle: there are thousands more jobs available than there are candidates with the skills these jobs demand. By 2028, that skills gap could impact more than 200,000 positions across the state.

To help meet that tremendous demand for skilled workers, Lincoln Tech campuses feature hands-on career training programs that evolve as industries and technologies do. Manufacturing, for example, is nothing like the "factory work" of past generations. Computer Numerical Control (CNC) machines drive modern manufacturing facilities, and Lincoln Tech graduates are prepared with the skills needed to program, set up, and operate them. The Heating,









Ventilation, and Air Conditioning (HVAC) field stresses energy efficiency and environmentally friendly technologies; Lincoln campuses feature on-site Smart Houses designed for energy auditing training, and the curriculum includes training on geothermal systems, high-efficiency equipment and more. In a world where nearly all of our devices—from thermostats to doorbells, along with fire alarms and closed circuit televisions—are "smart" and connected, Electrical and Electronic Systems Technology training includes classes and practice dedicated to these low-voltage yet highly complex systems.

Lincoln Tech's auto and diesel bays are equipped not only with traditional lifts, but also with computer-based tools for reading and interpreting scan codes. Most instructors are ASE-certified, meaning they are required to keep current on industry trends and technological developments by attending ongoing training and professional development. With data hacking an ever-growing concern in today's wireless, cloud-based world, Lincoln's IT training programs now place a greater emphasis on cybersecurity skills—helping position graduates as well-versed in the areas hiring managers are most concerned with. The rapid transformations that technology is driving in the healthcare industry spur constant innovation in the Allied Health training programs offered at our New Jersey campuses. Candidates not only need innate person-to-person skills and a calming bedside manner, they also need to operate the complex equipment used in today's practices. From blood pressure readings to dental X-rays, and across a wide array of medical office software, there isn't a healthcare career field where a grasp of technological skills isn't necessary.

The curriculums for all of Lincoln's programs are informed by industry professionals who work every day with the technology behind their particular fields. And exciting, future-facing partnerships with industry leaders like Audi, Chrysler, BMW, Johnson Controls International, and NASA (which collaborates with the Mahwah campus to build components for the International Space Station) gives students unique training opportunities that go well beyond traditional career training.

Technology is driving rapid changes in almost every professional field. To build the skills hiring managers need, students must look to postsecondary education institutions that are innovators and have their finger on the pulse of those technological advancements. Lincoln Tech campuses have filled that role for nearly 75 years.

Today, New Jersey is home to six of Lincoln Tech's 22 campuses: Iselin, Mahwah, Moorestown, Paramus, South Plainfield, and Union. Every campus shares a common commitment to delivering quality education and training programs that lead students to careers which instill a sense of achievement and self-worth. We look forward to serving the state, transforming the workforce, and assisting New Jersey employers for years to come.

LINCOLN TECH®

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KAIZEN TECHNOLOGIES, INC TRAINING

ELEVATOR PITCH

Kaizen, a Japanese term meaning continuous improvement, was a company name prudently selected by our team of entrepreneurs who started this Training Service in 2006. They all had a special vision, a dream to help and support the community using innovative methods. Keeping that goal of service in mind our Kaizen team found that out of the many problems facing our society; unemployment topped the list. Unemployment we have seen creates instability, cripples the economy and acts as a major impediment for growth and wellbeing.

Rapid advancement in technology has taken society to the next level of success but at the same time has acted as a major reason for unemployment. Lack of technical skills in our current workforce has led to massive layoffs and technical jobs have been outsourced.

OUR STORY

Keeping this in perspective, our Kaizen team started an IT training and services company that would train the dislocated in the most current in demand technologies to help them achieve their career goals. Kaizen started its mission by collaborating with the DOL to lend a hand in helping the jobless get back to work.

We also realized the key to successful training and placement would be implementing innovative teaching methods, following carefully designed curriculums based on industry standards and introducing on the job training programs.

Our teaching methods have proven successful because they are not purely lecture based but a combination of lecture and hands on Project based training.

Since its inception, Kaizen Technologies, Inc has offered exceptional training and delivered the best knowledge from the finest instructors from the industry.



ACCOLADES

2006: Start of the Training Division—NJ DEP Approval.
Vendor—NJDOL Workforce Training Programs for all counties.
2007: PMI®-Global REP.
2008: Partnered with NJIT® to train UMDNJ® Staff and became a vendor of NJIT®
2009: Collaborated with NJIT® to deliver PMP to Transportation Logistics and Distribution, Life Sciences and Health Care Industries funded by US DEP through NJWIRED Grant.
2010: REP-SCRUM® Alliance—Agile Project Management
NEWARK WORKS Grant—Won a competitive bid for PMP program through American Recovery and Reinvestment Act funding.
2011: Collaborated with Thomas Edison State College for training programs.
2012: IIBA® Endorsed Education Provider.
2013: Won Opportunity 4 Jersey competitive grant for training and job placement.
2014: Approved vendor for the Veteran's Training Program.
2015: Workforce Management System Program Implementation—Program well aligned with the organizational strategic plan for overall revenue growth from $10 million to $25 million for the next five years.
2015: Rutgers University—EHR/EMR Gap Analysis, Training and Implementation.
Vendor for Ready to Work $10 million Grant for Training & Employment—NJ Community College Consortium for Workforce & Economic Development.
2016: Partnered with ED2GO from Cengage Learning.
2017: Connecting American Workforce & American Work Source program:
A novel and unique program introduced at Kaizen to research employer requirements, create training programs that match the requirements and connect students who have successfully completed these programs to the prospective employers looking for those specific skills
2019: Incumbent-worker Skill Upgrade program—Kaizen teamed up with the Rutgers Talent Network to assist employers to train their employees so they can stay employed, instead of being laid off due to lack of skills.
2019: Became a National Health Association—Introduced Medical Administrative Assistant program.
2019: Dislocated-Worker Train & Placement Assistance program
Collaborated with the Rutgers Healthcare Talent Network to conduct a 200-hour PMP training, certification, and job placement program.
2019: E-Learning programs: With the growing need to upgrade one's skills, the adult population has been looking for options to enroll in online training programs so they can complete their training in their spare time without jeopardizing their jobs. Our Interactive and Self-paced Online training programs have far surpassed the expectation of the students as they actively engage in using it as a convenient and effective method of learning.

As we strive towards excellence in education and training, we compel ourselves to improve our services so we can serve our community effectively.







npower

LAUNCHING TECH CAREERS. TRANSFORMING LIVES.

A TECH TALENT PIPELINE GROWS IN NEW JERSEY

Ivan Alvarado enlisted in the Marines at 18 to serve his country and help build a strong foundation for his family. After serving in Operation Iraqi Freedom, he transitioned into the civilian world where his true challenges began. After five years of service, Ivan has been open about his continued struggles with post-traumatic stress disorder. Prior to NPower, he was a housekeeping aide at a VA hospital. Through NPower, Ivan was placed in an internship at Deloitte in technical support services and, within five weeks, was offered a full-time position as an associate technology support analyst making 35% more than he was prior to the program. His wife, Karen, and son Jordan have both recently graduated from the Tech Fundamentals program as well.



Ivan Alvarado, pictured with his family, now works as a Technology Support Analyst at Deloitte

*"**NPower saved my life.** After years of working in various jobs, I came across NPower. Once I began to see the actual benefits of what the program offered its students, I became filled with excitement about the possibilities before me. They offered me much more than I could have ever hoped for, and when they took me in, they made me feel as if my service to this country was truly appreciated. I got the tools necessary to start a promising career that would help financially secure my family's future."*

That is the NPower effect!

NPower, a national free tech training organization, serves as the link between non-traditional job seekers and employers hiring diverse IT talent and creates an alternative fast-track to jobs for veterans and young adults from underserved communities.



In a 2017 Bloomberg report, New Jersey ranked as the 4th most innovative state in the country for its density of STEM research and development. With New Jersey's higher than average unemployment rate for older veterans and underserved youth between 16–24, **NPower New Jersey** offers a unique program to serve and upskill young adults and military veterans and their spouses transitioning back into the civilian workforce. Their footprint started in Jersey City in 2015 and due to the program's success, they expanded to Newark in September 2019.

NPower has a proven track record of training the digital skills demanded by the marketplace, and engaging businesses and volunteers in the long-term success of their students. Their signature training model includes an introductory Tech Fundamentals course. The 23-week program consists of 16 weeks of in-class instruction and professional skill-building, followed by a seven-week paid internship. Coursework focuses on the tech competencies needed to obtain entry-level IT employment. Students that successfully complete this course are offered a path to advanced IT certifications and credentialing. They recently launched their first cybersecurity class in Jersey City, with alumni eager to advance in their tech careers and prepare for higher wage IT jobs.



NPower New Jersey Tech Fundamentals Spring 2019 Graduation



NPower New Jersey Cybersecurity Fall 2019 Class



Fall 2019 Cybersecurity Site Visit to St. Peter's University Cyber Security Center

NPower is committed to the success of their students and removing any barriers to gaining the skills needed for a successful career in technology. The organization provides a range of social service support (housing referrals, clothing donations, and travel assistance) to students during their tenure in the program. Their commitment to graduates is focused on job persistence and long-term career growth.

As an additional benefit to their students, **NPower New Jersey** was the first in the country to partner with the U.S. Department of Labor to offer IT Generalist apprenticeship credentials where students can receive paid hands-on training and apply their in-class instruction to their roles.

Nationwide, NPower has trained over 4,000 veterans and young adults, and over 400 in New Jersey to date with 80% of their graduates employed in tech or continuing their education. Graduates launch their tech careers at top companies like Accenture, JPMorgan Chase & Co., SHI International Corp., TD Ameritrade, and Verizon.

Bea Tassot, NPower New Jersey Executive Director and National Liaison for Military Programs and Strategy shares their secret sauce, *"Thanks to a solid and tight team, our work enables all our students and their families the chance to live the American dream. Veterans get a second career opportunity and support; young adults gain direction and career guidance. Our win-win solution meets the evolving tech industry's needs by providing a diverse talent pipeline and changing the life trajectories of our students."*



From left to right some of our NPower New Jersey team members: Joy Osahon, Newark Social Support Manager; Kendall Givens, Jersey City Career Placement Manager; Sara Herman, Jersey City Social Support Manager; Michael Rasmussen, NJ Program Director; Chelsea Gioffre, Alumni Engagement Specialist; Anna Perrotti, Recruitment and Admission Manager; Bea Tassot, NJ Executive Director; De' Angelo Stowe, Newark Internship Manager; and Sereyna Wallace, NJ Placement Director.



The Kyle Palmieri Foundation and the NJ Devils hosted NPower New Jersey Veteran Alumni and their families at a recent game.

For more information about NPower:
Contact: **info@npower.org**
npower.org/new-jersey

npower.org

PER SCHOLAS

ELEVATOR PITCH

For 25 years, Per Scholas, Inc. has prepared motivated and curious adults who are unemployed or underemployed with the technical and business skills to launch successful careers in technology, creating on-ramps to businesses in need of their talents. In 2020, we will enroll more than 2,000 students across 12 cities and partner with over 500 companies.

OUR STORY

For 25 years, Per Scholas has opened pathways for more than 10,000 individuals, who lack the access but not the talent to succeed in the technology workforce. Through rigorous, tuition-free technology training and professional development, Per Scholas prepares motivated and curious adults for successful, high-quality tech careers. There are more open computing jobs in the US than computer science students to meet the industry's current hiring needs. This talent shortage is an unrealized opportunity for tech employers to consider candidates from nontraditional training backgrounds and increase employee/employer economic potential.

In 2018, Per Scholas launched its eighth training facility at 540 Broad Street in the historic New Jersey Bell Building in Downtown Newark. The space includes three state-of-the-art technical classrooms, with twenty workstations each, along with a flexible workspace and a kitchen.

This was made possible due to the support of several of the organization's employer partners who are also some of the region's most prominent employers: Barclays, Prudential Financial, PSEG and Guardian Life.

Per Scholas Newark aims to contribute to Newark's growing tech workforce by providing industry-recognized certifications and positioning graduates as qualified entry-level tech professionals. Nationally, 80% of Per Scholas graduates begin working in jobs with an average pay of $21/hour, four times their average pre-training incomes. The Newark facility complements Mayor Ras Baraka's





Newark 2020 economic development initiative to employ more Newark residents by training and placing 200 people into tech roles over the next three years, in turn strengthening the local IT talent pool and achieving greater diversity within the region's technology market.

Per Scholas Newark currently offers two boot-camp style training tracks: IT Support (15 weeks) and Cybersecurity (17 weeks). IT Support covers a range of technical topics such as computer hardware disassembly and assembly, local area and wireless networking, and mobile devices. Throughout their coursework, students prepare to take exams for both their CompTIA A+ and Network+ certifications. Technical instruction for Cybersecurity reviews topics such as Unix and Linux operating systems, fundamentals in networking and troubleshooting, culminating in two introductory sections for the Cisco CCNA Cyber Ops Cybersecurity certificate modules.

Hands-on experience accounts for 75% of the curriculum, supplemented by career advancement









training and wraparound support services such as financial coaching, case management, and emergency financial support services. Engagement opportunities with local employers offer students the chance to apply what they've learned in the classroom setting in real-life experiences such as mock interviews and presentations. Support services such as upskilling and networking opportunities are available to all alumni for two years following graduation free of charge.

Per Scholas Newark is unique in that it collaborates closely with its employer partners to produce graduates who will contribute to the future sustainability and economic growth of the region and diversify the digital workforce of the area. Graduates have successfully found work at some of the area's high profile industry employers.

To learn more about our organization, see our profile in the Technology section. Newark residents interested in applying for our free technical training can visit www.perscholas.org/newark to submit an application. Employers interested in partnering should visit perscholas.org/newark.

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GLOBAL CONNECTIONS KENYA (GCK)

ELEVATOR PITCH

Global Connections Kenya (GCK) has dedicated the last 14 years to giving high school students in New Jersey the opportunity to cultivate international relationships and promote educational diplomacy by giving them a unique Kenya Experience in community service, cultural exchange, tourism, and education.

COMMUNITY SERVICE

What began as a classroom discussion on the malaria epidemic in Kenya quickly became a realized vision of transforming Kenyan communities through the creation of the nonprofit Hopewell-Keroka Alliance (HKA). HKA has raised funds for numerous community initiatives and rallied volunteers to perform the work. Since 2005 HKA has helped with electricity supply, water tanks, water boreholes, emergency access road paving, equipment and supplies for two health care centers, books, uniforms, supplies, and desks for schools, and many other projects.

CULTURAL EXCHANGE

Since 2007 GCK has invested in giving young adults meaningful experiences outside their own neighborhoods. Past participants have said the program



changed their life, prepared them for college, and opened their eyes to a world they never thought twice about. The connections made are so impactful that students who experienced the trip in high school have returned in adulthood to volunteer as a trip mentor.



Kenya 2020 will focus on opening the Global Connections Center in Nyanchonori, which will be a tremendous resource for distance learning and workforce preparedness. It will also be a home base for future cultural exchange program participants starting in 2021.

TOURISM

GCK offers both luxury and standard itineraries filled with a wide variety of activities including wildlife safari and endangered species experiences, golfing, mountain climbing, water sports, beach resorts, and more. Kenya is a robust landscape that has something for every kind of traveler.

EDUCATION

GCK is more than travel. Our Women's Empowerment Program partnership with Seeds to Sew International provides training and jobs for women, and school uniforms for children. Additionally, our alliance with The Co-operative University of Kenya will create countless higher education opportunities for women throughout the region.

GCK...
We connect communities.
We educate minds.
We transform lives.

gcklink.org







ELEVATOR PITCH

PlayingMath is an educational platform for teachers or parents who want to supervise their children's daily math progress more closely. Our goal is to improve children's outcomes while reducing the cost of education by encouraging the incorporation of digital tools and applications into school programs or independently used by parents as tutoring.

OUR STORY

Our aim to assist Hispanic children started 4 years ago. We achieve this by teaching math online in their native language. We now have math classes in English and Spanish to help children in America. We also provide English courses to help Hispanics.

Here Is Why We Started Building An Educational Platform :

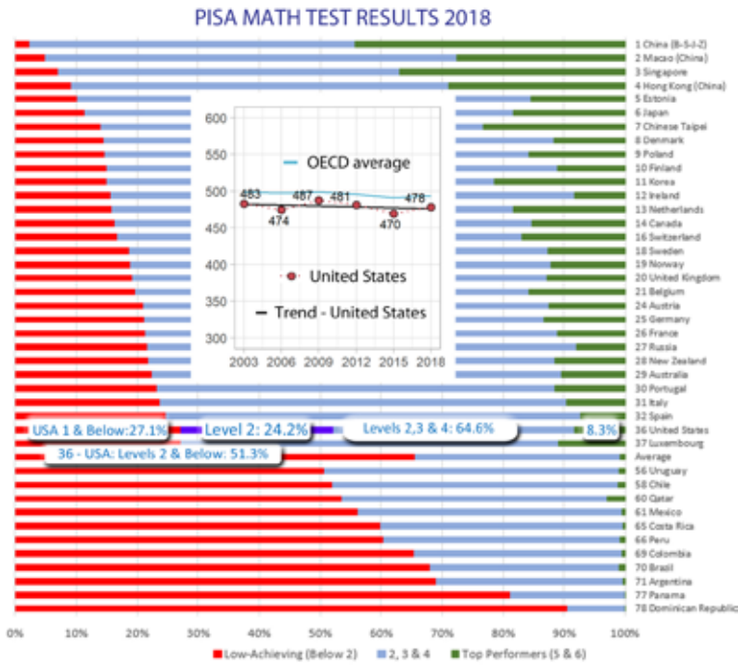
The time it takes children to achieve some objectives is long; building discipline and measuring their progress is key. What would you think as a parent if you sent your child for swimming lessons and they did not know how to swim after 7 years of classes?



Let's see what happens when parents send their children to school and measure math results after 7 years. PISA is the world's premier yardstick for comparing quality and efficiency in learning outcomes across countries.



Below are the results of the PISA mathematics test conducted in 2018.



The top countries on the list are those countries that have fewer students that do not have mathematics skills. The red lines represent the percentage of students that lack basic math skills.

The US was ranked No. 36 with 27% of their students on level 1 or below: lacking basic math skills, and 51% on level 2 or below. At level 2, children have minimum levels of proficiency. PISA computes its result by sampling different countries and scoring 15-year-olds on grade 7 or above. Notice that the results have deteriorated slightly since 2003.

PlayingMath Success Story:

Manuel wasn't getting good grades in math, and one day, his grandmother asked us to help him. Manuel attended grade 5 in a public school in Mexico. School had already started two months before we were contacted. We recommended that Manuel work through PlayingMath Grade 5, starting from lesson 1, and ensure that he covered 4 lessons per week: Monday, Wednesday, Saturday, and Sunday. Manuel spent no more than 40 minutes in each lesson.

PlayingMath makes it possible for students to do the same lesson more than once before submitting the lesson to school—or in this case, Manuel sent each lesson to his mom. Manuel's mom received an email every time he finished his lesson. Manuel's mom can review the full questionnaire, Manuel's responses, correct answers, and PlayingMath-suggested strategies used to solve each question.

Since we design customized reports for school directors and teachers, we can dig into the results to ascertain individual competencies. After 6 months, Manuel's grandmother told us that he was improving between 2 and 3 grades in school. He now scores 8 or 9 instead of the 6 or 7 that he scored before using PlayingMath. Manuel's improvement helped him do much better in other subjects and also improved his self-confidence.

Instead of assuming our children learn everything in school, why not start to look for extra help when they have the time to learn concepts little by little and using a methodology that is consistent?

In August 2017, the Mexican Academy of Science organized a Math Olympiad. During the first phase an average of 100,000 students from all over the country participated. During the second stage only the top 10,000 continued and the third and last stage had 1,000 children trying to get the gold medal. Emiliano Coatl Gonzalez is one of the 7 winners (gold medal) in the category of children under 12 years. He was in fifth grade and PlayingMath was the main tool he used to study for the Math competition. Congratulations again, Emilio!

Our Methodology

- Short video lessons (2 to 10 minutes)
- Exercises with individualized feedback (10 to 15 minutes) that are graded instantly
- Step by step teaching that allows students to learn and infer new concepts while developing strategies on their own
- Help students to develop fluency with math operations while understanding the underlying concepts

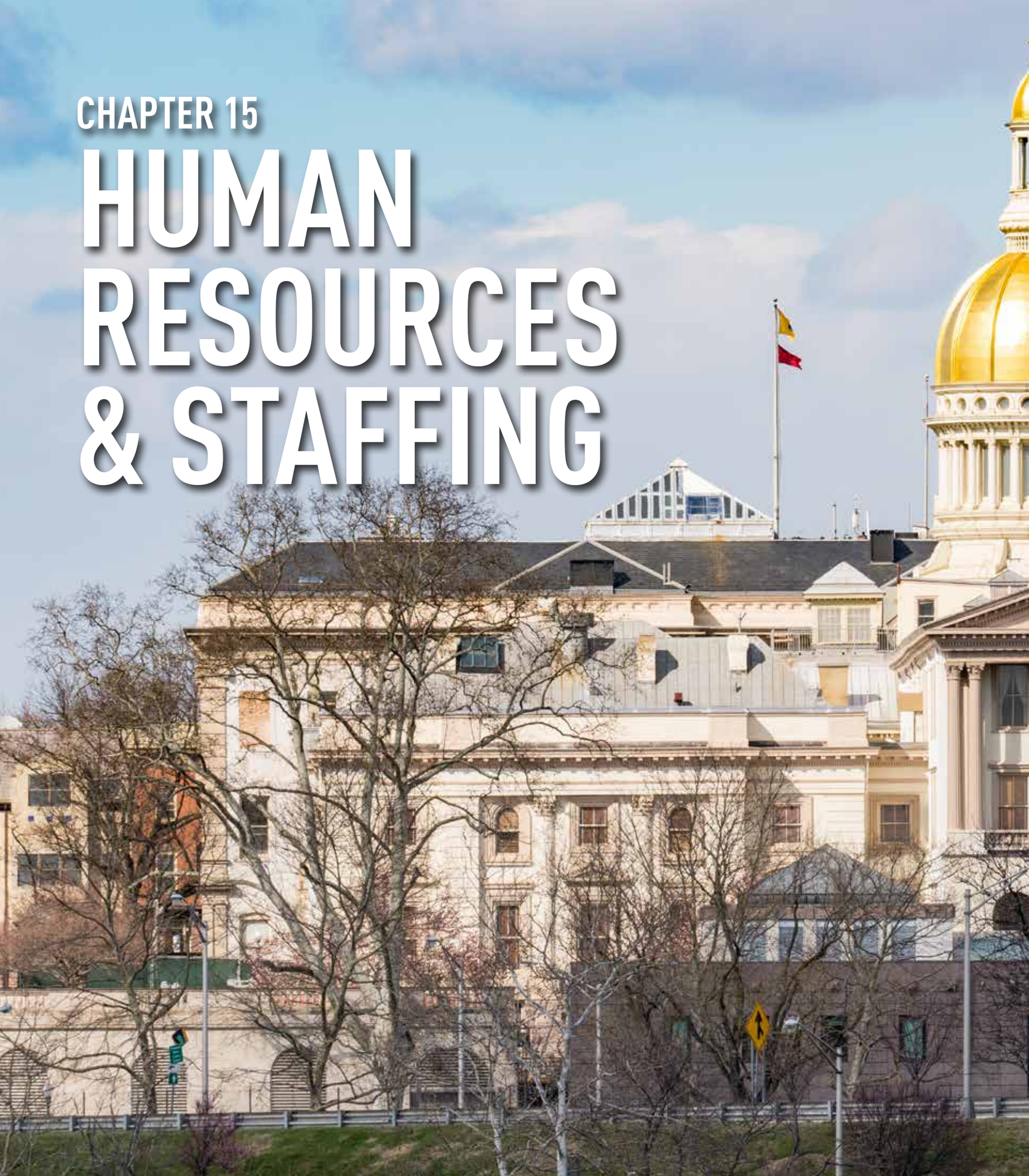
PlayingMath is a discipline-based platform that helps students (currently K-1 to K-6) to improve their math skills. It runs on computers or smartphones. The annual subscription is $19 per student and includes Math and English lessons that can help students (and their parents) to learn English.

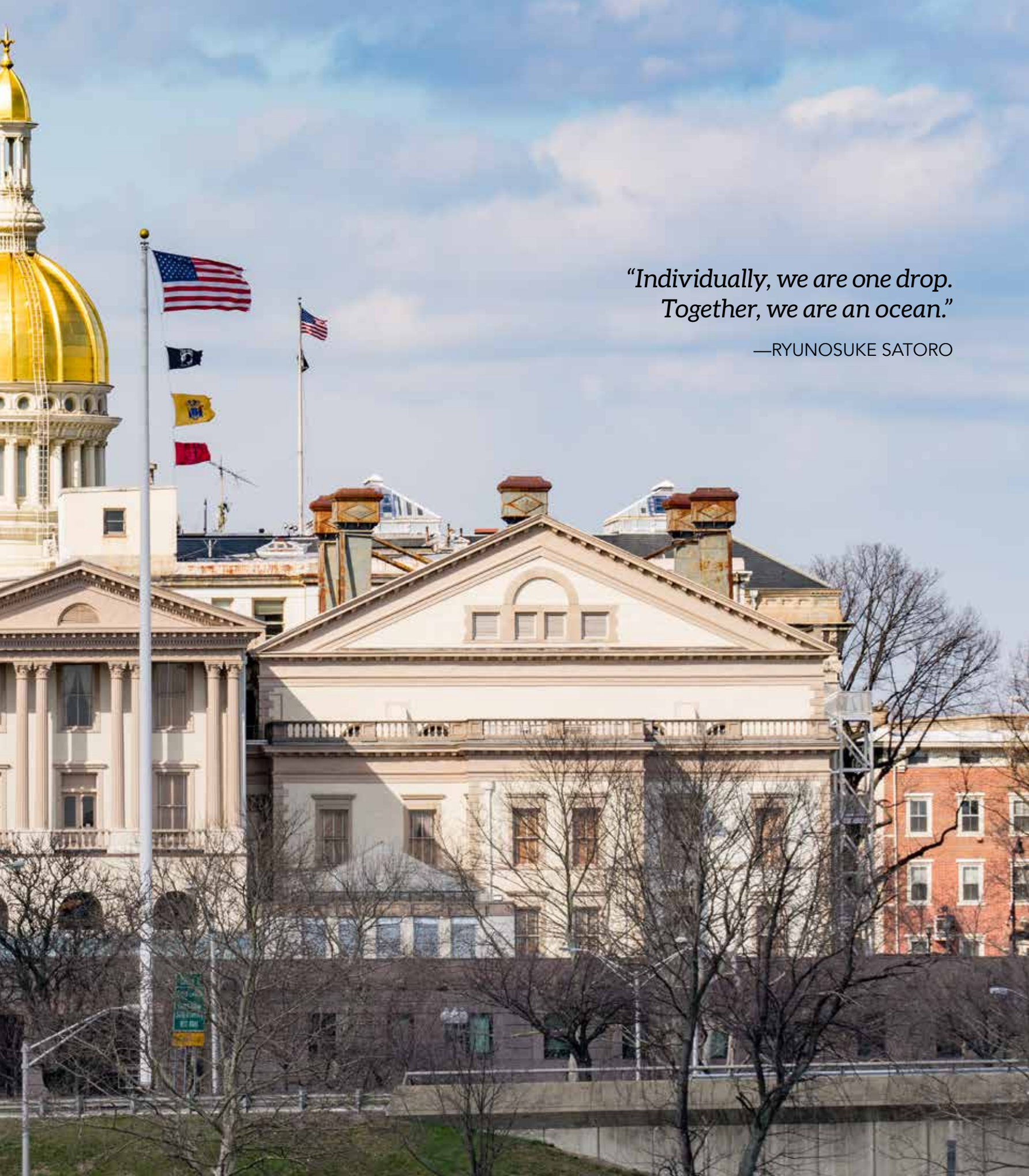
+1-609-961-9989
contacto@playingmath.com
PlayingMath is a TreasuryApps company

playingmath.com

CHAPTER 15

HUMAN RESOURCES & STAFFING





"Individually, we are one drop.
Together, we are an ocean."

—RYUNOSUKE SATORO



EverythingBenefits

REBOOTING WORKPLACE BENEFITS FOR MILLIONS OF AMERICANS

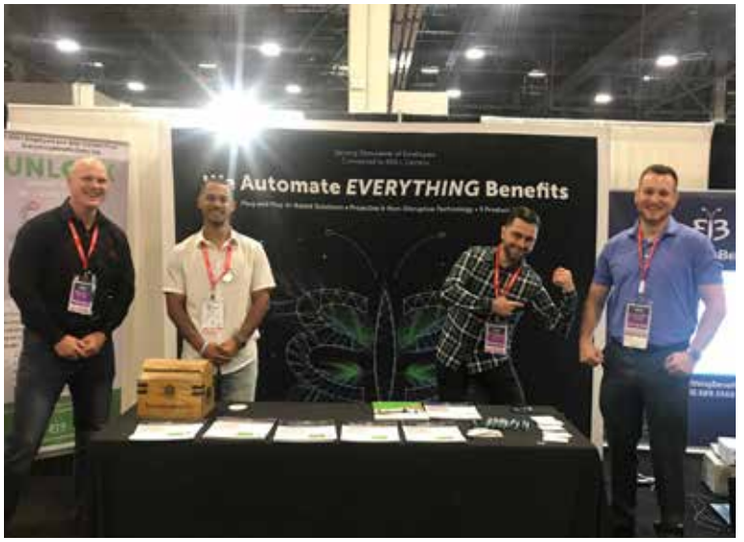
From the second floor of a technology park in beautiful New Providence, New Jersey, Rachel Lyubovitzky is plotting a revolution—to help millions of Americans get better employment benefits.

OUR STORY

For most companies, employee benefits management is a complicated chore, with a mountain of paperwork, disconnected systems, increasing regulatory obligations, and a growing palette of perks available to workers. This is what led Lyubovitzky, a 20-year veteran of New Jersey technology and workforce software providers, to co-found EverythingBenefits, a software supplier aiming to soothe HR and payroll administrators' headaches.

EverythingBenefits' cloud-based platform connects brokerages, insurers, payroll vendors, human capital management companies, and other providers in a single product, built to help enterprises conquer their employee health, dental, vision, and other benefits burdens.

The platform's multi-product solution suite taps into the biggest challenges experienced by the traditionally lagging industry. Benefits administration armed with AI-powered decision support and analytics tools help employees make optimal decisions about their benefits plans, while allowing managers to better understand how employees use the benefits portfolios they provide, ensuring they can customize offerings to attract and retain employees. Connectivity to major insurance, 401(k), and savings providers ensures employers communicate new employee enrollments or updates electronically and automatically. This creates a reduction in paper overhead and eliminates unnecessary overpayment



for former employees. A benefits reconciliation feature combines relevant service provider invoice data with internal payroll information to create full reports highlighting discrepancies in seconds.

It is a model that provides a better way of doing things for thousands of employers that leverage the EverythingBenefits platform, with a client base that has doubled in the last year alone. Organizations like ConwayCorp, Goodwill, and De Wafelbakkers are leaving the old ways behind, bringing new efficiency to entitlements for more than 1.5 million American workers, when they need it most.





Case in point: until it engaged EverythingBenefits, one North Carolina–based customer was spending two weeks every month manually reconciling insurance carrier invoices. That is 50% of someone's professional life spent hunched over Excel sheets and comparing numbers line-by-line—a staggering amount of time, and one which leaves considerable margin for error.



After EverythingBenefits was implemented, those two weeks were reduced to just 40 minutes per month. No wonder the individual charged with benefits administration, upon meeting the technology company's team, shook their hands and declared, "You have changed my life!" For Lyubovitzky and co-founders Daniil Fishteyn, Dmitry Korsunsky, and Bill Loss, that is the kind of feedback that makes it all worthwhile.

The secret sauce is made just off Mountain Avenue, at EverythingBenefits' headquarters, located in the historic location formerly home to Bell Labs. The peaceful, suburban environment belies the cutting-edge innovation going on around here.

It is a recipe that helped Covenant House New Jersey, a nonprofit agency providing food, shelter, and crisis support to homeless youth, to eliminate manual



processes, reduce risk liability, and increase productivity in administering its own employees' retirement plans.

Lyubovitzky isn't stopping at New Jersey. Not only have the Affordable Care Act and COBRA regulations broadened insurance obligations to more, smaller companies, but shifting demographics in America's workforce also mean employers across the country need to reboot their approach to benefits.

With millennials comprising the fastest-growing group of workers, the traditional holy trinity of medical, dental, and vision may not be a sufficient offer for all companies amid a growing war for talent. That is why EverythingBenefits is tapping into providers that are now offering new perks like pet insurance, telemedicine, and college loan repayments to would-be employees.

Since inception, EverythingBenefits has focused on building solutions that evolved with the evolving benefits needs of its customers and business partners. The company is steadily accomplishing its goal to build technology that services this industry. But what makes the journey enjoyable is seeing the lives positively impacted on the other side of the system.

"Dan, Dmitry, Bill, and I were united by our passion to build great benefits tech that would help people lead more meaningful lives, and we are proud of the growth and success we have experienced since 2015," says Lyubovitzky.

"We remain committed to continuing our mission to better the lives of our customers and their employees and to support the New Jersey community by providing fantastic jobs."

EverythingBenefits

+1-800-689-3568
everythingbenefits
evthingbenefits

everythingbenefits.com





RANGAM

ELEVATOR PITCH

Rangam is a social enterprise with a vision to promote Employment for Everyone. In order to transform our vision into a reality, we have embraced a culture of empathy that drives innovation every single day. Our mission is to improve the quality of life for neurodiverse as well as neurotypical candidates while providing exceptional service to our clients through a suite of integrated and inclusive training and workforce solutions. With collaboration, teamwork, and passion, we continue to design a sustainable ecosystem of talent and technology that aligns with the needs and interests of businesses, job seekers, and communities.

OUR STORY

In 1995, two engineers-turned–social entrepreneurs got together to build innovative technology solutions with a mission to bring efficiency into business while making a societal impact in the area of employment. Hetal Parikh and Nish Parikh started developing enterprise tools to serve the Information Technology industry and provided highly skilled talent for various technology projects. Hetal and Nish then set up a technology subsidiary, Rangam Technologies (formerly WebTeam Corporation) in New Jersey to design, develop, and deliver game-based special education tools and programs. A mobile app development and recruitment center in India was established prior to the 2008 recession that triggered a rapidly crumbling US economy characterized by an unprecedented number of layoffs and IT spending cuts. However, Rangam's growing workforce expertise opened new doors even in those adverse circumstances. The team focused on building new technologies for data collection and establishing ISO standards to get business from tightly regulated industries. Rangam has since successfully expanded its footprint across North America, Europe, the Middle East, and Asia.



As a game-changer in the workforce industry, the Rangam team delivers diversity, inclusion, leadership, and awareness to organizations around the world every day. Along with traditional contingent staffing, Rangam offers SourceAbled™, an end-to-end solution connecting employers, job seekers with disabilities, and service providers. Rangam also offers SourceVets™, a reemployment program for transitioning military service members.

Hetal, Nish, and the leadership team at Rangam have always pushed the limits and thought "outside the box" to create new opportunities for business growth, community services, and social welfare. Today, Rangam has a rich culture of inclusion and is fortunate to have a diverse, experienced, and highly qualified leadership team to support the founding vision of Hetal and Nish and help spread our work globally.





Hetal Parikh
President & Co-founder



Nish Parikh
CEO & Co-founder



Geetanjali Moorjani
EVP, Operations & Talent Management



Tracey Andrus
EVP, Strategy & Partnership

AWARDS AND RECOGNITION

- 2019 ASA Care Award
- 2019 Accenture Protégé of the Year Award
- 2019 Women's Business Enterprise Star by WBENC
- Getting featured on Accenture's Corporate Citizenship Report 2018
- 2018 TAPFIN Premier Partner Award
- 2018 "Beyond Capable" Award from Diversity Alliance for Science (DA4S)
- 2017 US SBA's Regional Subcontractor of the Year Award for Region II
- 2017 TAPFIN Premier Partner Award
- 2017 KellyOCG Preferred Supplier
- 2017 KellyOCG Supplier Excellence Award
- 2017 NJBIZ Best 50 Women in Business
- 2016 J&J Service Excellence Award
- 2016 TAPFIN Premier Partner Award
- 2016 KellyOCG Supplier Excellence Award
- 2016 NJBIZ Healthcare Heroes: Innovation
- 2016 Supplier of the Year from DA4S
- 2016 Best of Staffing Client Satisfaction
- 2016 SmartCEO Future 50 Awards
- 2015 Perfect Audit Compliance
- 2014 ASA Care Award
- 2014 Verizon's Powerful Answers Award
- 2013 J&J Service Excellence Award
- 2013 Inc. 5000 list of Fastest Growing Private Companies in America
- 2012 National Minority Supplier Development Council Evolve Award

RANGAM
Empathy Drives Innovation®

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rangam.com



1HUDDLE

ELEVATOR PITCH

Sam Caucci is the founder and CEO of 1Huddle, a fast-growing tech startup based in Newark, New Jersey, that uses science-backed quick-burst mobile games to prepare people for work.

1Huddle's workforce training platform helps organizations across the globe onboard new hires faster, upskill better, and fire up employees—proven to increase revenue and 5-star reviews.

OUR STORY

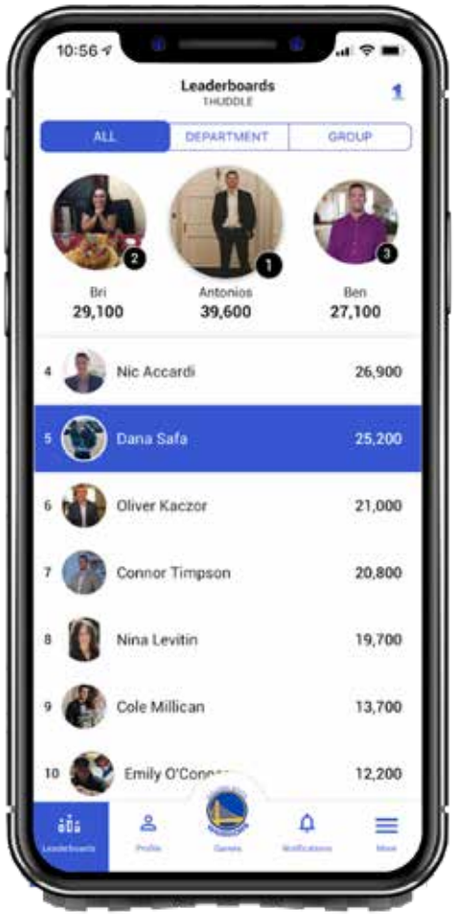
Before 1Huddle, Sam was the National Director of Franchise Sales and Marketing for the Parisi Speed School where he led the sales training program for 83 locations. He also was in a leadership role at Life Time Fitness and the General Manager for Perfect Competition Athletic Development, training 2,500 elite professional athletes.

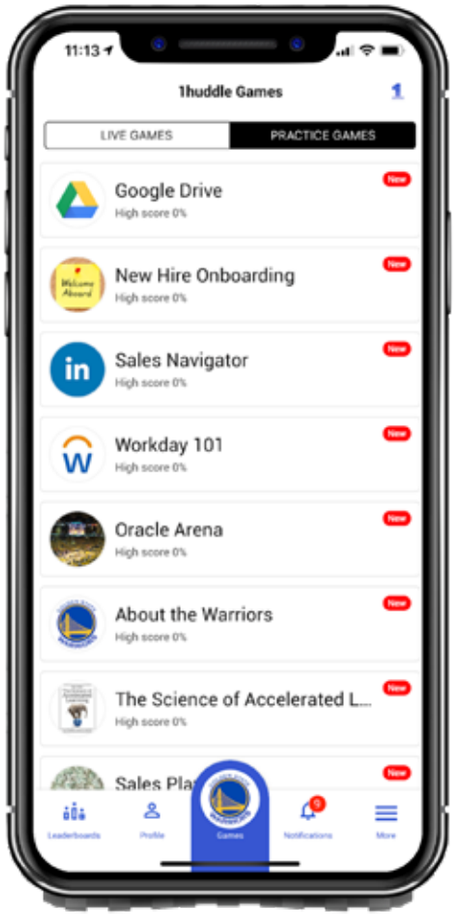
1Huddle (formerly known as Sales Huddle) was founded when Sam realized just how ineffective, outdated, and clunky most current training methods were. Nobody reads the manual, nobody watches the video modules, and 87% of what is learned in a live training session is forgotten within 30 days.

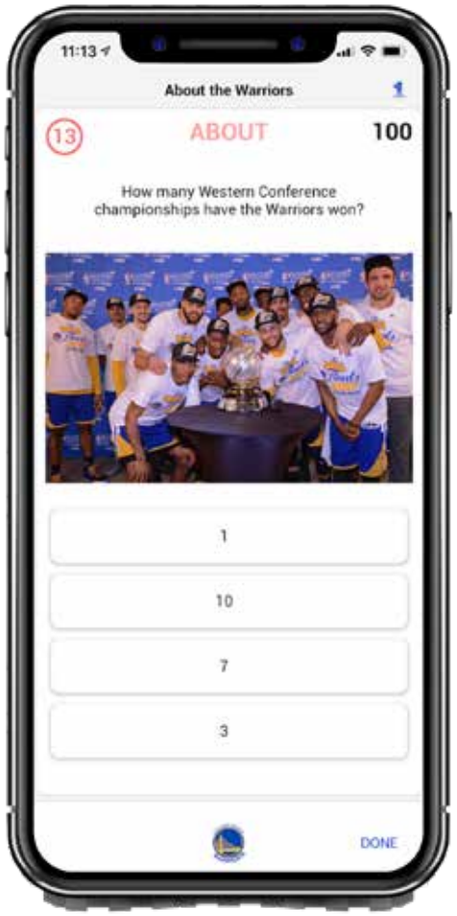


The realization that sales training was broken for today's younger workforce was the foundation of 1Huddle. What started out as a cross-country 1-day sales training workshop has turned into a dynamic mobile game for employees everywhere. 1Huddle has quickly become an integral part of the sales and service strategies for thousands of workers across the globe.

55% åof the workforce is going to be a Millennial or Gen Z by 2020 and the average millennial will have played over 10,000 hours of games before turning 21. So why not turn your boring training into a game? That's exactly what 1Huddle did. Imagine all your training, in a game, on your phone. It's that simple.







OUR CLIENTS

1Huddle has impacted people across organizations in a wide array of sectors, including Loews Hotels, ESPN, Audible (an Amazon Company), Madison Square Garden, FASTSIGNS, Hand & Stone, and RWJBarnabas Health.

ACCOLADES

1Huddle is growing quickly, having tripled its team size since 2018 and increased revenue 255% in just the first half of this year. With millions of games played, 250,000 games built, and tens of thousands of users across the globe, 1Huddle clients continue to see results such as: 22% increase in sales, 50% decrease in onboarding time, and 95+% voluntary participation.

Leading brands trust 1Huddle to move forward and fire up their team. How do you train?





Sam Caucci, founder & CEO

1huddle®
1HUDDLE.CO



REGIONAL PERSONNEL

TOP PHARMACEUTICAL RECRUITER IN NEW JERSEY

OUR STORY

Matching Culture with Talent

Regional Personnel is a privately held, ASA-certified, boutique staffing and recruiting firm serving greater New Jersey. As trusted staffing professionals with 50+ years of combined experience, we match top talent with businesses of all sizes. Our personal and customized approach to each search is what differentiates us as one of the most trusted staffing firms in the area.

The Advantage of Working with Regional Personnel

Our CEO, Dr. Lynch, brings 25+ years' pharmaceutical experience to Regional Personnel. Before Regional, he worked in nearly every aspect of drug development, commercialization, and manufacturing/logistics while at Big Pharma (Novartis/Sandoz), PA Consulting Group (Pfizer), Reliant Pharmaceuticals (startup), and Quintiles (CRO). Dr. Lynch helped to start Reliant Pharmaceuticals in 2000, which was sold to GSK for $1.6 billion.

*"At Regional Personnel, we know pharmaceuticals **because we come from pharmaceuticals**. Our clients benefit from our inside knowledge of pharmaceuticals. We bring this deep knowledge to every recruiting partnership."*

—James F. Lynch, PhD, MBA, CEO



Pharmaceutical Placements

- Manufacturing & Supply Chain
- Regulatory, Quality Assurance
- Clinical Development
- Marketing & Sales Management
- R&D, Project Management
- Customer Service, Call Center Support
- Business Development
- Finance, Accounting
- Market Access, Managed Markets
- Admin, Clerical & Executive Assistants



Cell and Gene Therapy (CGT) are highly specialized areas experiencing tremendous growth and opportunity in the biopharmaceutical industry. The war for talent in the CGT space, however, is fierce and only going to escalate as more companies jump into this arena.



OUR LEADERSHIP

James F. Lynch, PhD, MBA

Dr. Lynch founded his first recruiting firm, Strategic Access Inc. (SAI), in 1998 with over 17 years of experience within the pharmaceutical industry in business development, new product & market development, strategic alliances, operations and administration. In 2000, Dr. Lynch joined Reliant Pharmaceuticals as a founding member and Executive Director of Business Development, subsequently forming Commercial Operations as Vice President. Dr. Lynch returned to SAI in 2004 to assume the role of President, and in 2014 acquired Regional Personnel.

In his 25+ years in the pharmaceutical industry, Dr. Lynch held a variety of operational, new product and research positions. Prior to acquiring Regional Personnel, Dr. Lynch was Senior Director, Business Development at Quintiles, and prior to this role helped to start several startup companies through licensing deals. Prior to founding Strategic Access, Dr. Lynch was an Associate Director of Business Development & Strategic Planning at Hoffmann-La Roche. Dr. Lynch was a management consultant in the technology practice of the PA Consulting Group, a UK-based consulting firm, where he directed global projects for major clients (including Pfizer) focusing on strategic planning, reorganization & harmonization, capacity & capabilities assessment and outsourcing.

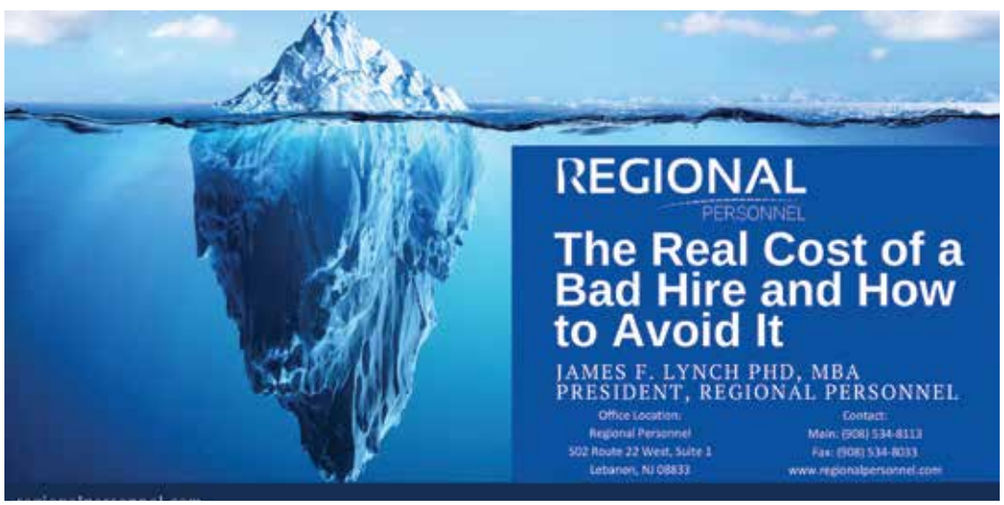
Dr. Lynch earned a Bachelor of Science degree in chemistry at Siena College, Masters and a Doctorate degree in inorganic chemistry at Seton Hall University, and a Masters in Business Administration degree at Columbia University. Dr. Lynch is a member of Licensing Executives Society, Venture Association of NJ, Biotechnology Council of NJ and the Crohn's and Colitis Foundation of America.

BEST PRACTICES

To attract the best, you must provide the best practices.

Best practices gleaned from top-ranked companies:

- Job Stability, Growth & Business Challenges
- Continuous and Evolving Learning and Development
- Innovative Opportunities for Work/Life Balance
- Prioritization on Health and Family
- Human Interaction in the Workplace



For access to our tips on "The Real Cost of a Bad Hire and How To Avoid It," please visit regionalpersonnel.com/the-real-cost-of-a-bad-hire

regionalpersonnel.com



Reflik

Talent Crowdsourcing Platform

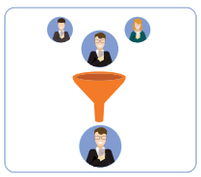
We deliver the Top 10 qualified and interview-ready candidates in less than 10 days!



Broader Reach

Cast a wide net with one platform. Access to large recruiting companies, small agencies, freelance recruiters and private social media networks.

Find A+ Candidates in less time.



Greater Quality

3-tier Qualification process. Candidates are screened by recruiting professionals, scored by our smart algorithm, then approved by a dedicated Account Manager.



Highly Efficient

Manage all of your agencies in one place.

One Platform. Centralized communication.

Standalone or Integrated with ATS.

www.reflik.com



Reflik's CEO Ashish Vachhani receives the NJ Business of the Year award.

REFLIK
TALENT CROWDSOURCING

ELEVATOR PITCH

Employers need a way to quickly hire qualified employees and recruiters are always in need of new jobs to place their candidates into. This is where Somerset, New Jersey–based Reflik has stepped in to fill a need and become the largest talent crowdsourcing platform in the world.

Their client roster is impressive; it includes companies like DTCC, Aon, J.B. Hunt, Canon, Uber, Marsh & McLennan, AECOM, General Dynamics, Interactive Brokers, and even local New Jersey companies like Harding Loevner and SunRay Scientific.

The idea behind Reflik is simple. Using talent crowdsourcing, you have a broader reach that helps you source the best candidates for any job opening across direct hire, contract, or other talent acquisition needs.

OUR STORY

Crowdsourcing Solution

The three key areas that Reflik helps companies solve their talent acquisition woes with are improving the time to hire, uncovering hard-to-find talent, and increasing efficiency by managing multiple vendors or agencies.

"We have a very vibrant community of professional recruiters," said Ash Geria, COO and co-founder of Reflik. "We are leveraging the social and professional connections of professional recruiters and recruiting agencies, as well as their candidate databases to be able to fill open positions through a single platform."



Co-founder & COO, Ash Geria, and Director of Community & Strategic Alliances, Scott Poniewaz, receive the 2019 The Workies award for "Best Sourcing Technology."



Ashish Vachhani, CEO, and sales team members Dori Loudon and Greg McGowan, attend the ERE Conference.

Reflik's clients therefore have access to pre-screened candidates that are interview-ready that they otherwise wouldn't have been able to uncover. Clients no longer need to worry about tedious tasks like overseeing multiple job boards and application channels, or screening candidates through a lengthy pre-interview process.

"High Tech Meets High Touch"

Once jobs go live on Reflik, specialized professional recruiters and staffing agencies go to work searching for and uncovering passive candidates for these positions. Once screened and submitted, Reflik's high-tech-meets-high-touch solution steps in.

Reflik's proprietary software uses a mix of algorithms and AI to prequalify candidates before a dedicated account manager gives the candidate review process the human element. What results is companies using Reflik only see the best candidates and more quickly than other sourcing channels. Many of these candidates are passive, or not even on the job market.

"The solutions that are available in the market today are simply not as efficient as they should be," noted Ashish Vachhani, the CEO and co-founder of Reflik. "That's where we are, as Reflik, leveraging the best practices of crowdsourcing to find the top talent for our customers in half the time compared to traditional mechanisms out there."

While many jobs are filled using traditional job boards, and a company's internal recruiting efforts and employee referral networks, there are a lot of hard-to-fill jobs that go out to external recruiters. Most agencies have niche specializations or only focus on a single city or region. Some may only focus on IT, marketing, or finance, so for many companies trying to find top talent, the choices can be overwhelming. With Reflik, companies are able to cast a wide net and tap into many agencies or recruiters they otherwise may not have been able to find with a single point of contact and a single contract.

Reflik's product is also top-notch and makes integration seamless for companies to connect with a variety of talent management platforms. "We try to make the user experience for both our clients and our recruiters as easy as possible," says Head of Product, Hersh Tilva. "Reflik truly is a platform that was born out of a need by recruiters and built for the recruiting industry. We take great pride in making every aspect of the platform as intuitive as possible."

What's next?

As Reflik continues to grow across more industries and help more companies, their technology will continue to grow alongside its community. Though aided by technology, the many human variables associated with hiring top talent will never fully disappear. Reflik aims to give both recruiters and employers the right tools and processes to streamline their hiring processes and help them grow the right teams faster.



TRINITAS
TALENT MANAGEMENT

High achievers commonly hire physical fitness trainers, personal wealth advisers, landscape architects, golf and tennis instructors, home decorators, tutors, chauffeurs and even fashion designers. Very few people consider investing in a Talent Agent who can advance one's career. Even the most successful individuals can be hampered by a blind spot or a nagging gap in one's arsenal. There is room for growth and further development in every human being, even the most talented and proven business professionals.



Trinitas Talent Management helps serious-minded professionals manage career trajectory while addressing the following topics and issues:

- **"How to Earn and Gain a Promotion".**
- **"The Do's and Dont's to Negotiating a Compensation Package".**
- **"Dress for Success".**
- **"The Five Critical Skills for Information Management Professionals"**
- **"How to Recruit and Build a Loyal and Dedicated Team of Millennials".**
- **"Sales 101 for the non-Sales Professional".**
- **"Monetizing Your Skills and Capabilities"**
- **"Attracting Clients and Selling Your Services"**
- **"Leveraging the Gig Economy and the Alternative Workforce".**
- **"Severance, Managing an Exit, and its Implications"**
- **"Networking as a Lifestyle".**
- **"Freelancing with Vigor"**
- **"Create a Winning Proposal".**
- **"How to Gain Financial Momentum in the Midst of a Career Change".**
- **"The Truth about Breaking Bread".**
- **"The Three Secret Skills".**
- **"Winning Friends and Influencing People"**



These conversations are mostly limited to cocktail party talk, rarely held with the right people, and definitely not executable. We at Trinitas Talent Management address these issues and offer resources to bridge the gap.

> ***Staffing firms, temp agencies and headhunters represent the Employer. We advocate for The Talent.***



Trinitas Talent Management represents high-performing individuals who struggle to navigate the corporate waters. We provide buoys of practical advice enabling a worker to align with her employer for mutual success. We also advocate for the executive who seeks both personal career growth and practical tools in order to lead the corporation toward prosperity. We enable the individual contributor to attract the kudos and recognition one deserves. This could lead to increased leverage points, greater job responsibility, more interesting assignments and, perhaps, even a promotion. In the case of the executive who carries large people responsibility, to create a renewed confidence with those he leads. These attitudes then become contagious as the leader is expected to pay it forward as part of a winning legacy.

If you are gainfully employed, and still seek the next optimal job or project, your view of a passive career search is radically different than the person who is out of work and actively seeking employment. Effectively working the job search process and managing the stress related to the job search are critical to your health and those who depend on you. Where do you start? Why aren't people calling you back? How do you re-invent yourself to be desirable to the next employer? Trinitas Talent Management will walk with you through this process; talk you down from the ledge and provide the support you need.

Rick Diana
Trinitas Talent Management
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D.G. MCDERMOTT ASSOCIATES, LLC

OUR STORY

We Help Innovators Attract and Retain Talent

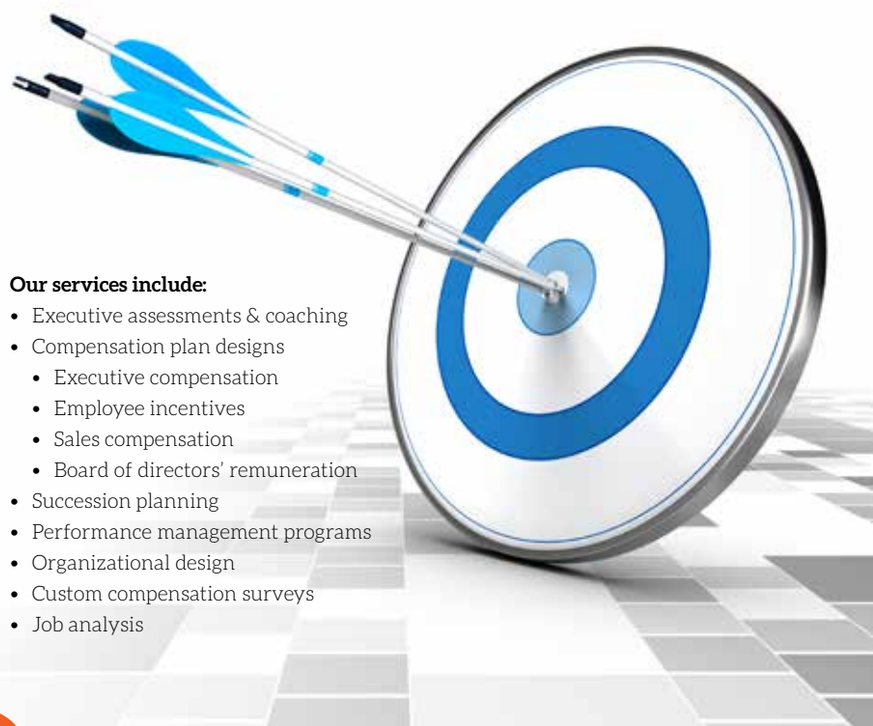
Your company's most valuable assets are your employees. D.G. McDermott Associates creates and implements innovative HR and compensation strategies to ensure you retain the right talent—those employees who bring the skills, creativity, and passion to help your company thrive.

Empowering Organizations to Succeed through People

"Our mission at D.G. McDermott Associates is to help innovators succeed through their people," says founder and CEO Donald G. McDermott. "When an employee leaves your company, it costs you quite a bit to replace them. In fact, it can cost more than double the annual salary to replace a highly trained and compensated individual on your team. Our aim is to help you build employee engagement and retention by putting the right structure, culture, processes, and policies in place."

Helping Innovators Focus on Results

McDermott Associates offers compensation consulting services which enable innovators to succeed through their people.



Our services include:

- Executive assessments & coaching
- Compensation plan designs
  - Executive compensation
  - Employee incentives
  - Sales compensation
  - Board of directors' remuneration
- Succession planning
- Performance management programs
- Organizational design
- Custom compensation surveys
- Job analysis



Aligning compensation with business strategy

We help innovators establish a compensation philosophy and build compensation plans aligned with business strategy and performance. We start by listening to you. What are your strengths and goals as innovators? What challenges do you face? What successes have you had? Then we work with you to answer these questions for your organization:

- What factors do we need to consider to establish compensation programs and levels to support our business goals, objectives, and strategy?
- Is pay aligned with the market?
- Are performance metrics and incentives driving the right business results?
- Do job descriptions reflect what people are actually doing in their jobs?

We also guide you in analyzing and structuring organizational design, culture, executive development, performance management, succession planning, and recruiting.

Staying ahead of compensation trends

With issues such as pay parity and transparency at the forefront, McDermott Associates knows innovation leaders need up-to-date compensation data and insights so they can compensate their people fairly and competitively. This is key to attracting and retaining top talent. We conduct annual compensation surveys across several industries to provide data on base salary, short- and long-term incentives, and total compensation. Moreover, the firm is often retained to provide customized surveys when actionable data and insights are required by leaders in new or growing markets.

A recognized compensation authority

Don McDermott founded his New Jersey–based HR consulting firm in 1985, after an extensive career as a human resources executive. He understands the stresses leaders face in attracting and retaining the talent they need to move their companies forward. He has particular expertise in developing strategic business and operational plans, and aligning innovative compensation and human resource programs to meet company objectives.



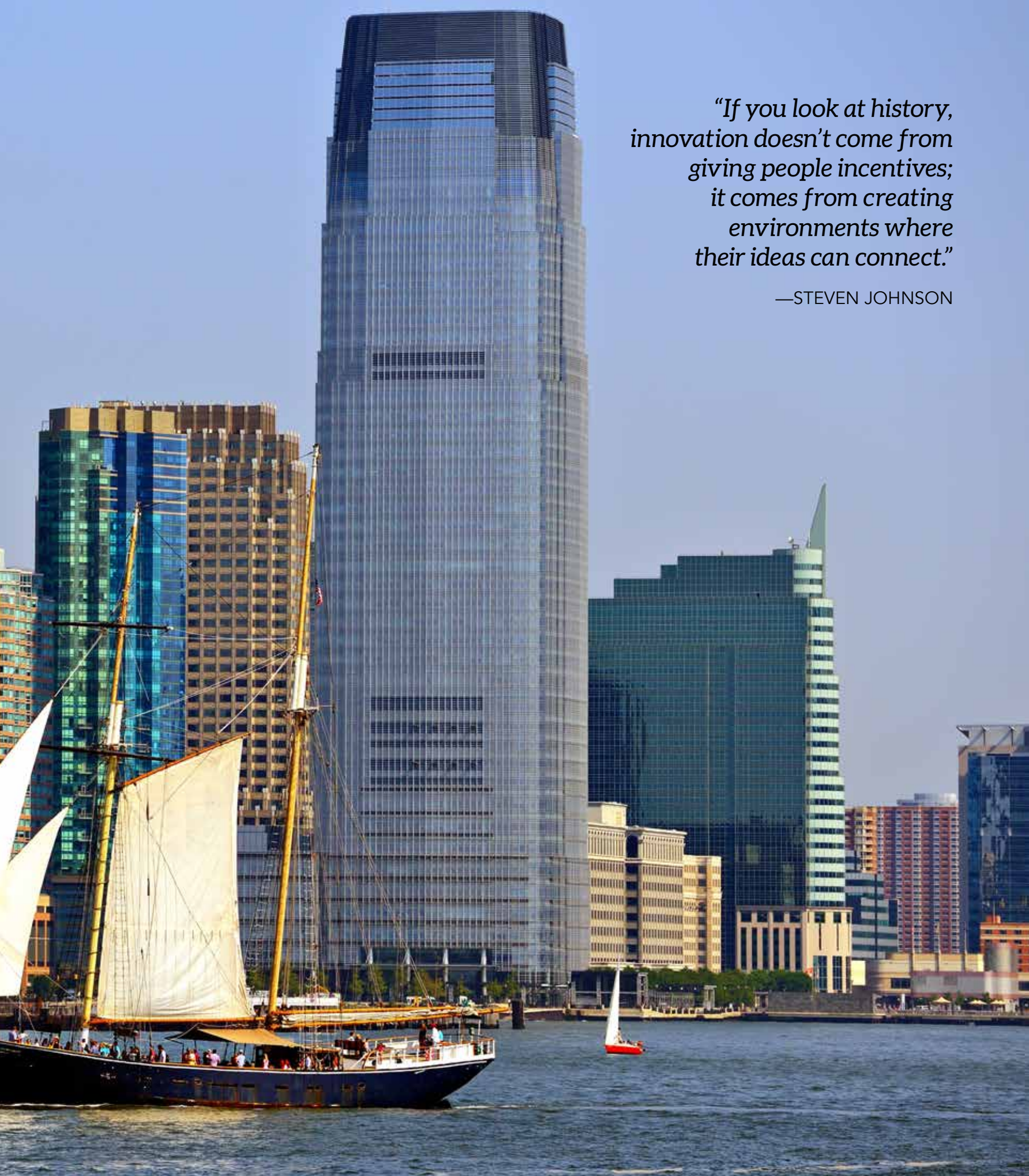
Don McDermott founded McDermott Associates in 1985 with the goal of helping leaders attract and retain talent.

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D.G.McDermott Associates, LLC

CHAPTER 16

INNOVATION ENABLERS





"If you look at history, innovation doesn't come from giving people incentives; it comes from creating environments where their ideas can connect."

—STEVEN JOHNSON





COOK MARAN | AN EPIC COMPANY

WITH COOK MARAN, YOU'LL HAVE MORE THAN AN INSURANCE BROKER; YOU'LL HAVE AN ADVISER AND ADVOCATE FOCUSED ON HELPING PROTECT YOU FROM THE UNPREDICTABLE AND ANTICIPATING YOUR CHANGING NEEDS.

ELEVATOR PITCH

While Cook Maran is a full-service brokerage in every sense of the word, we specialize in meeting the unique insurance needs of specific industries as well as high net worth individuals. For Commercial Insurance needs, Cook Maran is the adviser and advocate you can count on to help protect your business from the unpredictable, control your insurance costs and manage your changing needs. As a leading personal insurance broker, Cook Maran serves more than 12,000 individuals and families, we'll be there to guide and advise you, every step of the way. In our Employee Benefits division, Cook Maran will become an extension of your company's HR department and offer your business a level of expertise other brokers simply can't match.



Cook Maran is an EPIC company. EPIC is a unique and innovative retail property & casualty and employee benefits insurance brokerage and consulting firm, headquartered in San Francisco.

EPIC Insurance Brokers and Consultants has a nationwide presence with a depth of industry expertise across key lines of insurance, including commercial property and casualty, employee benefits, unique specialty program insurance, and private client services.

OUR STORY

- EPIC Insurance Brokers & Consultants, recently ranked one of the 15 largest U.S. retail insurance brokers and the nation's 9th largest privately-held insurance brokerage.
- Cook Maran has a strong local network with eight New York and New Jersey locations backed by a leading national organization.
- Seasoned team of 230+ dedicated and knowledgeable professionals.
- Company-wide average of 16 years' industry experience and tenure of 10 years.
- Specialty insurance offerings include private client services, automobile dealerships, construction, financial services, food manufacturing & distribution, golf courses, life sciences, manufacturing, not-for-profits, real estate, and many more.





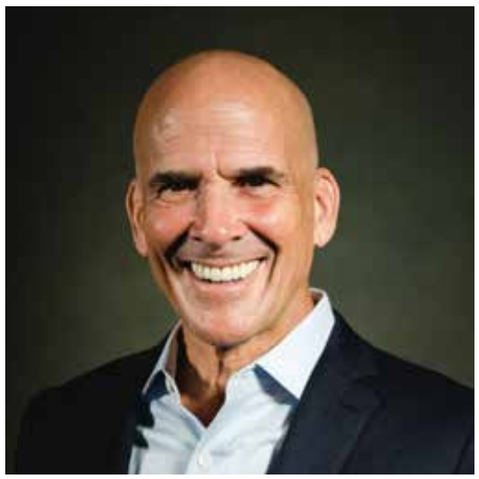


Our VIP services platform

Complete Product Lines Offering:

- Commercial Property & Casualty Coverages
- Surety Bonding
- Personal Lines Insurance
- Employee Benefits

- **Dedicated Account Managers:** VIP Services Clients have dedicated account managers with 20+ years of industry experience.
- **Customized Service Plans:** No two operations are exactly alike. Our Customized Service Plans allow for tailored, efficient servicing.
- **Claims Advocacy Programs:** Our full suite of claims services provides you with an experienced, effective approach to lowering your claims and therefore your costs.
- **In-house Risk Management:** Cook Maran's internal Risk Management personnel act as a seamless extension to your Operations Team.
- **And more...** Let us show you what is possible!



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TENFOUR
INNOVATION ENABLERS

ELEVATOR PITCH

In order to win in the Digital Age, IT leaders need to free themselves from daily IT challenges and focus on the data and applications that will enhance customer experiences and ultimately grow and differentiate their business. That's why TenFour designed the first private domain, global IT infrastructure subscription service. We've taken the Cloud model and applied it to the foundational technology that powers business. From routers and switches to Unified Communications & Collaboration (UCC) systems and Internet of Things (IoT) integrations, we deliver the reliability and performance IT leaders need to drive digital transformation.

OUR STORY

It certainly isn't breaking news that innovation is essential for companies trying to stay ahead of their competition and lead their industry. But the hard truth is that innovation requires change, and too many organizations are afraid to embrace it. To thrive a company must be willing to learn from the past and leave it behind. That's where TenFour comes in.

The world is in the middle of Digital Age revolution that has seen more and more processes and industries moving towards subscription models. We saw it when Netflix edged out Blockbuster, we saw it when Spotify edged out the iTunes store and physical CDs, and we're seeing it again in the IT Infrastructure space. It no longer



makes sense for organizations to buy and manage every single piece of their technology infrastructure. Why keep track of installing, monitoring, and refreshing a multitude of equipment and services when this work can be handled with one, all-in monthly cost?

TenFour's proprietary IT Infrastructure as a Service (ITIaaS) offering allows companies to free up their time and resources to focus on innovative new projects. We do this by taking the Cloud model and applying it across seven platforms—WAN, LAN, UCC, Data Center, Network Security, IoT, and Physical Infrastructure. We not only design, install, operate, monitor, maintain, and refresh our service; we retain ownership and responsibility for all of its components and pass on none of the risk. TenFour's service provides the foundation on which you can build the future of your business.

With our team behind them, our customers have been able to complete the digital initiatives that help them stand out from the crowd! Centralized catering ordering systems, AI-based beauty apps, smart "virtual try-on" mirrors in retail shops—we've been proud to support their goals and wildest dreams.

Our partners' ability to complete these projects hinges on a few key advantages of TenFour's service. We help companies reclaim employee time and energy, reduce Total Cost of Ownership, and lower IT Infrastructure expenses. And because we proactively maintain, monitor, and repair every element of our service, our customers experience fewer defects, less down time, and a higher degree of scalability, as well as a suite of robust security benefits.

TenFour knows what it takes to innovate. We were founded as Alliant Technologies in 1998 and have seen several transformations since. In 2006, we established our 24/7/365 US-Based Network Operations Center. In 2012, we launched the first IT Infrastructure as a Service (ITIaaS) offering (then known as Continuous Infrastructure Service). In 2014, we spun off the Research and Development arm of our company into its own organization, Red Forge. And in 2017, we rebranded our entire company. We heard the frustrations our customers were having with the IT industry, saw a path for the future, and developed a plan. Message received. TenFour.

Our service continues to evolve and grow with the industry and our customers. In 2019, we dropped our Value-Added Reselling (VAR) business entirely because we're committed to innovation. We saw no reason to keep doing things the way the IT industry had for decades when the future is so inviting. We know that ITIaaS will allow customers more time and money to innovate and push their own industries forward.



Our team is full of passionate, fearless innovators who are energized to ignite change and pave a new path forward. TenFour is proud to evolve the IT industry so we can give our partners the tools they need to change theirs.



TENFOUR

hello@tenfour.com | tenfourit | tenfour-it

tenfour.com

PRIMEWORK

FLEXSPACE, INSPIRED! WE PROVIDE OUR CLIENTS WITH A PRIME WORK ENVIRONMENT, DESIGNED AND BUILT TO SCALE WITH FLEXIBLE TERMS. SCHEDULE A TOUR OF ONE OF OUR BEAUTIFUL SPACES TODAY!

OUR STORY

The landscape of office space rental is drastically changing. With new business structures being created to accommodate today's digital landscape, new officing models are being offered in cities across America. PrimeWork spaces offer a unique spin on custom and move-in-ready offices, known as FLEXspace. What is FLEXspace you may ask? Read on!





Renting office space isn't just about finding a place to run your business — it's a strategic investment in your future. The right location for the right price on the right terms can make your office more productive, improve employee recruitment and retention, and make your business more attractive to consumers — all the while helping save money on your bottom line.

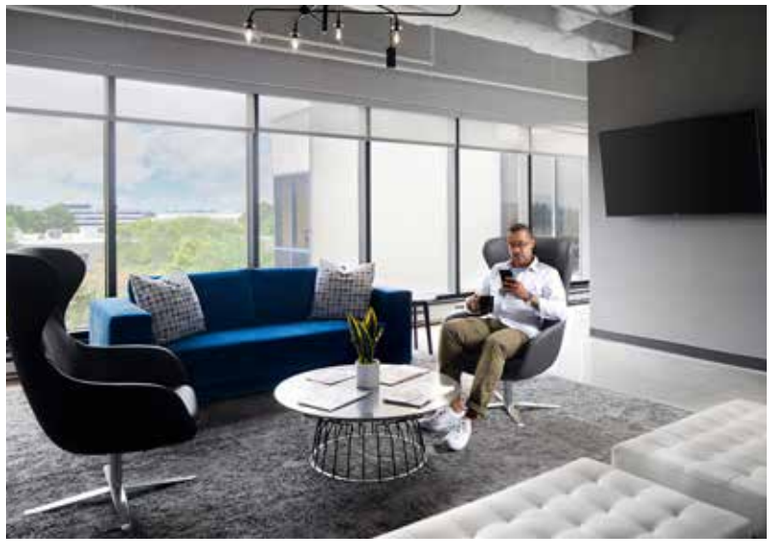
But it's not just about location, asking price and square footage. The space available and the terms of the commercial lease can affect your business in complex ways, such as:

- Imposing unpredictable costs such as maintenance
- Restricting your ability to add space when you need to upgrade
- Enabling your ability to build-out or obtain specialized infrastructure, such as high-speed Internet

Here's the math: basic rent cost is only the beginning when it comes to financially undertaking new office space. Additional expenses, such as network connection costs, printing, lease administration, management costs, and more, can hike up the pricing exponentially. When you join PrimeWork, these elements are rolled into one final monthly price.

Instead of spending countless hours (and dollars) in negotiations with brokers, contractors, architects, IT professionals, and more, PrimeWork acts as the middleman and handles your office transition from start to finish. Our team coordinates furniture rental, IT set up, rental agreements, and more so you have more time to do what you do best: grow your business.

With countless officing options available to you, from turnkey solutions to spaces customized from top to bottom, there's a PrimeWork FLEXspace with your company's name on it. Our spaces offer unique views, fantastic amenities, and an undeniable energy.







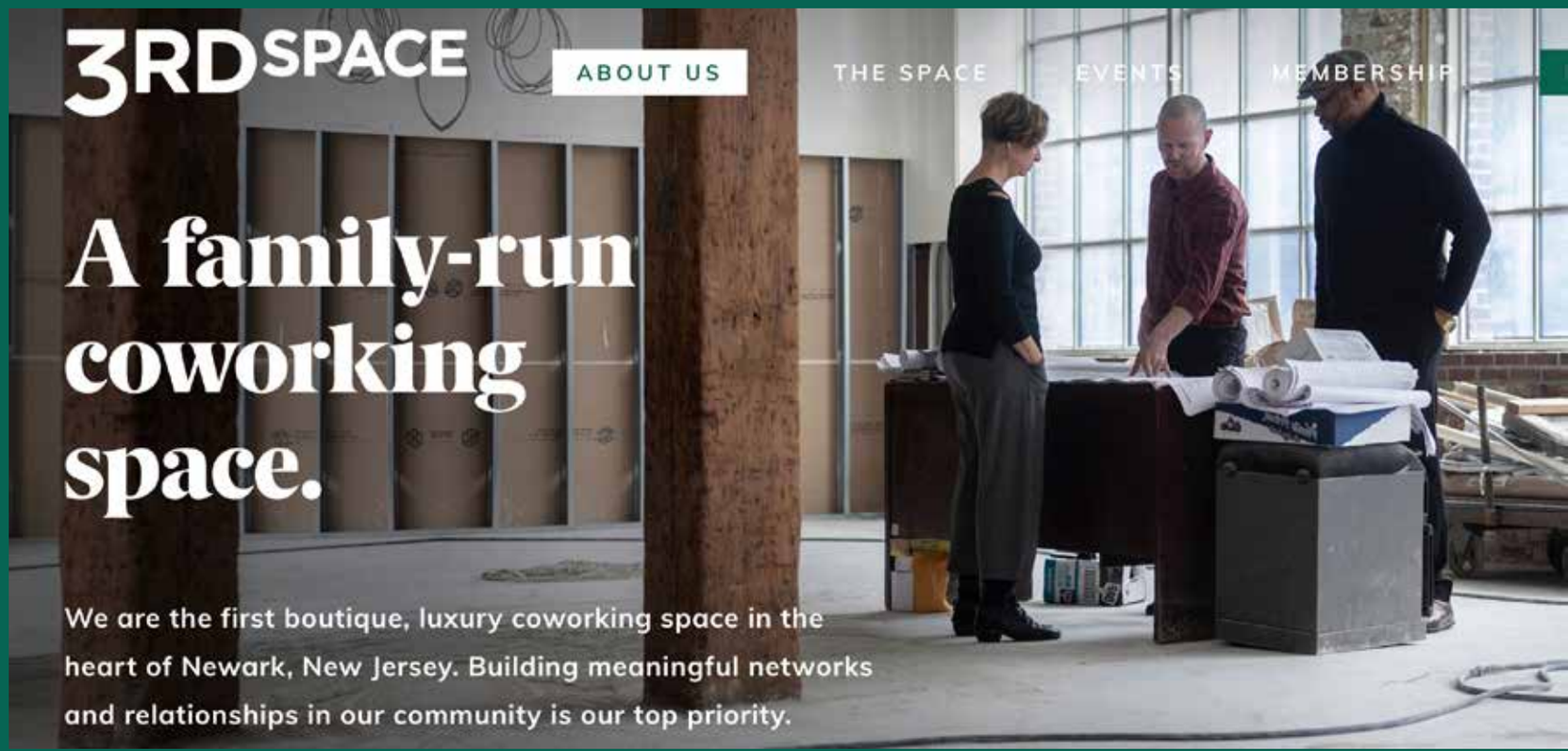


In addition to our vast array of amenities, such as mega-speed internet, conference rooms, mail services, and more, we're proud to offer flexible leasing terms, 24/7 access and security, and quality design for our customized and turnkey spaces.

Interested in learning more about how leasing a FLEXspace by PrimeWork can save you time, money, and hours of unnecessary effort? Visit our website or contact us directly at info@primework.com.

primework

primework.com



OUR STORY

Newark, New Jersey, is experiencing a boom in real estate development from luxury high-rise apartment buildings to trendy eateries; the city is experiencing a renaissance. Many people are moving to Newark for the affordability and easy access into New York City and the close proximity to Newark International Airport.

The rich culture of the place affectionately known as "Brick City" is one of the reasons the partners at 3rd Space decided to call Newark home. Located just 649 steps away from Newark Penn Station, 3rd Space is a family-owned and internally financed coworking space in the heart of Newark that strives to build a diverse community reflective of the city's residents.

In addition to offering private offices, conference rooms, a podcast recording studio, and a café, 3rd Space offers event programming that engages the community for artistic expression and social justice causes.

Since the day 3rd Space opened the doors for business, they have invested in the local community. For example, the walls of 3rd Space are graced with Newark Arts High School student art work.



"The project is one that we wanted to take on as a family business. Once the decision was made to open a coworking space, we looked at a few New Jersey cities. The first time we came to Newark, we knew we had to be here. There is a vibrancy here that hits you immediately, and we are happy and proud to be a part of the Newark community," said 3rd Space president, Jennifer Donnolo.







"We are new business owners here in Newark and our backgrounds include education and social work," said Donnolo. "The artwork is masterful and most people who come into our space are shocked to find out that the remarkable paintings and photographic images were created by high school students. By fostering this relationship, we are able to promote the value of arts education and provide a great sense of accomplishment to the community."

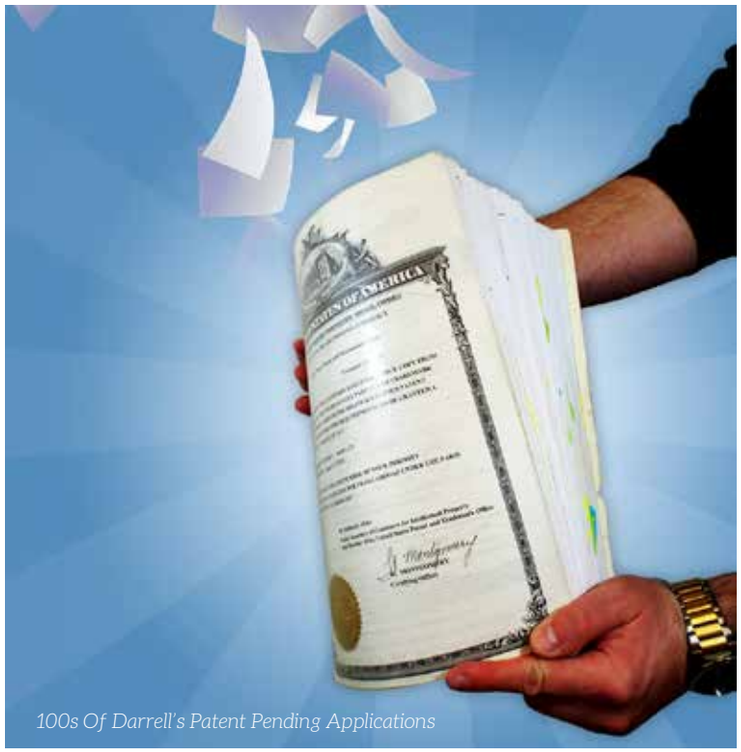
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BOUNDLESS INNOVATIONS







100s Of Darrell's Patent Pending Applications

Boundless Innovations LLC is an award-winning product design and development company, plus advocates of the open innovation movement since 2004. We invent independently and form strategic partnerships with great companies such as Design Circle (seen above) to design, prototype, co-invent, and bring new products, innovations, and businesses to market via a collaborative innovation strategy with the end goal of creating the very best new products and services possible to benefit mankind. Our strategic goal is to always find win-win ways to work, innovate, and share profits together.

Since inception, Boundless Innovations began to invent products in over thirty industries to sell, license, or commercialize, in addition to offering new product and venture analysis, R&D, prototyping, software development, manufacturing, retail, TV commercials, IP, ideation, and marketing services. Our research-based innovation consulting services are truly unique and valuable to inventors, startups, investors, and Fortune 100 companies. We are inspired by The Thomas A. Edison Papers, invention history research, and leading innovation and psychology studies spanning hundreds of years.

Dreamland Productions is our entertainment division. Here we specialize in developing interactive media technologies—a new version of the web, hologram innovations, and hit TV shows—by working with TV networks and production companies to license our intellectual property or co-create new products, TV shows, and ventures together. If you have the next hit reality TV show concept, smart TV innovation, or movie, contact us today. Our connections in Hollywood and guidance may help with your next dream and big idea. We are also working with Gene Dolgoff, the famous inventor of the LCD projector, pioneer in HDTV, and now head of Holobeam Technologies, who is assisting Boundless Innovations in creating a new TV, phone, and web/internet product experience.

After high school Darrell Fertakos, award-winning inventor, and founder and CEO of Boundless Innovations, had a very unique experience working with researchers in the brainwave entrainment industry at one of the first and most advanced Mind Gyms built in the US and formally based in New Jersey.

His former boss David Mager, who now works with Deepak Chopra, inspired Darrell to invent without limits like Thomas Edison did—and Darrell took his advice very literally. Darrell learned that the average human brain has 60,000 thoughts per day, and Darrell just knew it was possible to think of hundreds if not thousands of new product and business ideas per day if the brain was trained to do so. Darrell used light, sound, motion, and biofeedback machines, a combination valued at over $10,000, to alter his brainwaves to help him invent more prolifically novel solutions to problems in many industries. He recommends learning about "The Flow" state of mind, while also reading invention history, to invent more effectively.

So far Darrell has created and filed 700+ of his own creative ideas/IP with the US Patent Office; only a few inventors in world history began to invent this much by the age Darrell did. "I just love to invent new product concepts and envisioned thousands, hoping to one day set a new US history invention record; however, this is capital-intensive work to do well." With real value-added investors on Darrell's side in the future, a billion-dollar business, thousands of jobs, and one of the most innovative companies in NJ history could form. Without funding, Darrell admits to making mistakes: "It's very hard to grow a business without a salary, stable income, or funding; it's why most failed in history. The good news is more opportunities have emerged recently to help inventors and startups."


Invention Factory

Darrell received training in new product development from the NJ 2001 Inventor Of The Year, Dr. Phil Anderson, while in college, then in his MBA program, at Innovation think tanks, within an accelerator, and won an academic scholarship competing globally, researching invention history from a George Mason University–affiliated think tank. Darrell also won a new invention award, inventing a mobile coupon app in The History Channel Modern Marvels Invent Now Competition, prior to the app store coming out to be named a Modern Marvel by The History Channel out of 4,200 inventors competing in 2006. The mobile coupon and QR code industry years later grew to $50 billion off similar products that Darrell had previously won an award for creating, as seen on HistoryChannel.com in May 2006. Darrell also earned an invention award while in his MBA program, for his smart glasses' invention concept and design, which was similar and prior to Google Glass, in addition to the following achievements.

Darrell has been showcased on The Discovery Channel as a prolific inventor, as a NY finalist on ABC's hit TV show *American Inventor* for his airbag helmet invention, and on *The Tonight Show* in '04 for his invention of a healthier cigarette, prior to, safer than, and similar to the e-cigarette. Darrell is co-creator of the hit TV show *PitchMen* (created for inventors), has taught invention at a STEM school in New Jersey, speaks at inventor clubs on the topics of *How To Invent Winning Products*, and has helped companies become top sellers on TV, QVC, and in retail with his work, product designs, and business ideas, helping to produce over $2 billion in sales and 70M units sold, most recently with the product ClampChampion.com, now a top seller on QVC three years in a row and with over $5 million in sales on TV, online, and select retail stores, selling globally.

Darrell stated, "For the purpose of accurate invention history it's important to note I also began to dream up, invent, build, and design similar products and hit TV shows often years prior to what later became Facebook, YouTube, Instagram, Tumblr, Bumble, Square Mobile Credit Card Reader, Google and Apple Pay, Smart Glasses similar to Google Glass, Ring, Key-chain Breathalyzer, Mobile Payment Apps, and 100x more. I had many challenges without funding yet still produced an ROI."

Darrell even created similar product concepts to what the mobile app store later became and wrote to Steve Jobs in early 2006, hoping for Apple Inc's help in creating it, yet sadly too often encountered no-unsolicited-idea policies.

Previously, Darrell had written to Disney Inc. CEO Michael Eisner in 2004, hoping to team up with Disney to co-create a social networking website, very similar to what Facebook later became. Of the best new inventions in the news each year, at least 15% were also in R&D at Boundless Innovations, often years prior to now well-known companies in addition to the mega-hit TV show formats—*Shark Tank*, *The Profit*, *America's Got Talent*, and so many more.

Most of these facts are verified by Darrell's hundreds of creative records filed at the patent office, dating back to 2004, and from his patent attorney, Emmanuel Coffy Esq. of CoffyLaw.com, who worked at the US Patent Office as an examiner. This is just a small example of Darrell's truly unique creative talents.

Darrell's hope is to inspire the creation of "Open Innovation and Opportunity Days Globally" so citizens can visit and pitch their business or product concepts in person to potential investors and companies to be considered for investments, jobs, acquisitions, licensing deals, vendor opportunities, mentoring, and strategic partnerships while also providing companies feedback. As Walt Disney stated, "If you want to inspire, illuminate, and enrich the hearts and minds of users by what you create, team up with more established companies and work together to co-create the best new products and services possible." The future is corporations investing more so into startups and inventors, for this is the key to success, long-term profits, and continuous innovation, as *Harvard Business Review* teaches. It's time to honor IP rights, live by the golden rule, and forge win-win deals so together more can invent and share the joys of success by teamwork. Companies globally need to stop copying IP, to reward talent, and to work out win-win deals to reduce unnecessary conflicts and litigation so at last a far more positive future for all innovators emerges in 21st century.

Shark Tank does not have to just exist on TV; "it can emerge in every country, city, town, school, library, and village around the world to benefit humanity." Darrell is calling upon all product and technology companies in the world in addition to all investors to host events with Boundless Innovations to co-create.

Right now, Darrell is looking for an investor and team to build this website and app to track all the events, investors, inventors, executives, ideas, and companies that wish to help turn this vision into reality. Darrell's primary focus is his new product: an improved version of the web/internet. "I'll run out of years to live well before I run out of ideas, so I need far more help moving forward."

"Innovation is everything at Boundless Innovations. We wake up in the morning and dream about what else a satellite in space, DNA, or even a toothpick could do to benefit lives more so. Inventing is really about solving problems to help others and often the more a product helps users the higher the odds of market success."

If looking for ethical creative leaders, new innovations, fresh ideas, feedback, business opportunities, hiring, or great companies and executives to work with to help achieve creative dreams, then contact Boundless Innovations to discover new possibilities and to increase the odds of inventing winning products.



Darrell Fertakos, Founder

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CHAPTER 17

ACCELERATORS, INCUBATORS & MENTORS



"Once you have an innovation culture, even those who are not scientists or engineers—poets, actors, journalists—they, as communities, embrace the meaning of what it is to be scientifically literate. They embrace the concept of an innovation culture. They vote in ways that promote it. They don't fight science and they don't fight technology."

—NEIL DEGRASSE TYSON

NEW JERSEY MANUFACTURING EXTENSION PROGRAM (NJMEP)

SUPPORTING NEW JERSEY MANUFACTURING





OUR STORY

Customizing our approach to the specific needs of a problem—at New Jersey Manufacturing Extension Program (NJMEP), we draw on the expertise of our staff and talented pool of resources to help New Jersey manufacturers meet the challenges of competing in an ever-changing economy.

We have the unique ability to identify, analyze, and help manufacturers overcome strategic, operational, and workforce challenges that may be blocking their path to growth and success. We help them determine the best courses of action with the highest impact and ROI. Then we guide project implementation with a focus on rapid and effective results.

We are in a time of unprecedented change, with major challenges facing our manufacturers every day such as the skills gap, new technology, cyber security, competition, taxes, and regulations. As leaders, thinkers, and problem-solvers, the traditional ways of operating no longer work and it's imperative to have solutions and invaluable insight to help you innovate rapidly and effectively adapt to change.

Workforce Challenges Facing Manufacturing

New Jersey isn't immune to the workforce challenges facing the global manufacturing industry. Students are being steered away from industrial sectors and instead are flocking to college directly after high school. Shop classes are disappearing across the country and the essential skills manufacturers are constantly seeking are becoming less and less abundant. NJMEP is taking a hands-on approach to address this severe disruption.

Utilizing our vast network of industry resources, through new and existing industry partnerships, and by collaborating with educational institutions, NJMEP developed the Pro-Action Education Network™. This program focuses on all aspects of the manufacturing workforce. It covers all ages and includes candidates with varying experience levels. Beginning at the pre-apprenticeship level along with providing training for senior level manufacturers to refresh their skills, NJMEP's Pro-Action Education Network™ is cultivating a robust talent pool to ensure New Jersey manufacturing businesses have access to qualified workers.

PRO ACTION NETWORK

Pro-Action Education Network™ provides its students with multiple career pathways. The goal is to offer these individuals the skills they need to contribute more and advance their careers. Each of the programs listed below are customizable to meet specific employer needs.

1. Pre-Apprenticeship & Foundational Credentials—The Manufacturing Skill Standards Council (MSSC) national certification, SME/ToolingU—Bring someone onboard in the shortest period of time but still require additional training. This program is for both incumbents and new hires.

NJMEP

Helping New Jersey Manufacture Success



2. Open Enrollment 'Career Advancement' Training—Incumbent workers can gain enhanced skills to apply to their job—or the next position at your organization.
3. Candidate Evaluation & On-the-Job Training (OJT)—NJMEP can deliver evaluations to help businesses select the best candidate for the job. Additionally, NJMEP can help organizations plan on-the-job training for new hires.
4. Apprenticeships—Building a team ready for the next levels of employment, as you combine foundational learning with OJT and County College support to build your organization for the future.
5. Train-the-Mentor—Focuses on training for designated employees who will oversee the development of apprentices. Also, this training provides the skills needed to develop into leaders within an organization.

NJMEP encourages the strength and competitiveness of New Jersey manufacturers through coaching, training, and consulting, collaboration-focused industry programs, and by leveraging government, university, and economic development partnerships.

The experienced engineers and business professionals at NJMEP have skills in manufacturing, management, process improvements, and technology acceleration and work closely with manufacturers to provide company assessments and customized solutions including hands-on facilitation and implementation.

Foundational support services range from manufacturing process improvement and quality systems to food and safety, energy assessments, and more. The focus of these services is to maximize your productivity and optimize the knowledge of your workforce. Innovative growth services include innovation, product design, supply chain development, export assistance and training, and access to multiple national product and marketing opportunities. The focus of these services is to develop new products, utilize new technology, and access new national and global markets.

In addition, NJMEP can assist in recommending funding resources designed to help you spur technology development and commercialization across New Jersey. These resources can help reduce the costs to manufacturers of undertaking projects like prototype development, manufacturing scale-up, and other projects to advance production capabilities.

We'll help you work within your budget, identify and articulate your needs, and connect you to potential funding resources. We've culminated all funding resources we've used in the past and plan to use in the future and have established a streamlined process to help you offset costs when investing in NJMEP programs/services.

NJMEP is committed to maintaining a high level of customer satisfaction and providing results that improve a company's bottom line and drive top line growth.

NJMEP:

- NJMEP serves as the primary resource, advocate, and voice for manufacturing in New Jersey since 1996 and is the go-to source for assessing needs and helping manufacturers operate more efficiently, grow profitability and create more jobs and opportunities.
- NJMEP offers services through the Pro-Action Education Network™ which gives new hires and incumbent workers opportunities through Pre-Apprenticeship & Foundational Credentials, Open Enrollment "Career Advancement" Training, On the Job Training (OJT), Apprenticeship, and Train the Mentor.
- NJMEP is part of the NIST-MEP National Network™ which provides a 14.4:1 Return on Investment nationally and 15.3:1 in New Jersey.
- The National Institute of Standards & Technology's Hollings Manufacturing Partnership (MEP) works with US manufacturers to help them become more profitable and globally competitive. The MEP network is comprised of 51 individual MEP centers, which span across all fifty US states and Puerto Rico. Each MEP center has programs and services geared towards helping small and midsized manufacturers improve efficiencies, boost productivity, embrace innovation, and spur job creation.
- NJMEP clients are submitted for an impact survey conducted by an independent third party to measure customer impact and value. NJMEP has been ranked as one of the top MEP Centers in the country.
- Since 2000, NJMEP has helped manufacturers realize more than $4.16 billion in value and helped create and retain more than 36,000 jobs.



New Jersey Manufacturing Extension Program
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njmep.org

iBC Insights LLC

INNOVATION HAPPENS WHEN INVENTION IS TRANSFORMED INTO A COMMERCIAL APPLICATION



Sinan Tumer
Innovation Strategist Founder & CEO of iBC Insights LLC

OUR STORY

The Current Innovation Landscape

Every day all around the world thousands of visionary entrepreneurs are inventing new products and services with great ideas, enabled by their creative concepts. Their goal is to create great companies driven by their innovation to make money as well as create a better world. However, breakthrough innovations do not materialize until inventions are successfully transformed into commercial applications. Entrepreneurs today struggle with these challenges during that transformation process, ideas fall into "Valley of Death," thus most of the startups fail in the first year.

In today's fast-paced global economy, the ecosystem for innovation will extend well beyond conventional, technological concepts. It will enable a rapid process from formulation of new ideas, through applied research, development of Minimal Viable Product (MVP), to evaluation for commercial viability, market acceptability, and commercialization.

What are the Challenges for Entrepreneurs?

One of the shortcomings of such a method is that after the completion of applied research projects, it is very slow to transfer results of research into marketable products. Sometimes it never materializes due to the inability of the startup to identify market demand, the high investment required, missing right talents, regulatory obstacles, etc.

As Eric Ries, author of the book *The Lean Startup*, says, "A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty."

Therefore, traditional management and accounting practices, mostly driven by existing and historical company data do not apply to startups, because these newly created businesses do not have data to measure the progress or forecast the future. Missing business data puts startup companies in "extreme uncertain" conditions.

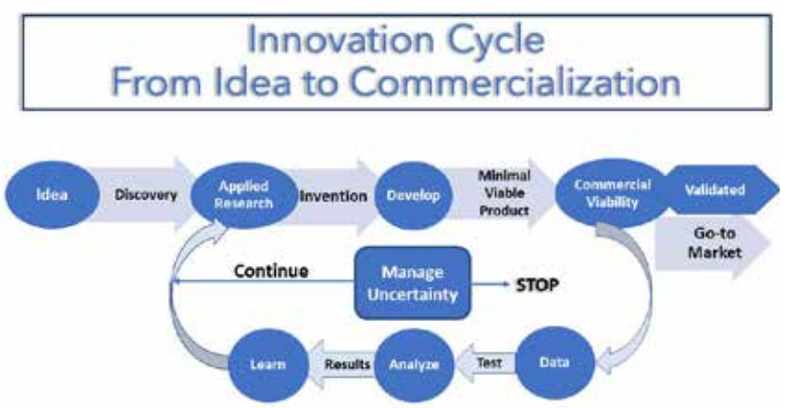
Since startups are stressed with lack of financial resources, attracting and retaining the "best," hiring highly skilled people to an uncertain environment is very difficult. Besides, their product is unproven on the market. An early-adapter customer must take a similar risk to the startup to test the product and use it on a pilot basis. These are a few challenges startup management face every day.

What is Innovation Management?

Innovation Management in a startup environment is about constant learning. It is a structured learning process, from failures, from the progress, from feedback received from analysts, experts, and potential end-users. It is all about how to measure, analyze the small batches of data collected, and optimize the processes. It is a different management methodology based on the ability to learn from the short milestones and how effectively management measures and analyzes the data and determines whether they proceed to the next step, conduct further rigorous testing, or go back and reevaluate their strategy or even the original idea. Sometimes management may have to make the toughest decision: Give up before it is too late!

What do we do at iBC Insights LLC?

Sinan Tumer, an Innovation Strategist founded iBC Insights LLC to mentor and advice entrepreneurs to overcome these challenges in their innovation journey. iBC Insights LLC partners with high-tech startups, scale-ups, university startups, and innovation incubators to develop their innovation strategy, innovation culture, business plans, and technology transfer processes to commercialization with focus on investment assessment.



SELECTED INNOVATION PARTNERS OF iBC INSIGHTS LLC

Naqi Logics LLC
naqilogics.com





What if you were able to control your computer and devices without looking at them, touching them, or speaking to them?

What if you were able to communicate with other individuals in a completely silent and invisible manner?

With our unique and exotic technology, users will be able to communicate nonverbally with anyone, anywhere in the world, or control a computer system anywhere in the world—even if they are nowhere near the computer—and without need to view a monitor: hands-free, voice-free, touch-free, and discreet.

One of our core missions is to change the world by providing those in need with a reliable, noninvasive means of controlling their environment as well as freely navigating computer systems. Those with quadriplegia or ALS will now be able to live a more normal life and have a stronger command of their home and device technology. Our soldiers will now have a means of silent, invisible and secure nonverbal communications without being forced to take their hands off their weapon or taking their eyes off the target. Veterans who have experienced traumatic amputations will now be free to type emails, browse the internet, or control their wheelchair, all without the need for voice commands.

Naqi Logics possess the greatest patent portfolio in the world in regard to non-tactile control of information systems. Its framework will revolutionize the Defense, Healthcare, and Gaming industries. In many ways, our technology seems like magic and we have only just begun our journey. In close cooperation with iBC Insights, our magic will soon make the world a better place for millions around the world.

Interflexion Inc.: "Professional Development for Everyone"
interflexion.com

Professional development is expensive, time-consuming, and inconvenient, while online content is quickly forgotten. To help companies overcome these challenges, Interflexion Inc. is pioneering the development of intelligent software that helps aspiring professionals develop their leadership and interpersonal skills through guided practice and personalized feedback. Combining advances in natural language processing and interactive UX with proprietary analytics on an AI platform, the Interflexion app engages trainees in memorable role-playing situations where professionals learn to interact more effectively and harmoniously with their colleagues. Interflexion is positioned to create best practices in "smart" training and deliver to everyone, anytime, on any device. iBC Insights is working closely with Interflexion as it brings its first product successfully to market.

iBC Insights
Innovate Build Commercialize

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sinan.tumer@ibcinsights.com
sinantumer



NEST GLOBAL SOLUTIONS

ELEVATOR PITCH

NEST Global Solutions is the owner of proprietary AI/ML software "DocBloxs" that provides Document Digitization & Workflow Automation solutions to achieve the highest level of Chain of Custody & Asset Protection in several industries. These include Financial Services, Legal, Real Estate, and Healthcare among others. NEST utilizes next-generation technologies to reduce liability and risk for businesses facing increasing challenges such as Audit/Compliance, Intellectual Property Protection and Transfer, Data Protection Needs, Preventing Invoicing Fraud, Tracking Work Performance, and Broken Chain of Custody.

OUR STORY

Our Leadership & Approach

NEST's ability to lead in the face of uncertainty and commitment to intentional disruptive innovation has attracted unique partnerships and opportunities. This enables NEST to help clients transition from a world of data as a historical record to instantaneous real-time transformation. Our carefully crafted approach, and positioning of the IP I personally developed, accounts for a world where the data that defines reality moves from physical form (documents) to digital and beyond.



Photo of Mike Stovsky, Peter Cimoroni, Lisa Marks-Canty, and Karl Schlegel. Lisa and Karl are with NEST, Mike and Peter are in their own businesses, but are close strategic partners. All four were on a Panel at Blockland Cleveland



Our team's foresight to include quantum materials as part of the data feedback loop and evolution of sensors in a 5G world has positioned us to go further than many companies that are currently considered as market leaders. With our leadership and the experience of our team, we have the ability to position our products and service model utilizing a top down and bottom up approach.

NEST Market Acquisition Strategy for RPA and Distributed Ledger

NEST's market acquisition strategy is designed to drive sales, strategy, and partnerships. Following are a few of the ways that our Team bridges the gap between technology teams and clients with real-world challenges. This effort has led to NEST being put on an accelerated trajectory to acquire market share, establish thought leadership, and lead companies through a rapidly evolving landscape of "creative destruction" -- a reference to economist Joseph Schumpeter's phrase for understanding how technology creates and takes away opportunities and redefines occupations.

Our market acquisition strategy is anchored in vision-based leadership. Rather than merely asking a prospective client about what the client thinks is needed, NEST questions, evaluates, and makes recommendations leading the prospective client on a journey of illumination that results in the clarity necessary to scope out and present a compelling solution. True transformation is only attainable for a client when NEST or another company takes the time to map out and understand cultural and organizational nuances. Without this step, the likelihood increases exponentially that any technology solution delivered will result in mismanaged expectations and possibly even a failed implementation.

NEST recognizes that any solution delivered needs to have a certain inherent flexibility in order to adapt to a shifting future. This is why NEST has built a core set of 5 key products that can fit together modularly but do not obstruct a client's ability to work with products or services from leaders such as Google, Amazon, Facebook, Apple, or Microsoft to which they have already invested. Around these 5 key products is an ever-watchful AI-enhanced RPA layer seeking out anomalies to ensure that workflows function as intended and data integrity is maintained.

Throughout the 5 products and the RPA layer, is security intelligence providing a safe haven for multi-nationals and enterprises sensitive to GDPR, CCPA, and data privacy requirements. Embedded inside these modules lie the capabilities to extract data from physical documents or unstructured environments, classify such data, transform and run data through workflow engines aided by deep learning and other AI algorithms, securely transfer and distribute to storage. And, maintain accountability and chain of custody, while gaining insight for next best action recommendations (factoring in outside information in addition to internal analytics) from the automated workflows and processes. In addition, we include the ability to interface with any data source including organically and inorganically derived item level tracking alternatives such as quantum dots. This informs the data feed, enabling client organizations to go boldly into a data transformed, 5G, space-faring world.

NEST ENABLE: Services Model for Product Based Company

Our products, which at their core, consist of automated AI, require implementation, customization, and support. NEST ENABLE comprises our consulting driven service models and the SLAs being created for our products. Given that Business Process Engineering, Data Aggregation, Deep Learning, and Document / Transaction Management are pillars of our technology, enterprises have an ability to innovate with us.

The Digital Transformation framework is a Cognitive Framework which allows for an enterprise to create their custom solution utilizing what we call "Lego Blocks." For example, we used NEST Capture (OCR/AI/ML), NESTWF (Workflow automation/classification) for the BNY POC whereby our technology was validated and beat out competitors such as Kofax and Automation Anywhere.

Our technology solution for complete transformation utilizes all components of our DT Framework- NEST Capture, NESTWF, NESTDBloxs, NESTinsights and NESTeVault. By design, we have built each of the individual components into products which stand can alone and are scalable driving revenue for the company. Everything that we do is anchored by Business Process Engineering and our team include Six-Sigma trained experts who can provide business process optimization around our products.

NEST
GLOBAL SOLUTIONS
nestsolutions.com

TECHLAUNCH

OUR STORY

THE GARDEN STATE'S ROOTS IN INNOVATION

Most Americans know New Jersey as The Garden State. But starting in the late 19th century, it was also hailed as The Innovation State. From Thomas Edison and his brilliant team of "Muckers" at the aptly named "Invention Factory" to the groundbreaking work of Alexander Graham Bell, which led to the birth of the modern communications industry pioneered at the "Idea Factory"(later known as Bell Labs), New Jersey was the epicenter of technological creativity and invention. In the next century, advances within the pharmaceutical and medical devices industry kept New Jersey squarely on the map as a giant of innovation.

POST MILLENNIUM BRAIN-DRAIN CHALLENGE

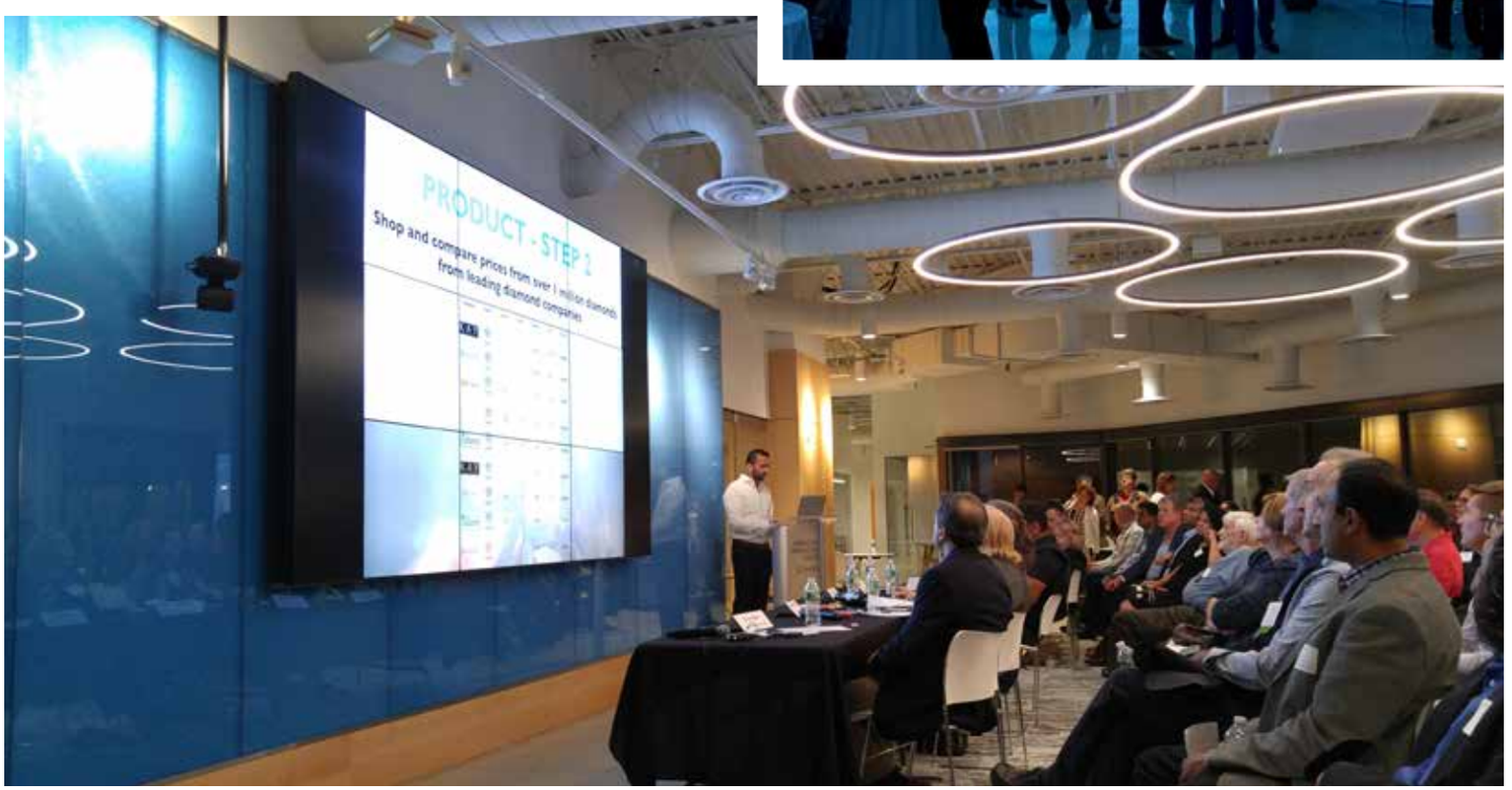
Skip ahead to the heady years following the Millennium, only to be eclipsed by the devastating recession beginning in 2008, and despite New Jersey's renowned brain trust, the climate for technology driven entrepreneurship was encountering a dry spell, exacerbated by the fertile opportunities cropping up in the form of technology accelerators in Silicon Alley (NYC), Philadelphia, and Boston, not to mention the glamorous allure of California's Silicon Valley. The brain trust was devolving into a brain drain and something needed to be done.

ACCELERATING ENTREPRENEURIAL GROWTH, REBOOTING AN ECOSYSTEM

Enter Angel Investor & Serial Entrepreneur Mario Casabona who (in partnership with the NJ EDA for a 3-year period, along with other NJ Angel Investors) created the state's first-ever technology accelerator, TechLaunch, whose core mission was to stimulate New Jersey's tech ecosystem by mentoring startups and providing them with access to investment. Housed on the campus of Montclair State University, TechLaunch was run like a 16-week boot-camp operation that, with the help of close to 150 volunteer Mentors, held classes and lectures while providing personal, hands-on advice. The goal was to help its aspiring entrepreneurs literally launch their fledgling businesses into the marketplace, with each year's cohorts competing for angel investment during one final Demo Day of presentations.

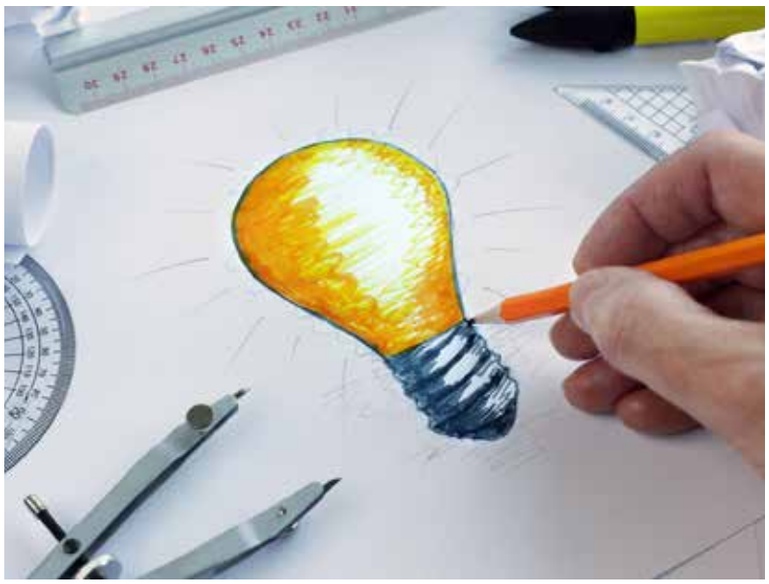
Three years later, in 2016, a now independent TechLaunch conducted an internal reboot of its own, in response to the growing startup ecosystem in New Jersey. How? By adjusting its core objective toward generating Quality Deal Flow for early-stage investors and preparing entrepreneurs for the Due Diligence





Process. It accomplished this by offering a new virtual business accelerator to remove the pressure from investors and entrepreneurs alike, in a program considerably more fluid and fun. The central program at the heart of the new TechLaunch is called BullPen, a quarterly series of pitch events—similar to the popular *Shark Tank* format—where four early stage tech companies present to a mixed audience and a panel of investors/judges, at rolling university locations throughout New Jersey.

Today, TechLaunch commercializes emerging technology by finding and nurturing early-stage tech ventures to accelerate growth via mentoring, coaching, networking, and access to resources and capital. The TechLaunch name is synonymous with New Jersey Entrepreneurship, and to date has proudly served over 75 tech-focused companies and mentored over 150 aspiring entrepreneurs.







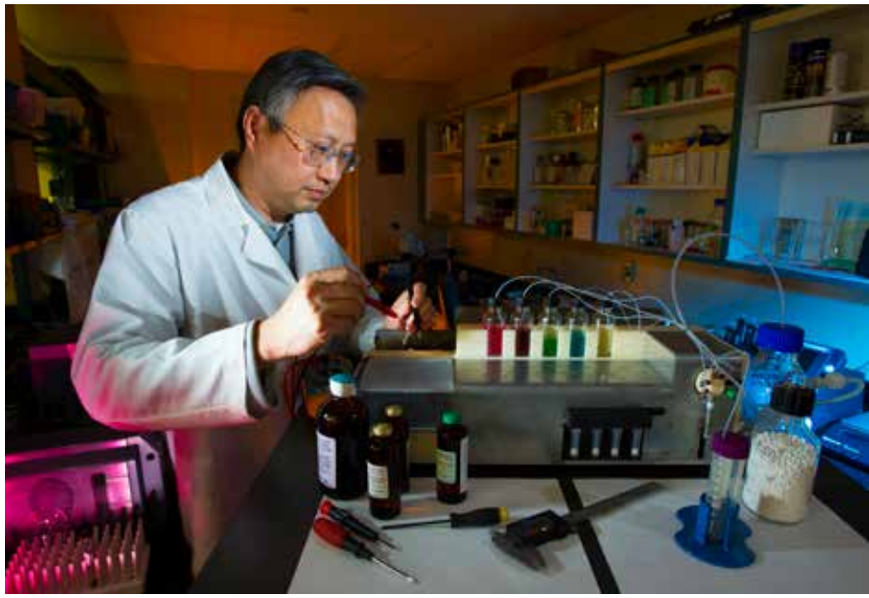
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SAFE-COM WIRELESS
SPORTSGURU

TECHLAUNCH

techlaunch
TechLaunchNJ
techlaunch.com

NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY (NJEDA)











ELEVATOR PITCH

New Jersey is home to more than five dozen collaborative workspaces—incubators, accelerators and co-working spaces. Research has shown that startups nurtured in a collaborative workspace are more likely to succeed than unassisted enterprises.

OUR STORY

As the state's principal agency for driving economic growth, the New Jersey Economic Development Authority (NJEDA) understands that startups often face challenges finding affordable lab and office space. One way we have addressed this challenge is through the creation of the NJ Ignite program, which provides rent support to startups moving into collaborative workspaces. This helps Garden State innovators preserve precious capital for product development, connecting with investors, creating jobs, commercializing and marketing their products and services, and everything else it takes to successfully grow and prosper here.

Specifically, NJ Ignite provides up to nine months of rent support for startup technology and life sciences businesses that are moving to an approved collaborative workspace. As a means of fostering collaboration and networking among tenants and other entrepreneurs, the collaborative workspaces are required to host a minimum of eight innovation-ecosystem-building events per year, such as meetups, guest speakers, and office hours with lawyers, accountants, consultants, or other business services professionals.

Many NJ Ignite participants, including VentureLink at the New Jersey Institute of Technology, the Rutgers EcoComplex, the Rutgers Food Innovation Center, and the South Jersey Technology Park at Rowan University, are affiliated with world-class New Jersey universities. Collaborative workspaces linked to higher-education connections can offer tenants access to university faculty and students and their research, development, and commercialization expertise. Often tenant companies end up hiring these same university students and graduates as interns or employees.

To learn more about the NJ Ignite Program and how it can help your startup grow, please visit www.njeda.com/njignite.

NJ EDA
ECONOMIC DEVELOPMENT AUTHORITY

NJEDA'S NEW JERSEY BIOSCIENCE CENTER



Strategically situated in the heart of the state's research corridor between Rutgers and Princeton universities, the NJEDA's New Jersey Bioscience Center campus offers a multitude of lab and office space options for companies at all stages of growth. Our Incubator and Step-Out Labs provide lab space and a suite of amenities and resources for young, emerging biotechnology businesses.

OUR STORY

NJ Bioscience Center – Incubator

The NJ Bioscience Center – Incubator at North Brunswick offers 27 wet labs, the most of any life sciences incubator in New Jersey, and is currently home to nearly two-dozen early-stage businesses undertaking groundbreaking research. Additionally, it provides tenant companies with educational programs and a host of supporting resources, including assistance identifying funding sources and access to small business development resources, networking opportunities, and administrative support. The NJ Bioscience Center – Incubator at North Brunswick also offers discounted first-year rent for university spinouts.

NJ Bioscience Center – Incubator at North Brunswick was the launching pad of several highly successful global enterprises including GENEWIZ and Amicus Therapeutics.

NJ Bioscience Center – Step Out Labs at North Brunswick

Located across the parking lot from the NJ Bioscience Center – Incubator, the NJ Bioscience Center – Step Out Labs at North Brunswick is an accelerator that opened in June 2018. It offers intermediate lab and office space for companies that have outgrown incubator space and other early-stage companies looking to expand. The NJ Bioscience Center – Step Out Labs space targets all subsectors of the biotechnology industry, with the goal of serving graduates of the NJ Bioscience Center – Incubator and other well-funded startups that are ready for intermediate space. The NJ Bioscience Center - Step Out Labs currently has six tenants, including China-based Adlai Nortye, which uses our North Brunswick campus as its United States headquarters.

NJEDA
ECONOMIC DEVELOPMENT AUTHORITY

njeda.com







NEWARK
THE ECONOMIC ENGINE OF NEW JERSEY

ELEVATOR PITCH

As New Jersey's most populous and diverse city, Newark is running full-speed into the future with a united front of corporate and community partners invested in transformational change. This ecosystem of partners, anchor institutions, corporations, startups, and nonprofits, including the Newark Alliance, are helping to nurture innovation and creative solutions that are accelerating Newark into one of America's great cities.

OUR STORY

Newark is currently experiencing some of its greatest revitalization, including nearly $5 billion in development underway and more than 11,000 new residential units, it is vital that the city has prioritized being both pro-development and pro-equity. Beyond the resiliency and deep history, this is what makes Newark's growth so unique and it has only just begun.

Newark Alliance is a leading nonprofit dedicated to the ongoing economic revitalization of Newark, striving to revolutionize the city into an in-demand place to work, live, learn, play, and do business. It has led a compelling and unified economic development agenda that remains committed to the ongoing economic rejuvenation of the city.

To pursue the vision of Newark as a true "regional city," Newark Alliance has successfully leveraged



Newark's competitive assets to generate economic growth for the city, state, region and beyond. The Alliance aims to build collective action to harness the energy of Newark to support and grow business and innovation, and enhance the quality of place and inclusive economic growth of the city.

In 2019, Newark was chosen to host Next City's first-ever regional Vanguard Conference where 40 rising urban professionals from across the region convened to induct a new cohort of "Vanguards" to formulate new solutions to improve cities. Hundreds attended the three-day conference that culminated in the annual Big Idea Challenge, where teams came up with unique programming ideas for the newly, opened Mulberry Commons Park.

This past summer, Newark Alliance also helped to attract the inaugural Forbes Opportunity Zones Summit to the city. Newark Mayor Ras J. Baraka welcomed attendees and a host of world-class speakers for the event at the iconic Newark Museum of Art in the heart of the city's core

Photo: Julio Cortez









opportunity zone (OZ) community. Forbes gathered together more than 250 top leaders for a deep discussion on impact investing. The OZ summit delivered insider tips and clarity on the new OZ regulations, set the national OZ agenda, and forged compelling partnerships to fuel transformative impact on America's long-underserved communities, including the City of Newark.

In addition, the city is beginning to build awareness for the real work being done by Newark's many important stakeholders. Audible, an Amazon Company, was named one of the 100 Most Brilliant Companies by *Entrepreneur Magazine* because of its social mission; Rutgers University ranked 4th in the country, tied with Howard University, for social mobility; the New Jersey Performing Arts Center is among the most diverse cultural institutions in the nation; RWJ Barnabas Health created an entire department to address social determinants of health and is the first in the country to combine policy efforts with outreach; and Prudential Financial has a range of investments, programs, and partnerships that directly address inclusive economic growth and was designated a "Change the World" company by *Fortune Magazine*.

The Alliance, in partnership with the City of Newark and the administration of Mayor Ras J. Baraka, continues to make significant strides toward making Newark a better city for its residents and workforce. As Newark continues to be a strong, diverse city, it is clear that the city and its partners' priorities are in the right place.

Newark Alliance

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"The uncreative mind can spot wrong answers, but it takes a very creative mind to spot wrong questions."

—ANTONY JAY

CHAPTER 18

BANKING, FUNDING & INVESTORS


It takes an innovator to help innovators.
EDAX
Smart Insight
We helped this materials analysis innovator regain their standing as an industry leader by shifting its perception among consumers from a provider of products to an industry ally that sees the world through the eyes of its customers.
choose: new jersey
Highly educated, perfectly located.
We focused New Jersey's value proposition so this public-private business development entity would be able to attract more innovative businesses and startups to the state.
HHC
NEW YORK CITY HEALTH AND HOSPITALS CORPORATION
We invented the New York City's health-screening program which engaged 50,000 HHC employees and volunteers —while improving access to care for tens of thousands of low income families.
ACTIVITY WORKS
Smart Moves. Super Fun.
We invented an online curriculum that is changing the lives of over a half million kids every day by getting them moving and learning in classrooms —at no cost to schools.



JERSEY FRESH

We created a mobile ecosystem that is empowering more growers to help more consumers get access to New Jersey's best produce where and when they want —and driving the growth of agritourism in the Garden State.

iTi tropicals

what's possible with tropical™

We are guiding one of the nation's most innovative food ingredient companies in their efforts to expand the palettes of North American consumers by influencing the new product offerings of the biggest brands —while supporting rural farmers in the developing world.

princeton partners

Strategic Brand Marketing

Princeton Partners is a marketing company dedicated to positive change through innovation.

We've started companies. We've nurtured startups. We host a regional innovation group. All to get deeper into the mindset of innovative business leaders and their customers.

With this kind of insight, we go far beyond traditional advertising. We discover new opportunities for growth, create powerful stories that inspire, and build collaborations that help companies and non-profits thrive. We find fresh ways to communicate uniqueness, passion, and humanity in a commoditized world.

We bring big ideas that provide lasting value.

princetonpartners.com

grow nj kids .gov

We assist New Jersey in advancing the strategy to elevate the capabilities of hundreds of early learning centers —so young children are ready to thrive in school.

WASABI 3D

We created Wasabi 3D, an experiential marketing company that uses 3D to create high levels of brand engagement and excitement that spreads through social networks.



KPMG

GAME-CHANGING VENTURES. FUTURE-FORWARD SPEED. WE PROVIDE THE SUPPORT HIGH GROWTH COMPANIES NEED TO SUCCEED.

ELEVATOR PITCH

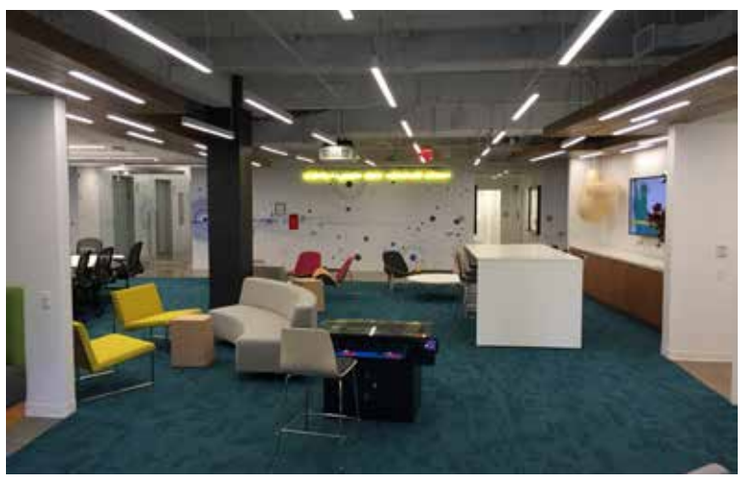
Double digit growth – KPMG is the fastest growing of the Big 4 firms. We have over 189,000 employees, 34,000 professionals in the United States and the remainder operating in 152 countries around the globe. Our employees are organized around functional and technical competencies spanning all areas of your front, middle and back office.

Significant investments through acquisitions, new business lines, innovative delivery centers, and top-tier talent. KPMG has made a significant investment in innovation and bringing market leading capabilities to our clients. KPMG has made 77 acquisitions since 2012, launched KPMG Strategy, KPMG Spectrum and opened four different types of innovative delivery centers (New York, Denver, Chicago, Atlanta, and Grand Rapids, MI) that allow us to work with our clients in new ways to solve complex business challenges.

OUR STORY

KPMG's Private Markets Group can help you achieve your vision in a changing world.

KPMG's Private Markets Group (PMG) has the knowledge and insight to help private companies address complex marketplace challenges and drive growth in today's global economy. Focused on serving privately held entities, including private equity- and venture capital-backed companies, our global network of professionals provides a diverse offering of audit, tax, and advisory services tailored to meet the needs of private companies.



While providing perspectives and proactive guidance, our PMG professionals help private companies achieve their strategic objectives. Whether you're an entrepreneur, family business, or a fast-growing company, we understand what is important. From start to finish, we understand the challenges and opportunities that come with each stage of your business lifecycle.

QuantumShift

Launched in 2016 by KPMG's PMG and the University of Michigan's Ross School of Business (Michigan Ross), QuantumShift annually challenges 40 of America's top entrepreneurs to hone their leadership skills, inspire their people, and maximize their company's growth. The week-long entrepreneurial development program recognizes successful CEOs, entrepreneurs, and founders of U.S. high-growth private companies, giving them an opportunity for development, mentorship, and networking.



More than an exercise in business education, QuantumShift is for entrepreneurs ready to shift a thriving enterprise to a new level of success. Led by world-renowned thought leaders from Michigan Ross, our curriculum dives deep into specific tools, strategies, and tactics that make entrepreneurial ventures flourish. Participants return ready to lead more effectively and achieve quantum leaps in their company's performance, supported by a high-powered peer network of top-echelon entrepreneurs and business leaders. Are you ready to step out of your comfort zone, push your boundaries, and shift your mindset? Visit quantumshiftus.com to learn more.

KPMG in New Jersey

Since 1922, KPMG's New Jersey practice has proudly served the local business community. Our legacy is one of client service and commitment to our communities. While our New Jersey presence started with just five professionals, today the Short Hills campus has over 800 professionals across audit, tax, and advisory. Our professionals combine deep industry experience with relevant and timely business insights for the potential benefit of the organizations we serve. Our Short Hills office provides professional services to the majority of FORTUNE 1000 companies headquartered in New Jersey.

Our New Jersey practice offers full-service teams of professionals who are active in the local business community and knowledgeable about the unique needs of companies operating here. KPMG provides a wide spectrum of offerings in areas such as:

- Audit
- Economic valuation
- Risk advisory
- Federal and state corporate tax
- Internal audit
- International corporate tax
- Technology services
- Individual tax compliance and planning
- Financial advisory
- International executive services

Demonstrating market strength

Among all the companies in the New Jersey area, we provide:

64%	47%	36%	22%
Professional services	Tax services	Audit services	Advisory services



Robert A. Trenery Jr
Partner, NJ Tax leader
Mid-market, Venture Capital, Private Market group



Corey Temple
New Jersey Office Managing Partner

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KPMGUS | KPMGMediaChannel | kpmg_us

home.kpmg

NEW JERSEY BUSINESS & INDUSTRY ASSOCIATION

AS THE LEADING VOICE FOR BUSINESS IN NEW JERSEY, AND THE LARGEST STATEWIDE BUSINESS ASSOCIATION IN THE NATION, WE HAVE ANALYZED THE 'STATE OF THE STATE' OF INNOVATION TO CLEARLY FOCUS OUR ENERGY ON MOVING THE INNOVATION NEEDLE.



L-R: NJBIA's Chrissy Buteas, Michele Siekerka, and Nicole Sandelier

ELEVATOR PITCH

The New Jersey Business & Industry Association provides information, services, and advocacy to its member companies to build a more prosperous New Jersey. We are the nation's largest statewide employer association, with our members representing every industry and employing one million people in the state.

OUR STORY

New Jersey has been synonymous with innovation throughout its history. The state was the workplace of Thomas Edison—universally lauded as the greatest inventor ever. New Jersey is the birthplace of the electric light bulb, phonograph, telegraph, air conditioning, motion picture camera, and the Band-Aid, just a to name a few.

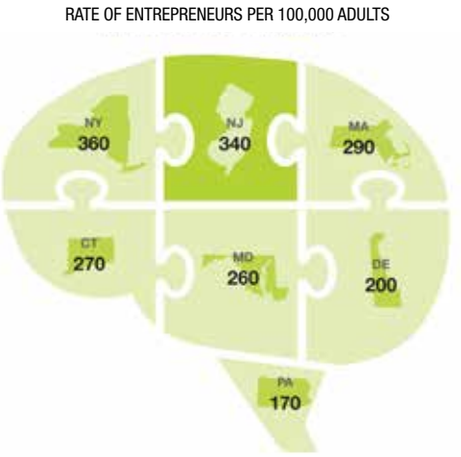
The state is also home to nine-time Nobel Prize–winner Nokia Bell Labs, which is currently working on the next generation of internet technology. And we can proudly boast of having the most scientists and engineers per square mile in the world.

As the leading voice for business in our state, and the largest statewide business association in the nation, it is only fitting that the New Jersey Business & Industry Association set its vision on supporting New Jersey's effort to re-establish itself as the Innovation State.

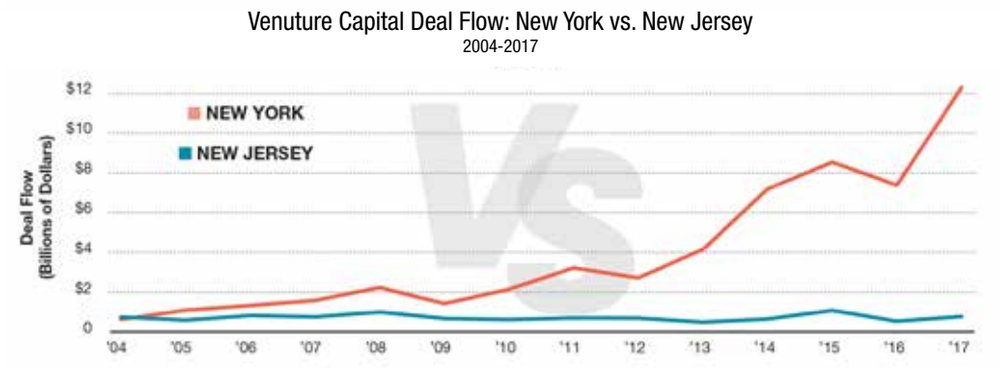
Each day we focus on ensuring that our innovative industries have fertile ground upon which to grow, while we work alongside New Jersey's policymakers to advance an agenda to achieve regional competitiveness and collaboration among academia, business, and government leaders in order to succeed. Recognizing the critical need to understand how to catalyze our innovation ecosphere in New Jersey, NJBIA released its *Indicators of Innovation* report in early 2019.

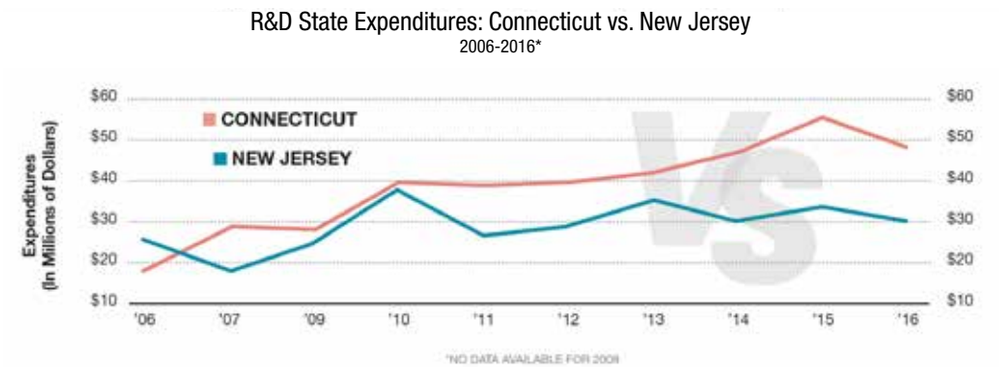


Nicole Sandelier speaks to the media about NJBIA's Indicators of Innovation *report*



NJBIA Indicator of Innovation No. 8 shows New Jersey has second-highest entrepreneurs in the region.





This in-depth study, researched and written by NJBIA's Director of Economic Policy Research Nicole Sandelier and overseen by Chief of Government Affairs Chrissy Buteas, analyzed the key components of a successful innovation ecosystem and observed how New Jersey stacks up to our regional competitors in terms of capital, talent, and business climate.

Setting this "*State of the State*" under 12 different indicators of innovation within these three broader categories allows us to understand what is needed in order enhance our regional innovation competitiveness. Applying an overall score at the culmination of the report, we found the Garden State had slipped to fifth behind innovation leaders New York, Massachusetts, Pennsylvania, and Maryland in our region. (Delaware and Connecticut had lower overall innovation scores in our seven-state region).

Where did New Jersey fall short in our study? One critical area is in attracting venture capital investment, which plays an enormous role in taking innovative products from conceptualization to commercialization. According to the National Venture Capital Association (NVCA), New Jersey received just $781 million in deal flow investments in 2017. During that same year, Massachusetts received $8.97 billion and New York received $12.27 billion.

NJBIA's analysis of the NVCA data also found New Jersey's growth of venture capital investment over time to be much slower than every other state in our region. Between 2004 and 2017, for example, New Jersey experienced a 4% increase in venture capital investment, while New York's increased 1,910%!

New Jersey also trailed in federal funding received for research and development activities that foster innovation. Specifically, New Jersey companies received $51.66 million in 2017, while Massachusetts was awarded over five times more: nearly $271 million.

New Jersey companies also received less than $52 million in award obligation for federal R&D funding efforts in 2017, compared to nearly $271 million awarded to Massachusetts. Additionally, New Jersey also received less award funding than Maryland ($124 million), New York ($114 million), and Pennsylvania ($98 million).

On the education front, New Jersey had claimed three "Top 100" colleges/universities ranked in the 2018 *U.S. News & World Report*, compared to 10 each in Massachusetts and New York, and six in Pennsylvania.

New Jersey also lost a net total of more than 28,000 first-time college students in the fall of 2016, the largest loss in the nation. By regional comparison,

Pennsylvania had a net gain of nearly 17,000 students that year.

In 2017, New Jersey was fifth out of seven states with 15.6% of its population possessing a graduate or professional degree. In comparison, Massachusetts' graduate and professional degree holders represented 19.5% of its population.

On the plus side, we saw a bullishness in people willing to try to start up a business in New Jersey. The 2017 Kauffman Index's Rate of New Entrepreneurs measuring the percentage of adults in each state that start a business found 340 New Jersey adults started a business for every 100,000 people. New Jersey's entrepreneurship rate exceeded all states in the region, except New York, which had a rate of 360 for every 100,000.

New Jersey's startup density was 76.1 per 1,000 employer firms in 2017, which placed third in the region behind New York (83.3 per 1,000 firms) and Delaware (77 per 1,000 firms).

Also in 2017, New Jersey ranked fourth in the region with more than 8,600 patents issued. Massachusetts (more than 15,000 patents issued) and New York (nearly 14,700 patents issued) held a decided advantage.

The full report can be found at njbia.org/indicators, while those who enjoy a more visual experience can check out our short videos on each indicator at NJBIA's YouTube Playlist page.

With this *"State of the State"* set, we can now clearly focus our energy to move the innovation needle. The task is attainable, especially when New Jersey leverages its richest assets: an ideal central location between Boston and DC, New York and Philadelphia; a nationally recognized K-12 education system; quality higher education institutions; and a skilled workforce.

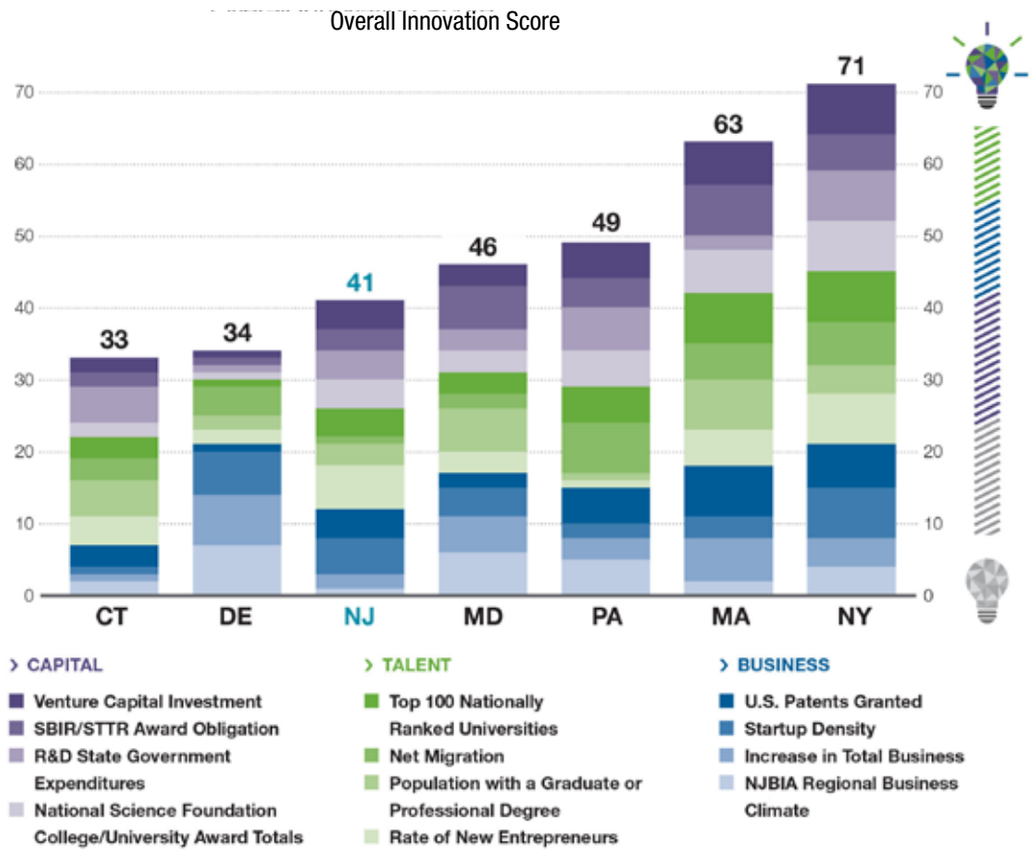
Utilizing these assets along with an action plan encompassing a coordinated response from academia, business, and government can result in New Jersey reclaiming its stature as *The Innovation State*.

Beyond detailing what New Jersey needs to do to be a national leader in the innovation sector, the goal of NJBIA's *Indicators of Innovation* report was also to bring about action on our recommendations.

On that front, NJBIA has been pleased to see quick proactivity off of the report in a relatively short period of time.



NJBIA's Indicators of Innovation report was discussed on the televised broadcast of "State of Affairs with Steve Adubato"



Upon its release in January 2019, the report received lots of attention from the New Jersey media, as well as a statement from State Senate President Steven Sweeney declaring that the report underscored the need to make New Jersey more affordable so innovation could flourish. And a few months later, Governor Phil Murphy proposed the New Jersey Innovation Evergreen Fund to bring more venture capital investment to New Jersey.

On the back of the *Indicators of Innovation* report, NJBIA advocated strongly for legislation expanding the Angel Investor Tax Credit—which makes it easier for startups and emerging technology



Michele Siekerka presents at Disrupt NNJ Conference

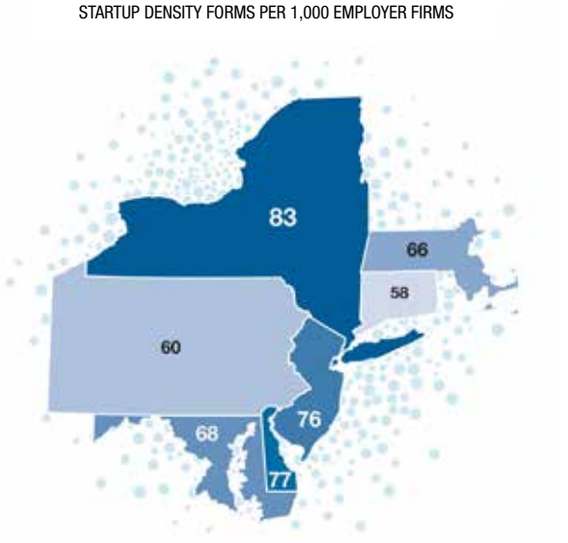


Nicole Sandelier and Chrissy Buteas testify about NJBIA's Indicators of Innovation report before the NJ Assembly Science, Innovation & Technology Committee

businesses to attract the private investment needed to succeed. That bill was signed into law in July 2019.

Our report also demonstrated the great need for more Small Business Innovation (SBIR) and Small Business Technology Transfer Program funding. And in late 2019, the New Jersey Commission on Science, Innovation and Technology announced the approval of a new program to bring an initial $500,000 to support companies applying for the federal SBIR and STTR funding.

The *Indicators of Innovation* report also detailed New Jersey's struggles to keep up with the region in National Science Foundation funding for research and education in the fields of science and engineering. After it was issued, we were pleased to see Rutgers University–Newark receive its first-ever NSF grant—for $1 million—to support



NJBIA Indicator of Innovation No. 10 finds New Jersey ranks third in the region in startup density per 1,000 employer firms

underrepresented minority college graduates in pursuit of STEM PhD degrees as part of its Bridges to Doctorate Program.

We also saw the New Jersey Institute of Technology enter as the fourth institution in the state to make the 2020 *U.S. News & World Report* "Top 100" colleges/universities rankings.

Based on the feedback and continuing references to the *Indicators of Innovation* report, NJBIA anticipates more steps like these in the right direction to help boost New Jersey's innovation ecosystem.

NJBIA
New Jersey Business & Industry Association
For a Business Like Mine
njbia.org

VALLEY BANK

GIVING PEOPLE AND BUSINESSES THE POWER TO SUCCEED





An outpost for talent and innovation

Diversity of thought. Collaboration. Innovation. These are some of the tenets driving Valley's redesign of its workspace. "Our new spaces will allow individuals from different teams to work together to help us reinvent the banking experience at Valley," says Bob Bardusch. "It's designed to help us break down silos and encourage people to share ideas and work together like never before." Open floor plans and collaborative workspaces are just some of the new aspects of its workspaces. All these changes are part of Valley's commitment to its "Innovation by All" culture.

Coming in 2020—Valley will be opening its first Tech Center office on Broadway in Manhattan to host off-site meetings, including hackathons where Valley associates can work together to build apps and product concepts. The Tech Center will also be used to showcase new technology solutions to customers and provide Valley associates with training and networking opportunities.

OUR STORY

Banks aren't always top of mind when talking about innovative companies. That's the perception Valley Bank is looking to change. Over the past several years, Valley has been building a culture of innovation aimed to inspire creative thought and reignite a passion for new ideas.

"We believe building a culture of innovation is central to the core of Valley," says Bob Bardusch, Valley's Chief Operating Officer. "To build this culture we believe in three key things: Empowering our people at all levels; creating spaces for innovation; and providing the mechanisms to move from idea to impact."

Headquartered in Wayne, New Jersey, with offices in New York, Florida, and Alabama, Valley is a key regional bank that can do everything from opening checking accounts to closing multimillion-dollar commercial loans. But like any organization, the only way a bank with more than 90 years of history and more than $37 billion in assets can move forward is to embrace new technology and build a culture driven by innovation.

Creating an "Innovation by All" atmosphere

When you talk with Valley associates, there is one common feeling they all share—empowerment. Leaders are giving people at all levels the freedom to have their voices heard. And this is encompassed in an "Innovation by All" mentality they are fostering within their teams.

"We work best when we can communicate, share ideas, and collaborate on projects, whether it be on enterprise architecture, data gathering, or robotic automation," says Valley's Chief Information Officer, Fabian Rojas. "As we continue to grow and evolve as an organization, we're focused on creating an atmosphere that fosters idea-sharing to help us innovate for the future. We



The Innovation HIVE @ Valley

Valley believes the key to being innovative is to be collaborative. That's why they formed a team called the Innovation HIVE. HIVE members come from all parts of the bank, including human resources, customer strategy, and risk management. This brain trust of different perspectives helps Valley decide what kinds of opportunities, including fintech partnerships, could benefit the long-term strategy of the organization. "To be an innovative company we need to be a collaborative company," says Anthony Aspres, Director of Stakeholder Engagement and HIVE member. "The HIVE gives a voice to people from different parts of the organization so we can make decisions on what's best for the company together."

don't want to be just a 'bank in a box' anymore—we're breaking out of the box."

Valley is currently following a technology roadmap to enhance their internal operating systems, improve their infrastructure, automate their data processing, and provide more digital and mobile offerings to their customers. They're bringing on board innovators to advance everything from technology operations and digital workplace development to digital product solutions and innovation program management.

Elevating the customer experience

Innovation at Valley is about more than just technology. The customer experience is a major factor in every decision being made, and Valley has organized a team dedicated to applying design-thinking methodology to identify even simple ways to improve the customer experience.

"Making sure people have an incredible experience banking with us—whether online, at the branch, or on their smartphone—is essential to our future growth and success," adds Rojas. "The best way to create a great customer experience is to create a great working experience. And that's what we're creating at Valley."



Fabian Rojas, Chief Information Officer, and Bob Bardusch, Chief Operating Officer.

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Deloitte.

CELEBRATING 175 YEARS OF INNOVATION



OUR STORY

It was a pivotal time for innovation. Deloitte was founded in 1845. And two years later, Thomas Edison, notable innovator and long-time New Jersey resident, was born. Like Edison's desire to never stand still, Deloitte has been pursuing innovation since its birth, both for our clients, ourselves, and our communities. Settings may change, technologies may morph, but our commitment to understanding and harnessing change for practical value is constant.

Deloitte celebrates New Jersey's innovative heritage as well. With more than 2,000 professionals across three offices, we serve many of New Jersey's most notable innovators, from growth-oriented start-ups to Fortune 500 companies headquartered in the state to leading private and middle-market companies.

How Deloitte is helping NJ innovators

Paul Krieger, New Jersey Managing Partner, Deloitte LLP, notes, "New Jersey is increasingly a home for innovation and advancements in technology. The state is competitive in attracting and retaining key assets and investments in tech-heavy sectors, particularly in software, biotechnology, and pharmaceuticals. Similarly, the history of Deloitte is aligned with innovation, something we have been demonstrating for the past 175 years—and continue to demonstrate as new technologies emerge."

Deloitte offers insights and services to help meet the challenges facing start-ups and emerging growth companies.

Audit & Assurance

Our audit approach focuses on risks—things that matter—and looks to reduce work on what is less relevant. Our audit methodology incorporates workflow automation, artificial intelligence, and data analytics tools that enable us to offer valuable perspectives. Our approach is thorough without being intrusive, tailored based on the nature of each organization.

Tax

Taxes are often among the most significant drivers of the cash needs and risk mitigation of an organization. Deloitte Tax offers clients a broad range of tax services, combining insights and innovation with business and industry knowledge. Our collaborative, online platforms connect us to our clients around the globe in providing seamless and informed reporting and regulatory compliance. We help our clients plan for tax as they harness the big ideas needed to expand businesses, tap new markets, and turn unique complexity into competitive advantages.

Consulting

Keeping pace with the emerging technology landscape and planning for the workforce of the







Paul Krieger
Managing Partner

future can be difficult for even the most tech-savvy leaders. Our technology professionals bring a broad range of Deloitte services to the table to help leverage talent and technology disruption to clients' advantage. We have a variety of leadership, culture, and industry-oriented preconfigured technology solutions, leveraging cloud, analytics, artificial intelligence, and more, designed to help achieve both short- and long-term business goals.

Risk & Financial Advisory
Our advisory services help organizations effectively navigate business risks and opportunities—from strategic, reputation, and financial risks to operational, cyber, and regulatory risks—to gain competitive advantage. We apply our experience in ongoing business operations and corporate lifecycle events to help clients become stronger and more resilient. Our market-leading teams help clients embrace complexity to accelerate performance, disrupt through innovation, and lead in their industries.

As technologies keep changing and we continue to serve visionaries across the state, we look forward to a future filled with New Jersey innovations—even those we've yet to imagine.

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MAKING AN IMPACT THAT MATTERS since 1845

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AWT PRIVATE INVESTMENTS



ELEVATOR PITCH

AWT generates growth, profits, and excitement through early-stage technology investing. A portfolio of private equity investments, AWT also provides business advisory support and board participation.



OUR STORY

AWT Private Investments is passionate about innovation and entrepreneurship, especially when it comes to technology businesses. The firm looks for R&D-based seed, startup, and early-stage companies, and also those that address societal needs, as in health, manufacturing, environment, education, economic development, energy, and more.

Even so, AWT's areas of business and public-advisory expertise and interest are considerable. They include advanced materials, chemical technology & markets, corporate growth, emerging issues, environmental technology & markets, government policy and relations, industrial materials











technology & markets, international business, investment analysis, licensing, mergers and acquisitions, new ventures, organizational improvement, safety management, strategic planning, and technology transfer, among others.

Working with companies with a strong management team is also important to AWT, as its president Wayne Tamarelli can attest. As a CEO, entrepreneur, private company owner, and public company officer, his 40+ years of experience have encompassed general management, entrepreneurship, new ventures, mergers and acquisitions, advanced materials, electronics, environmental protection, specialty chemicals, energy conservation, technology transfer, and other business, scientific and policy areas. He also has investments in several wine industry businesses.

Through AWT, Dr. Tamarelli's primary business activity is as a professional venture capital angel investor, and he specializes in value-added investments in early-stage technology businesses. He is also a limited partner in several venture capital funds active in these areas, a founding Chairman of Jumpstart New Jersey Angel Network, and a member of the Band of Angels in Silicon Valley. He often co-invests with other private equity investors.

"Angel investors are a vital part of the economy," Dr. Tamarelli says. "They help startup and early-stage companies develop to a point where institutional venture capital or strategic investor funds may provide larger sums to enable growth; debt financing can be obtained from banks and other conventional lenders in support of growth; and a profitable liquidity event can occur through company sale or initial public offering. The intellectual capital angels provide can be as important as the financial capital they provide."

AWT has been honored to receive numerous awards for its service and expertise, including, among many others, the Management Division Award and the Professional Promise Award from the American Institute of Chemical Engineers; *Business News New Jersey*'s "The Power Elite of New Jersey Business" and "Who's Who of Environmental Professionals"; the Vanguard Award for Industry Leadership on Responsible Care from the Chemical Education Foundation; and the Environment Award of the Decade from the Council on Environmental Quality.

AWT
Private Investments

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awtprivateinvestments.com

TECH COUNCIL VENTURES

THE POWER OF NETWORKED CAPITAL

ELEVATOR PITCH

Tech Council Ventures is a top performing venture fund investing in early- and expansion-stage companies across all industries in the Mid-Atlantic region. The fund invests $500K to $2.5M initially and provides additional support throughout the growth of the business. The fund is affiliated with one of the largest and most active technology councils in the US; the NJ Tech Council, providing to its portfolio investments an unmatched network of customer, key team recruits, business partner and service provider connections.

OUR STORY

Tech Council Ventures II is the successor fund to Tech Council Ventures I, whose investment returns in the US rank in the top 1% for the asset class. The principals of Tech Council Ventures have 75+ years investing and building promising, rapid growth companies.

The Fund was created by the NJ Tech Council to provide expansion capital to the region's rapid growth entrepreneurs and capitalize on the fertile ecosystem. With $130 million under management, Tech Council Ventures has created a number of the region's most visible successes.

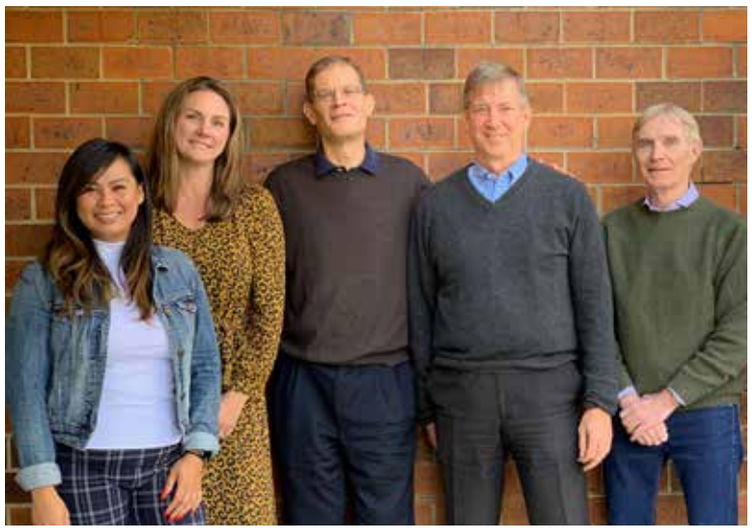
Our experienced investment team is comprised of two Managing Partners, Jim Gunton and Steve Socolof, along with Entrepreneur in Residence, Mark Kolb.

Jim Gunton invested in privately-held growth technology companies for more than 20 years. Before co-founding in 2001 the $80 million NJTC Venture Fund (now known as Tech Council Ventures Fund I), Jim was a partner at Edison Venture Fund and a manager at Oracle Corporation in the Silicon Valley. He served formerly as a Governor of the National Association of Small Business Investment Companies (NASBIC).

Jim earned a BS from Stanford University and an MBA with distinction from Duke University. He has served on the board of numerous private and public companies including Achieve3000, Amber Road (NYSE: AMBR), CytoSorbents (NASDAQ: CTSO), InstaMed, IntegriChain and CareGain.

Steve Socolof has been a technology investor for over 20 years. Steve's interests are in enterprise software (particularly applications of AI/ML), infrastructure required to collect, store, and process data, internet of things, wireless, and environmental and materials technologies. He is currently on the board of StratIS IoT, SunRay Scientific, and Vydia as well as the public company Everspin Technologies, an investment of his prior fund.

He was recently a director of Airclic (sold to Descartes Systems), Alverix (sold to BD), Neohapsis (sold to Cisco), Silicon Hive (sold to Intel), Sychip (sold to Murata), and an observer of Flarion Technologies (sold to Qualcomm). Steve has also been a leader in the corporate venture community and was Chair of the Corporate



Venture Group within the National Venture Capital Association and on the Advisory Board of Global Corporate Venturing.

Prior to Tech Council Ventures, he created a venture incubator for Lucent's Bell Laboratories for 5 years and then formed and ran New Venture Partners for 15 years investing in commercialization of technologies spun out of corporate labs. Steve received an MBA from The Amos Tuck School at Dartmouth College where he is currently on the board of the Center for the Study of VC & PE. He received degrees in economics and mathematical sciences from Stanford University.

Mark Kolb is an entrepreneur focused on the health care industry. Before joining Tech Council Ventures, he was the CEO of Bergen Medical Products. Prior to that he was running BKHealth where he and his partner were issued two patents for a physical therapy robot. At Dynamic Clinical Systems, he joined as Board Chair, transitioned to CEO and then repositioned the company for a sale to Press Ganey. Earlier he founded the life sciences consulting firm Taratec Development Corporation. There he raised venture capital and led its significant growth before selling the company to Patni Computer Systems, one of India's largest IT firms. Serving then as a senior vice president at Patni, he led their global life science business. Along the way, Mark has consulted to early stage technology companies, supporting them in planning, finance, operations, and fundraising.

Mark has served on a number of corporate and nonprofit boards, including Taratec, Dynamic Clinical Systems, Moda Technology Partners, the Somerset Medical Center and the NJ Tech Council. Mark currently chairs the board of Dorsata and serves on the Optima Global Solutions Advisory Board and the NJ Economic Development Authority Technology Advisory Board. He earned his bachelor's degree in electrical engineering from the University of Notre Dame and attended the OPM program at Harvard Business School.

Jim Gunton says, "Talent goes where there are well-funded and promising companies. I have seen companies go where they are able to get funding. Well-

funded companies attract the best people. Those companies are the most likely to succeed. Then you grow and exit, and create a self-perpetuating dynamic. It is vital to the New Jersey economy—and exciting to watch it happen."

Looking ahead, each economic cycle is defined uniquely. The 2020 climate includes abundant capital with high valuations and a welcoming market for exits and liquidity. How do the partners evaluate new investment prospects?

First, continue to be influenced by lessons gained from prior successes and failures.

Second, Tech Council Ventures II seeks opportunity of all types and industries, including those flawed or previously unsuccessful where regulatory, personnel, competitive or balance sheet change might yield a better outcome.

Third, welcome niche opportunity that is appropriately priced and capital efficient—in contrast to a venture industry that more typically targets large markets.

Tech Council Ventures also seeks less trodden situations where innovation has the potential to unlock consumer enthusiasm.

Stage of Development: Seed and Series A
Investment Range: $500,000–$2.5 million
Preferred Industries: All technology industries
Preferred Geographic Locations: Mid-Atlantic Region (CT–VA)
Best Way to Approach: Email

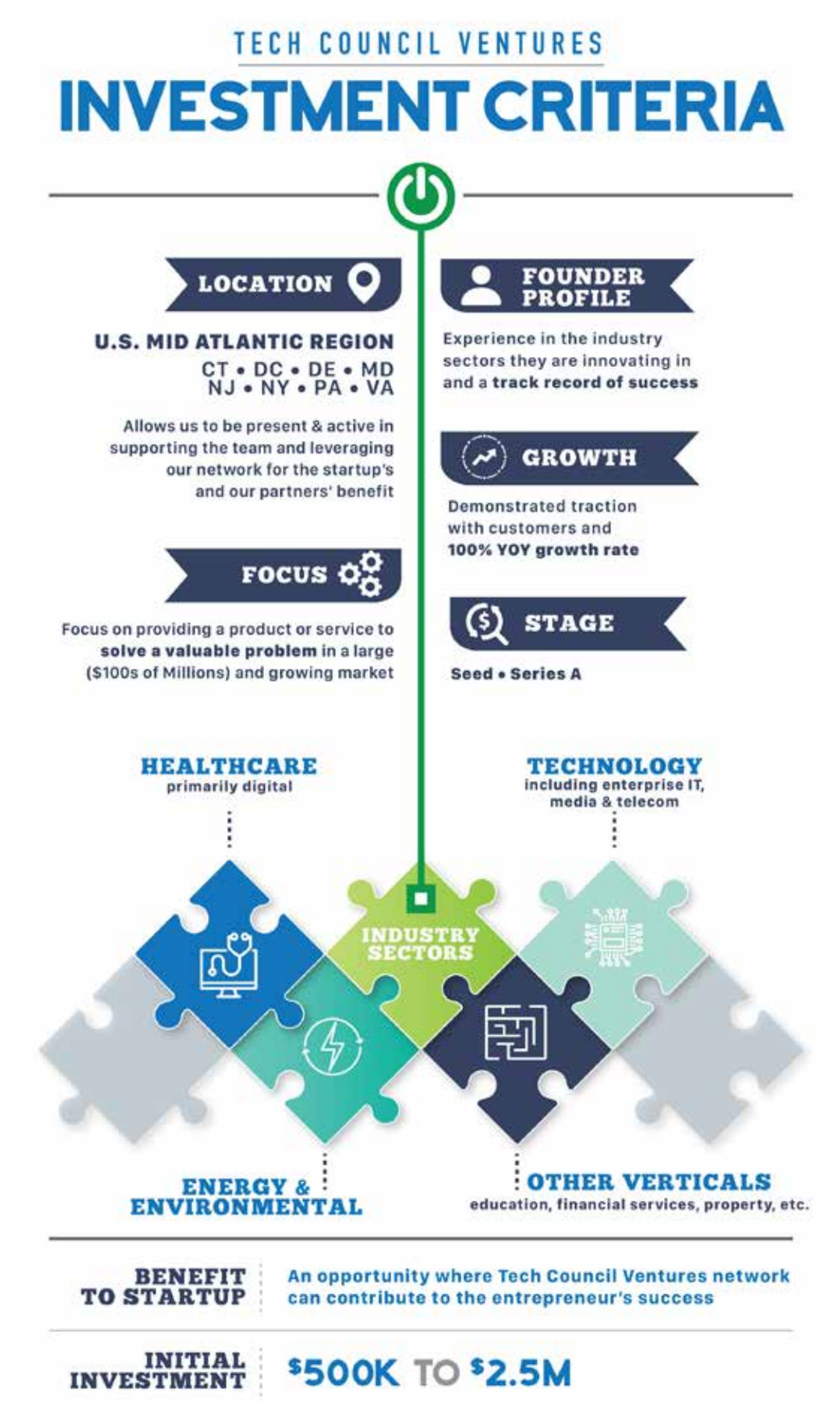
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MILESTONE WEALTH MANAGEMENT



ELEVATOR PITCH

Milestone Wealth Management helps people retire well. Founded by advisors Dan Hernandez and Ron Sala, this financial planning organization manages the retirement investments of individuals as well as small to medium size 401(k) and 403(b) accounts.

OUR STORY

Dan Hernandez's mother was a schoolteacher. When he was twenty-three years old, he was just starting out as a financial advisor, and he saw how low-quality the retirement options his mother's school was offering her were. He contacted the school and told them so. "I asked, 'Can I be a vendor?'" says Hernandez. They said they'd love to take him on, but they currently worked with Lincoln Investment. That led Hernandez to join up with Lincoln, where he has been working for the last 32 years. In 2017, together with Ron Sala, who joined Lincoln in 1996, Hernandez took the step of founding their own office, Milestone Wealth Management.

Having worked with the same company for 32 years means something in the retirement planning business. It's not every day you come across that level of consistency. Plus, Hernandez and Sala have been working together since the early '90s—a feat in itself.

The ethos of the company is partly informed by Hernandez's education-oriented family. Whereas a larger firm will really only communicate with the business owner, the financial advisors at Milestone Wealth Management will take the time to discuss what they're doing with the participants of the plan themselves: the staff.



"We educate our clients as we manage their wealth," says Hernandez.

Sala adds, "People don't necessarily know what their money can do. They come to us asking, 'Here's what I have. Can I retire? Can I have the lifestyle I want?' We help them understand exactly what they're capable of." To do that, says Sala, they work backwards with the client from where they want to be, and then, together, build a plan.

And there's a lot to understand, especially these days. New financial products and opportunities are constantly being introduced, and a lay investor, if they choose, can have almost infinitely more information than they would have had even a decade ago.





"Twenty-five years ago if you had a retirement plan, you were lucky to get a statement twice a year," says Hernandez. "Now you can check the numbers whenever you want on your phone."

With this explosion of information previously only available to stockbrokers and financial advisors, analysis and interpretation become more important than ever. So while Milestone Wealth Management does give you access to all the relevant information, they pride themselves on helping you understand what you're looking at.

Indeed, Milestone Wealth Management has gotten a reputation for analysis. Hernandez has become a regular financial commentator for Fox News, and has often been a resource for the *Courier Post* and the *Philadelphia Inquirer*.

"All the data in the world won't help you if you don't understand how to read it," says Sala.

In a constantly changing world, Milestone Wealth Management stands out for its consistency and proven track record. Hernandez talks about clients he's had for 25 years, and plans to have for many more years to come.





MILESTONE
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Wealth Management

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GREATER NEWARK ENTERPRISES CORPORATION (GNEC)



OUR STORY

Founded in 2005, the Greater Newark Enterprises Corporation (GNEC) is both a 501(c)(3) and certified Community Development Finance Institution (CDFI) microenterprise development organization whose purpose is community development. GNEC carries out its mission by financing small business growth and development, creating jobs, and providing financial services to low income residents across the Greater Newark and surrounding area. GNEC also sees its mission as connecting appropriate capital resources to appropriate businesses at their particular stage. This connection is inclusive of work force development programs, creative arts programs, and youth training/education programs.

Since its inception, GNEC has helped to create or maintain over 450 jobs, provided over $2 million in small business financing, sourced over $9 million in financing to small business community partners and provided over 30,000 hours of technical assistance and business education training to community residents. Currently, over 75% of GNEC's clients are low- and very-low-wealth individuals with incomes under 80% and 150% of median income respectively. Additionally, 92% of GNEC's clients are minority, and 51% are women.

GNEC's Staff is comprised of a diversified and highly talented staff of experts with extensive backgrounds in finance, marketing, business development, and technology. In 2016, GNEC moved to the Enterprise Development Center (EDC), now called VentureLink, an incubator and co-working space on the campus of New Jersey Institute of Technology (NJIT) to further immerse itself in the technology industry ecosystem.

As GNEC adopted this ecosystem approach to its work, great emphasis on collaboration, cross-sector partnerships, bilateral referrals, and building an





Top Standing (L–R): Steven Gomez, Al Alvarez, Tesha Kelley, Kevin Chu, Bin Wu. Seated (L–R): Desiree Sealey, June Smith-Tomori.

understanding of "the ecosystem" in service became of paramount importance. The ability to serve as a collaborative hub, while simultaneously building the technology and program capacity/efficiency of our partner organizations, became a desired outcome.

Lastly, GNEC invests in and relies on broader access to digital data which we believe will fundamentally shift the way social organizations pursue business and community development. GNEC has built capacity, network, tools, and a reputation as a community that aids in supporting emerging and marginalized communities and business industries to mainstream financing. It is our belief that the blending of data for action and data for impact further allows data collection and analysis that will ultimately transform the practice of social innovation, ultimately delivering social impact more efficiently and effectively.

gnecorp.org



L–R: Kevin Chu, Desiree Sealey, volunteer Jolly Nanna, and Al Alvarez.

GREATER NEWARK ENTERPRISES CORPORATION

EDISON PARTNERS



ELEVATOR PITCH

Edison Partners is a software growth equity firm in Princeton that invests in entrepreneurs in fintech, enterprise, and healthcare IT. We are unique in our hybrid approach, honed over 33 years, that offers entrepreneurs more than just capital, with an extensive support system of in-house operating experts who provide guidance and advice every step of the way.

OUR STORY

Edison Partners is the longest-running venture capital and growth equity investor in New Jersey and we're also the most active, with nearly 50 investments in the state.

"This is two or three times more than what anyone else has done in New Jersey in the last three decades," said Tom Vander Schaaff, General Partner.

Edison Partners manages $1.4 billion in assets. But for us, it's about more than just the money. We scout out entrepreneurs who are looking for a partner as much as an investor.



"We offer an exceptional skill set," says Chris Sugden, Managing Partner. "Not only do we come with a historical knowledge of investing across a wide range of sectors, but we have experienced operators who provide resources, education, and support. Our team has seen scale firsthand and can help an entrepreneur avoid pitfalls and mistakes. We've personally been at exactly the stage they're at."

WE INVEST IN GROWTH COMPANIES WHO SHARE OUR ETHOS



Edison's partners have dual backgrounds in traditional investing and hands-on experience in the financial technology, healthcare IT, and enterprise solution sectors. Each partner brings more than 15 years of experience to the table, and it shows. We have invested in more than 230 companies and have had over 190 exits. In 2019, we were named the Top Fintech Equity Investor by LendIt Fintech for the second year in a row.

Having closed our ninth fund in October 2018, the largest in the firm's history at $365 million, well in excess of our $300 million goal, Edison Partners is stronger than it has ever been. But our firm's size doesn't mean we're indiscriminate. Quite the opposite—we work with entrepreneurs that do business within a very specific set of parameters: rapidly growing, capital-efficient companies with revenues between $10 million and $30 million.

"The companies in our sweet spot," says Partner Dan Herscovici, "are too big for smaller funds and too small for larger funds. We meet their needs at the start of their growth, right at the bottom of the hockey stick."

Edison Partners is also a trailblazer when it comes to underserved markets—places outside of Silicon Valley and New York where most venture and private equity funds are concentrated.

"We don't fly over America's entrepreneurial markets. They've always been at the epicenter of our investment and value-add strategies," said Kelly Ford, Partner. "We prioritize Eastern US companies in markets like Indianapolis, Dallas, Atlanta, Grand Rapids, and of course, New Jersey."

Edison is particularly proud of the work the firm has done in New Jersey to build an investment ecosystem of lawyers, accountants, recruiters, technology workers and others in New Jersey. This didn't exist in the state 30 years ago.

The jewel in the crown, of course, is the returns Edison Partners has seen from its New Jersey investments. Three of the firm's all-time best winners hailed from the state, including Zelis Healthcare (formerly PHX located in Bedminster), which has delivered a 38x return to date, and Billtrust (Lawrenceville), which delivered an 11x return.

To further support entrepreneurs in underserved areas like New Jersey, we created a holistic, value-add platform that packages the best elements of Edison Partners—operating leverage, experienced advisors and executive education—into an operating platform called Edison Edge, which we offer without fees to companies.

"Edison Edge is a comprehensive answer to the needs of entrepreneurs at each stage of their company's growth journey," said Ryan Ziegler, General Partner. "We designed it to evoke a true partner relationship, guiding them through areas like sales and marketing acceleration, financial planning, CEO coaching, talent development, board leadership, capital formation, and M&A. When they need something, we want to be the first call they make."

It's an exciting time for tech entrepreneurs and their investors amid a real transformation in the industry, and our firm's business goals for the future are not unlike our present and past. We will continue to invest in growth companies that share our ethos. The spirit of who we are is candid, empathetic, tenacious, curious, ambitious, and trailblazers. The team at Edison Partners look forward to continuing to make an impact in New Jersey by filling the financing gap, collaborating with dynamic and driven entrepreneurs, nurturing and producing exceptional growth companies, and giving them the edge they need to help their companies grow and scale.

edisonpartners

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GHO VENTURES



In order to understand what GHO Ventures is, we need to talk about Dr. Gregory Olsen. Greg started the company EPITAXX, a fiber-optic detector manufacturer in 1984 together with Vladimir Ban. It was sold in 1990 for $12 million.

He then founded Sensors Unlimited, a near-infrared camera manufacturer in 1992 with Marshall Cohen. Sensors was sold to Finisar Corp. for $600 million in 2000, repurchased by the management team in 2002 for $6 million, and then sold again to Goodrich, Corp. in 2005 for $60 million.



It was during his time at Sensors Unlimited that he decided to become an "Angel" Investor and founded GHO Ventures, LLC in 2001. Greg is now President & CEO of GHO Ventures in Princeton, New Jersey, where he manages his "Angel" investments, South African winery, Montana ranch, and performs numerous speaking engagements to encourage children—especially minorities and females—to consider careers in science and engineering.

Greg is currently "Entrepreneur in Residence" and serves on the Advisory of both the ACEE & SEAS Councils at Princeton University and the Advisory Board to UVA Materials Science and Engineering School. He is active in the New Jersey Technology Counsel (NJTC), NJTC Venture Fund, Institute of Electrical and Electronics Engineers (IEEE), and the National Academy of Engineering.

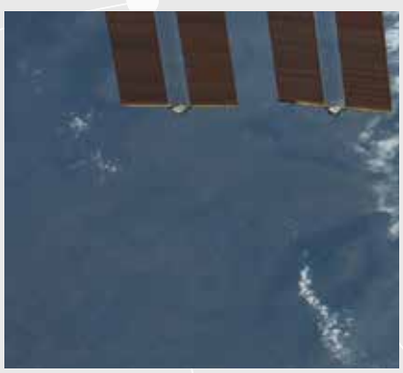
He serves on his investments' Boards as well as the West Point ME Advisory Board, CCNY Zahn Innovation Center Board, and the Deborah Heart & Lung Center Foundation. His technical interests are now in the power electronics and alternative energy fields.



Greg Olsen was the third private citizen to orbit the earth on the International Space Station (ISS). After training for five months (900 hours) at the Yuri Gagarin Cosmonaut Training Center in Moscow, he launched on a Russian Soyuz rocket TMA-7 on October 1, 2005, with Cosmonaut Valeri Tokarev and Astronaut Bill McArthur (Expedition 12). He then docked to the ISS on October 3, and returned to earth on Soyuz TMA-6 on October 11 with Cosmonaut Sergei Krikalev and Astronaut John Phillips (Expedition 11). He performed more than 150 orbits of the earth and logged almost 4 million miles of weightless travel during his 10 days in space.







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NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY (NJEDA)





First Lady Tammy Snyder Murphy addresses attendees at the Golden Seeds Kickoff event.



ELEVATOR PITCH

As the State's principal agency for driving economic growth, the New Jersey Economic Development Authority (NJEDA) plays a key role in ensuring that companies in all stages have the financing and resources they need to grow in the Garden State. Early-stage companies have particularly unique challenges when it comes to securing capital. NJEDA offers several options for young companies. To learn more about these programs, please visit http://www.njeda.com/tls.

OUR PROGRAMS

Heralded as a lifeline for companies that have not yet reached profitability due to heavy investment in product and market development, New Jersey's Net Operating Loss (NOL) Program enables eligible technology and life sciences companies to sell net operating losses in New Jersey and unused research and development (R&D) tax credits to unrelated profitable corporations for cash. The cash can then be used for working capital or to fund research. Since the late 1990s, the NJEDA has approved more than $1 billion in funding for over 540 technology and life sciences companies through the NOL Program.

Emerging New Jersey technology and life sciences companies looking to bridge the funding gap between product development and commercialization can apply for a NJ CoVest Fund loan. The Fund provides investments of $100,000 to $250,000 in the form of convertible notes with warrants to eligible New Jersey–based early-stage technology companies. No payments are required on the notes for seven years to allow companies time to grow. NJ CoVest funds charge 3% interest and have a 10-year maturity.



New Jersey's Angel Investor Tax Credit Program offers investors refundable tax credits against qualified investments for New Jersey businesses. The program supports technology businesses with a physical presence in New Jersey that conduct research, manufacturing, or technology commercialization in the state. Seen as a means to not only invest in emerging companies but also attract capital into the New Jersey, the Angel Investor Tax Credit Program is open to investors throughout the world, not just those located in the Garden State.

Investments made after January 1, 2020, can benefit from the expanded Angel Investor Tax Credit Program, which increased the tax credit from 10% to 20% of a qualified investment, and added an additional 5% bonus for investments in a business located in a qualified opportunity zone, low-income community, or a business that is certified as minority- or women-owned by the State. More than $530 million in investments have been leveraged through the Angel Investor Tax Credit Program since it began in 2013.

Semi-annual New Jersey Founders & Funders events connect early-stage technology and life sciences companies with potential investors in 10-minute, one-on-one "speed dating" sessions to discuss strategy, business models, and funding opportunities. Since New Jersey Founders & Funders started in 2014, hundreds of emerging companies have participated in the events, with the majority of participants securing follow-up meetings with at least one investor.

NJEDA joins with venture capital fund managers active in New Jersey's technology and life science community to form venture investment funds. Our venture partners leverage NJEDA investment to increase funds available for emerging technology and life sciences companies to grow and create jobs in the state. To date, NJEDA has committed over $51 million to 16 venture capital funds since 1999. Cumulatively, these partner funds invested approximately five times the NJEDA's investment into more than 100 New Jersey early-stage technology and life science companies. Including other third-party investors, companies in the NJEDA venture fund portfolio have received $2.7 billion of funding. Active portfolio companies employed 1,695 full-time employees as of April 30, 2019.

Understanding the importance of ensuring that investment dollars flow to Garden State entrepreneurs, the NJEDA has partnered with New Jersey First Lady Tammy Murphy to organize a New Jersey chapter of Golden Seeds, a national angel investor network dedicated to investing in women-led startup companies. Founded in 2005, Golden Seeds has a 14-year track record of successfully supporting women-led businesses and has more than 275 members.

In addition, NJEDA launched Research with NJ, a free online portal that provides local, national, and international commercial enterprises, ranging from entrepreneurs and startups to global corporations, with insight into groundbreaking research taking place within the state's network of research universities, including Montclair State University, the New Jersey Institute of Technology, Princeton University, Rutgers—The State University of New Jersey, and Rowan University. Potential Research with NJ users include businesses seeking experts to partner with for a business venture or research initiative; global corporations considering relocating or expanding into New Jersey wanting to determine if a suitable academic environment exists to support R&D growth and workforce development; prospective post-graduate students exploring academic programs in a specific STEM field; and investors seeking business opportunities verifying the credentials of a specific researcher involved in a startup business under consideration. In early 2020, Research with NJ surpassed 100,000 unique users.

NJEDA
ECONOMIC DEVELOPMENT AUTHORITY

njeda.com

CASABONA VENTURES

ELEVATOR PITCH

Casabona Ventures is a micro-VC firm with an interest in tech-enabled, seed stage companies. Investments are focused at the angel round and specifically toward ventures addressing solutions using technology.

OUR STORY

When electrical engineer and entrepreneur Mario Casabona retired from a long, successful career in the Defense Technology space (after selling his company, Electro-Radiation, Inc. to Honeywell Aerospace in 2004) he wasn't ready to retire from the world of business. Eager to contribute to the eco-system of the State in which he'd generated his biggest successes, he turned to the two things for which he'd always had a passion: Technology and Mentoring. In 2006 he founded Casabona Ventures with an eye to nurturing early stage tech entrepreneurs with advisory and consulting services, capital investments, and invaluable introductions to a wide network of highly sought-after professionals throughout the State.



By 2019, Casabona Ventures has invested in over 30 seed and early stage companies and Venture Funds.

The Casabona Ventures team addresses opportunities using a 3-phase approach designed to help the entrepreneur navigate a course of company growth no matter their stage of development. The 3 phases are: Benchmark; Raising Capital; and Execution. We believe all 3 phases are applicable whether the entrepreneur is bootstrapping or fundraising. From our team's perspective our role is to mostly review and critique, while from the entrepreneurs' perspective they will modify and act upon the specific tasks. Ultimately, however, the entrepreneurs' own management teams are accountable for the success or failure of their business.



Phase 1 – Benchmark

- Benchmark Founder's entrepreneurial aptitude
- Review overall legal docs and accounting needs
- Review product development and roll-out road map
- Review and critique existing business plan and pitch deck
- Facilitate and assist developing a SWAT analysis
- Benchmark Technology Readiness Level (TRL)
- Benchmark current performance of business using specific metrics



Phase 2 – Raising Capital & Preparation

- Review milestone/program plan
- Review and critique existing sales and marketing strategy
- Review and critique intellectual property strategy
- Review human capital needs
- Review and critique financial projections
- Identify funding needs tied to product development and manufacturing strategy
- Develop a financing strategy



Phase 3 – Plan Execution & Fundraising

- Review updated pitch deck for Investors
- Preparation and documentation for Investor due diligence process
- Dry run with panel of Investors and Entrepreneurs
- Initiate dialogue, introductions and pitch to Investors
- Continuously review and critique performance against milestones/program plan
- Continuously review and update Investor pitch deck
- Mentoring and coaching on an on-going basis



Mario Casabona
Founder and Managing Director

Mario Casabona is an Electrical Engineer named in 12 national and international patents in the field of satellite-based navigation and communications. He lives in Morris County, enjoys mentoring, launching new ventures, vacationing and spending casual time with family and friends in his Catskills log home.

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