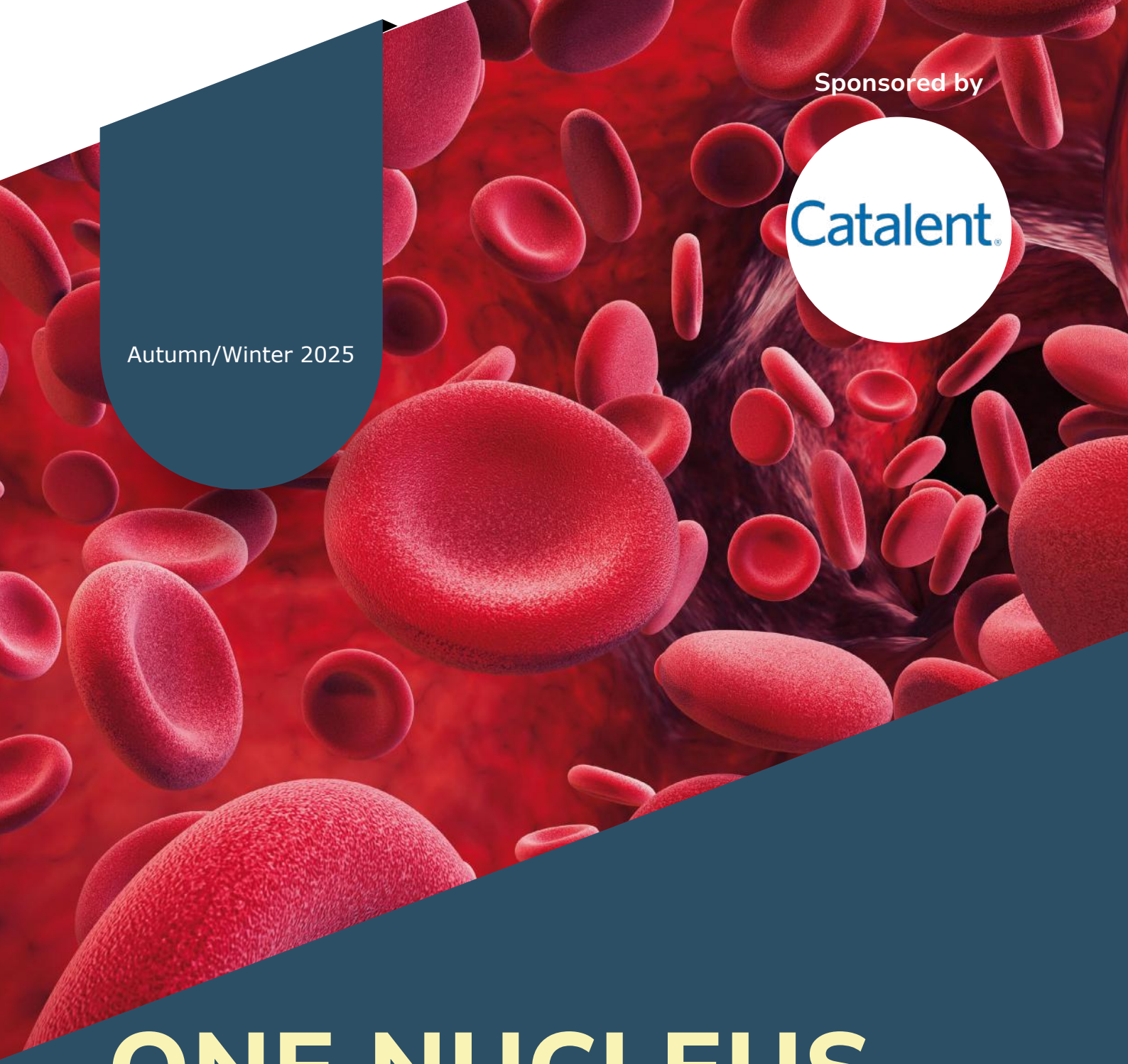

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Autumn/Winter 2025

ONE NUCLEUS HIGHLIGHTS

With a Review of ON Helix 2025

Highlights from our support for institutions, companies, and individuals in the life sciences sector via local, UK-wide and international connectivity.

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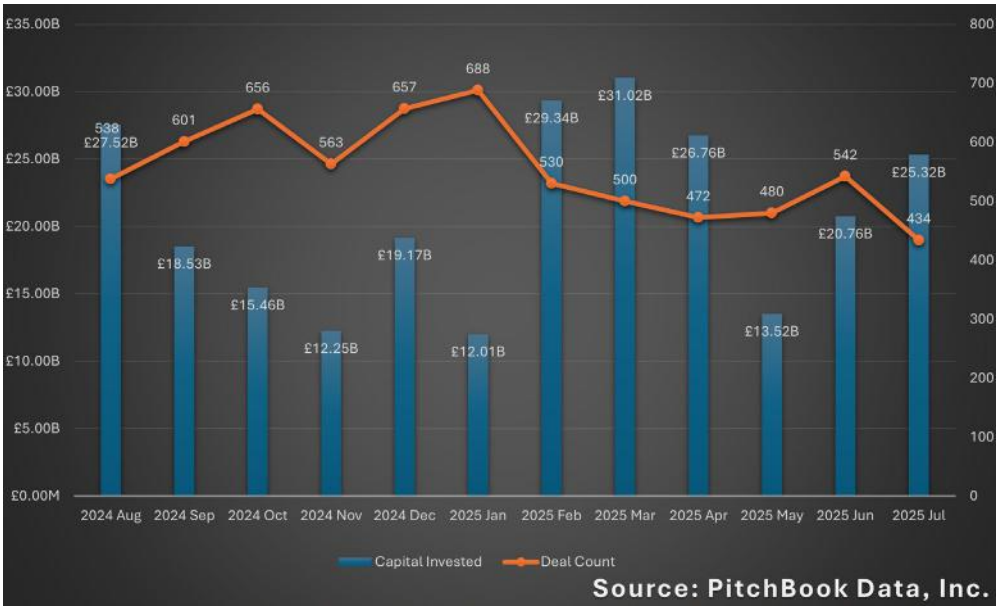
Welcome to One Nucleus!

I am delighted to introduce you to the Autumn/Winter 2025 edition of One Nucleus Highlights. This is our chance to report on some of the activities of One Nucleus with a particular spotlight on some key achievements by our team, our members and the local ecosystem. Complementing this, you will find a series of thought leadership articles from experts within our membership, some picking up on the key messages that emerged from this summer's ON Helix conference that debated current trends in translational research.

Setting the scene for the following pages where you can learn more about us and perhaps a sense of the ecosystem in which we operate. Whilst our members are widespread both geographically and phenotypically, we are fortunate to have our roots in two of the most successful life science clusters to date, being Cambridge and London.

Dealmaking:
It is evident from the chart below that the past year (August 2024-July 2025) was a very volatile dealmaking year in the Greater Cambridge-London area, with some standout deals in the mix, some of which are listed below.



Highlight Venture Rounds

Company	£Raised	Date
Isomorphic Labs	448.94M	March 2025
CellCentric	88.71M	April 2025
Purespring Therapeutics	80.00M	October 2024
Artios Pharma	60.00M	July 2025
Maxion Therapeutics	58.06M	March 2025
Nuclera	58.00M	October 2024
Healx	47.11M	August 2025
Constructive Bio	44.13M	September 2024
Epsilogen	43.13M	September 2024
LoQus23 Therapeutics	35.00M	October 2024

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A Challenging Time

There were some excellent R&D collaborations and licensing deals also, including the $415M Alchemab Therapeutics-Eli Lilly & Company deal announced in May 2025. The success of some does not take away the demise or ongoing challenges for others, of course, and the phrase heard frequently in commentaries ran along the lines of 'the gap between the haves and the have-nots has widened'. Furthermore, some of the well-funded, from new or previous raises, have needed to adopt a strategy of extending their cash runway and focussing on later-stage programmes.

The impacts of these strategic changes have profound consequences both at an individual level, where layoffs have been more common than most can remember, and on other sector stakeholders. Albeit transient, given these things are cyclical, there is now not a shortage of laboratory space for companies to grow into, and neither is there such a tight labour market. One could argue that for those who have capital available, there has perhaps never been a better time to grow a company in these two major innovation hubs. Lack of primary investment absolutely means cash does not flow to the services sector in large amounts either, and they face their own battles. There may be green shoots, however, as set out above, and, anecdotally, word on the street is that activity around licensing and M&A is picking up.

Nurturing the Home of Champions

The ongoing challenges and trends within the sector, however, gave even greater impetus to One Nucleus to explore additional avenues this year to support member companies, their employees and the ecosystem as a whole. Investment has been made into gaining access to highly rated business intelligence databases; increased collaborations with global investors and partnering event organisers such as BioCentury, Informa and Life Science Nation; and new measures to support those employees who find themselves between roles to stay connected until the next opportunity comes along.

A key aspect in such volatile and uncertain times for the sector is how cohesive an ecosystem or life science community demonstrates itself to be as it rides out the storm. One Nucleus is always conscious that it is fortunate to be the custodian of an immensely impressive network of companies, thought leaders and individuals. Whilst we visibly celebrate this at our Annual Awards and larger events, it is often the less obvious that matters most. As an example, to have twenty exciting companies volunteering to pitch at our April BioWednesday and see them receive advice, support and onward connectivity from those attending epitomised the nature of collaboration and support. Repeatedly pitching to the same group of investors with the same story is unlikely to deliver, but receiving feedback, advice and warm introductions can make such a difference. Very much the remit of One Nucleus is to nurture a trusted environment for business relationship building and knowledge sharing, which ultimately catalyses deal flow. There seems to be a reason for the adage, 'pitch for money and you get advice; pitch for advice and you get money twice'. There is deep expertise within our network, and our goal is to enable each and every member to tap into that encyclopaedic knowledge and experience pool to enable them to be the best possible versions of themselves ahead of that business pitch when it really matters.

You will find later in the publication more details on how we are deploying access to these additional resources, tailoring support to individual member needs, and evolving the membership fee structure to reward those that contribute and seek to build strong bridges to opportunities for our members. At this point, I shall reiterate the welcome to this snapshot and insight of our One Nucleus family and hope to see you join us soon.

Tony Jones, CEO, One Nucleus

2025 Highlights – Delivered and Anticipated

As evident from the delivery track record set out in numbers within the 'About Us' section, 2025 has been a year of high frequency and quality delivery from the One Nucleus team across the various year-round support streams of Facilities Management, Savings, Training and Events. In addition to these day-to-day services, there were some annual stand-out successes and new ideas in the pipeline. Some of the main achieved and anticipated highlights are summarised here to illustrate the dynamic nature of One Nucleus to readers.

BIO-Europe Spring

The year kicked off with an excellent presence supporting our members at BIO-Europe Spring in Milan, where the collaboration with our partners EBD Group saw our members receive discounted access and One Nucleus exhibiting to showcase our members and provide them with a home base throughout the event in the absence of a coordinated UK presence in the hall. Alicia Gailliez and Monalisa Breazu are once again representing One Nucleus at BIO-Europe in Vienna this November.

The One Nucleus team is already looking forward to BIO-Europe Spring 2026, to be held in Lisbon on 23-25 March, for the first time coinciding with the LSX World Congress out of the same Informa stable.

Getting Involved:

- One Nucleus members receive a 12% discount off prevailing registration rates.
- Join the One Nucleus stand with our Enhanced Profiling Opportunity that includes
  - Company logo circulating on the stand TV screen
  - Company literature and business cards displayed on the stand
  - Social media and e-newsletter promotion around the event
  - One Nucleus will resource the stand, providing a home base for members between their meetings.
- Contribute a 2-page article, or 1 x A4 page, in the One Nucleus Highlights Spring/Summer 2026 edition to be launched at the event.
- Be seen as part of one of the most highly regarded life science ecosystems to increase brand visibility and credibility.

Contact info@onenucleus.com for further details.

One Nucleus Annual Awards 2025

On the evening of 27 March 2025 at No. 11 Cavendish Square in London, the One Nucleus community celebrated its breadth and depth of excellence at the Annual Awards Dinner. The award categories are specifically chosen to shine a spotlight on all areas of the life science ecosystem, from great research and innovation to world-class support services and facilities.

Our 2025 Winners:

Award Category	Winner
Best Professional Services Company	RSSL https://www.rssl.com/
Best Non-Profit Research Organisation	The Institute of Cancer Research https://www.icr.ac.uk/
Best R&D Services Provider	RxCelerate https://www.rxcelerate.com/
Best R&D Facilities Provider	Stevenage Bioscience Catalyst https://www.stevenagecatalyst.com/
Best R&D Platform Development Company	Constructive Bio https://www.constructive.bio/
Best Therapeutic Discovery Company	AviadoBio https://aviadobio.com/
Best New Company Creator	UCL Business https://www.uclb.com/
Most Creative Investor	Deep Science Ventures https://www.deepscienceventures.com/
Outstanding Contribution Award	London BioScience Innovation Centre https://www.lbic.com/

A Word of Thanks

Such evenings of celebration are only possible with the support of the sponsors, entrants, judges, and attendees.

One Nucleus Awards 2026 – 19 March 2026, No. 11 Cavendish Square, London

Thursday 19 March 2026 will see the One Nucleus community once again congregate to celebrate success, highlight those that have set examples for others to follow and acknowledge as a network how great neighbours have enabled each other's achievements.

The One Nucleus Annual Award Categories:

- Best Therapeutic R&D Programme
- Best Use of Emerging Technology
- Best Industry and Not-for-Profit Collaboration
- Most Innovative Professional Services Company
- Best Performing R&D Services Company
- Best Sustainable Ecosystem Delivery
- Growth investor of the Year
- Rising Star of the Year
- Networker of the Year

Competition Entry and Key Dates

Entry to the One Nucleus Awards is free and can be either by self-nomination or by nomination by a third party.

Entries will open 23 October 2025 via online submission
Entries will close 22 January 2026
Shortlist announced 06 February 2026
Awards Dinner 19 March 2026

For further information visit https://www.onenucleusawards.com/

Genesis Conference - 3 December 2025, 1 Wimpole Street, London

This year being the 25th edition of the annual Genesis conference, it remains one of the must-attend events in the UK life sciences calendar. Launched back in 2001 by the then London Biotechnology Network as a means to showcase the London strengths in the emerging biotech sector, Genesis has continually evolved to discuss and share knowledge around the key industry trends of the day, be they technology, financial or people trends.

Key Headlines for Genesis 2025:
Content-rich keynote programme of presentations, panel discussions and fireside chats on topics including:

- Winners & Losers 2025
- The Changing Life Science Investment Landscape
- How Will New Medicines Be Developed and Paid for in 2050?
- Being Patient-Centric: Lessons from Rare Diseases
- Technologies for Impact?
- How to Separate on Good Terms If Things Don't Work Out
- Has the Past 25 Years of Life Sciences R&D Delivered on Expectations

- *New for 2025* Company Showcase
- Networking and 1-2-1 Partnering via the Conference App
- Genesis Welcome Reception & Fringe
- Exhibition Hall

Creating a London Bio-Innovation Week
The days surrounding Genesis will see a number of highly regarded events being delivered in London also, creating a very focused buzz around bio-innovation, from basic research through to early-stage investing. With each event having its key focus, it is the perfect opportunity for those based in, or visiting, London to connect more broadly to maximise their return on engaging. Collaborating with the following, One Nucleus will make its Genesis Conference App an open cornerstone for people to connect across the various events whilst in town. The key events being:

Tuesday 2 December
Advanced Therapy Integrates - 08.30-16.25
ELRIG/SLAS Meet up - 13.30-17.30
Genesis/RESI London Welcome Reception

Wednesday 3 December
Genesis

Thursday 4 December
RESI London
SMR Recent Clinical Candidates and SMR Award meeting

Time to Get Involved - For further information, please contact genesis@onenucleus.com to secure your place at the best life sciences forum of the year!

New Initiatives Launched in 2025

Appreciating the challenges One Nucleus members face in accessing the key commercial data sources that enable them to:

- Target the right investors, R&D partners and customers effectively
- Research and build a credible value proposition for their company pitches
- Benchmark their valuations and potential against sources used by investors, Pharma and analysts

One Nucleus has negotiated access to both PitchBook and Biotechgate to add to its own intelligence and connectivity in order to support members with two new initiatives alongside evolving the membership fee structures to reflect a modern two-way relationship with our members.

Going for Gold

Helping our members navigate their journey to success through accessing data, connecting to the right advisors and making the most of the entire One Nucleus membership.

Key elements are:

- Aimed at R&D-intensive, IP-rich companies
- Dedicated 2-hour **One-ON-One** scoping session
- Access to databases including Pitchbook and Biotechgate
- Pitching opportunity at the annual Genesis conference
- Enhanced profile in the One Nucleus Gold Member Lookbook
- Includes standard One Nucleus Gold Member benefits.

One-ON-One

Available to all members, these sessions are aimed at developing a tailored support package of engagement from One Nucleus.

Key elements are:

- Commercial intelligence deep dive
- Evaluating the breadth of One Nucleus support available
- Identifying external expertise required
- Actions summary and report
- Held in-person or online.

Next Generation Membership Fee Structure

It has been unusual to see membership-funded groups evolve their basic fee structures in the life sciences field, with most remaining on a relatively standard annual fee in return for a set benefits type of relationship with members over decades. The commonality of member activities and needs within one sector means that the core proposition remains suitable at the core, including for One Nucleus, but we wanted to take the model further by:

- Enabling Corporate Sponsors and Partners to see direct links between marketing spend and activity

This is where One Nucleus can move away from the standard annual Corporate Sponsor or Partner Fee in return for logo visibility and general profile to be replaced by an agreed set of sponsored activities over and above the base membership fee. This could include dedicated event sponsorship, paid advertising, hosting events or more in combination to achieve the investment threshold for either Corporate Sponsor or Partner status. This can be committed and paid upfront for immediate status or accumulated over the membership year for automatic upgrade at the next annual renewal.

- **Recognising loyalty and commitment of members where it is due.**

One Nucleus membership level and associated benefits rise in cost across the Silver, Gold, Partner and Corporate Sponsor fee levels, paid at the point of joining or annual renewal. One Nucleus can now take into account the cumulative spend on any One Nucleus activity across the membership year to enable members to earn the credit to be automatically upgraded to the next level at renewal for the year ahead. Moving between levels rewards business as usual engagement. For example, a Medium Silver to Medium Gold could be achieved by taking a modest sponsorship package at Genesis in the year, providing greater discounts, profile and status for the following membership year.

One Nucleus Boston Bootcamp 2025

Congratulations to the winners of the 2025 competition proudly representing the UK in one of the world's most dynamic life science ecosystems!

Over three days, participants explored the strategic, operational and financial landscape of the Massachusetts life sciences ecosystem through sessions with leading experts, site visits and valuable networking opportunities.

The key learnings from the bootcamp were fed back to the wider One Nucleus community at the ON Helix 2025 conference. You can watch the discussion or see the summary from Alicia Gailliez's report post event.

Read

Watch

Agenda Highlights:

Overview of the Massachusetts Life Sciences Ecosystem
Simon Mekonen (BioMed Realty), Ben Bradford (MassBio), and Alice Sloan and Maryann Gallivan (Tunnell Consulting) emphasised the importance of establishing a strong, trusted presence within the ecosystem to drive successful engagement.

Operational Strategies

Chris Martin (RSM US) and colleagues led a comprehensive session on navigating the complexities of outsourcing core administrative functions, such as IT, HR and finance. The team also explored US geopolitical factors influencing funding sources. Harry Blanshard and Jamie Renison (Cushman & Wakefield) added insights on real estate planning and considerations for companies establishing a US base.

Attracting US Investment

Ross McNaughton (Taylor Wessing) and Tim Ehrlich (Gunderson Dettmer) discussed current trends in raising capital from U.S. investors, noting a growing preference for larger, de-risked opportunities.

R&D Collaborations

This session featured expert guidance on Intellectual Property strategy, led by Oona Johnson (Wolf Greenfield) and Nick Sutcliffe (Mewburn Ellis), which encouraged companies to adopt a comprehensive IP strategy that extends beyond patents. Abigail Barrow (Cambridge Innovation Partners) highlighted the value of non-dilutive funding opportunities to support early-stage innovation.

Site Visits

Life Science Nation: A masterclass in strategic investor messaging.
Whitehead Institute: Demonstrated the role of academic institutions in the formation of impactful advisory boards.
British Consulate-General in Boston: Offered the chance to discuss the challenges and opportunities for UK companies entering the Massachusetts market.
LabCentral: Provided insights on shared laboratory space support.

Bootcamp Testimonial

"The Boston bootcamp was an incredible experience for Tailor Bio as a techbio company visiting the city for the first time. What stood out for me most was how deeply biotech and entrepreneurship are embedded in the local education and research culture. Boston is clearly a place where research ideas become companies.

One Nucleus did an exceptional job organising the event, giving us the opportunity to explore the ecosystem meaningfully. Most importantly, the bootcamp was a chance to learn from other UK startups and founders about how they are approaching growth in the US. I highly recommend that any company consider applying."

Tailor Bio (Bootcamp Winner)

With Thanks to Our Sponsors

We are very grateful to our sponsors whose support makes the Boston Bootcamp possible.

Looking Ahead: Boston Bootcamp 2026

One Nucleus is excited to announce the Boston Bootcamp 2026 - an opportunity for ambitious life science companies to immerse themselves in Boston's globally renowned innovation ecosystem.

The Prize Includes:

- Participation in the 3-day bootcamp programme
- Return Premium Economy flights LHR-BOS
- 3 nights hotel accommodation
- Participation in pre-bootcamp preparatory sessions led by life science experts with experience of Greater Boston
- Free delegate place at the One Nucleus Annual Awards Dinner 2026
- Free speaker place at ON Helix 2026
- Company profile in ON Highlights Publication Spring/Summer 2026.

Key Dates

- Competition Launch: 4 December 2026
- Submission Deadline: 6 February 2026
- Winners Announced: by 6 March 2026
- One Nucleus Awards Dinner: 19 March 2026
- Pre-bootcamp activities in April – dates tbc
- Trip to Boston: 27-29 April 2026
- ON Helix Panel Discussion: 9 July 2026.

Entry Criteria - Open to companies developing novel therapeutics or platform technologies that enable novel therapeutic discovery.

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ON Helix 2025 Highlights

At ON Helix 2025, disruption emerged as a defining force accelerating life science innovation across science, technology and business. The 32 expert speakers guided attendees through sessions that revealed how disruptive change is reshaping the journey from discovery to real-world patient impact.

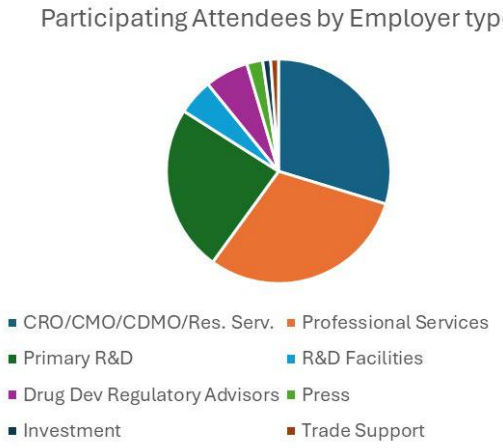
Several key trends were felt to be driving this shift:

- Novel immune-modulating modalities are demonstrating real clinical promise
- Biomarker-led strategies are increasingly guiding clinical decisions
- AI in R&D is transformative if built on strong data foundations and applied in the right scenarios
- The UK's unique differentiators, such as the UK Biobank and NHS data, offer a global advantage in research and innovation
- SME-to-SME collaboration is emerging as a critical mechanism to accelerate breakthroughs by pooling multidisciplinary expertise
- Clinical readiness is not only "stress-testing science" but also human resilience through uncertainty
- Regulatory frameworks are evolving to support a reduction in animal models, opening the door to alternative, innovative methods
- Innovation must be embedded across the full journey from discovery through to patient impact
- The A, B, C (and F) of a Thriving Life Sciences Ecosystem: Academia, Business, Clinicians and Finance.

The thought leadership articles later in this publication provide further insights into developments in the sector, including some of the key disruptive trends identified at ON Helix 2025, as we begin to anticipate what is to come at ON Helix 2026.

The attendee profile reflected a strong mix of executive leadership, R&D professionals, and those providing strategic and professional services, highlighting ON Helix's role in bringing together the breadth of expertise and decision-making needed to translate scientific discovery into meaningful patient impact.

Attendance also reflected the collaborative, whether through partnerships or outsourcing, nature of innovation in life sciences.



Early plans for ON Helix 2026: Disrupting the Future of Bio-innovation

Building on the above trends, ON Helix 2026 will move the conversation forward under the theme 'Disrupting the Future of Bio-innovation'.
The focus refers to the breakthrough technologies, policies and business models that are shaping the drug discovery and development landscape.
Don't miss this opportunity to connect with the pioneers leading this next wave of disruptive innovation and ensure you stay ahead in a rapidly evolving landscape.

Proposed 2026 Programme Themes

- Scientific Breakthroughs Disrupting Bio-innovation
- Disruptive Therapeutic Discovery Platform Technologies
- Disrupting Regulatory and Clinical Pathways
- Disruptive Business Models for Translational Research.

ON Helix Key Benefits

- Hear from key opinion leaders through plenary talks and panels
- High-quality networking opportunities with a broad range of delegates across biotech, pharma, academia, investors, and expert advisors
- Option to arrange targeted 1-2-1 meetings through the conference app
- Join the ON Helix Fringe events for further technical and business engagement
- Explore the exhibition zone to meet innovators, solution providers, and supporters across the biotech value chain
- Leave feeling inspired with actionable insights for your own work.

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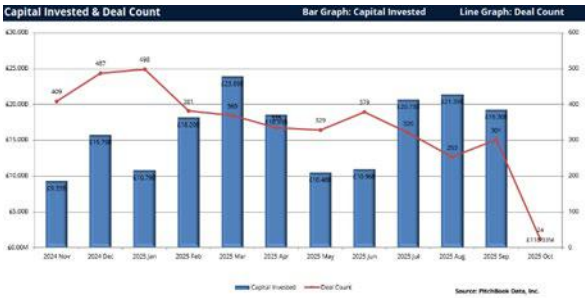
One Nucleus Global Connectivity with Members

Unmet medical need is a global phenomenon that is driven by a plethora of interconnected factors, including lack of effective treatments, inadequate prevention and early diagnosis, and lack of access for patients. One Nucleus members are actively involved in addressing these barriers as they develop and deploy innovative technologies and medicines aimed at improving patient outcomes. The effort to enable R&D, attract investment, and disseminate these advances to patients is also global, with the majority of policymakers, healthcare providers, and advocates accepting the well-documented links between health and economic prosperity. Moreover, numerous regions also aim to attract venture capital and industry investment into research, development and manufacturing of these innovative solutions due to the economic development benefits.

Life Science Deal Flow Beyond Borders

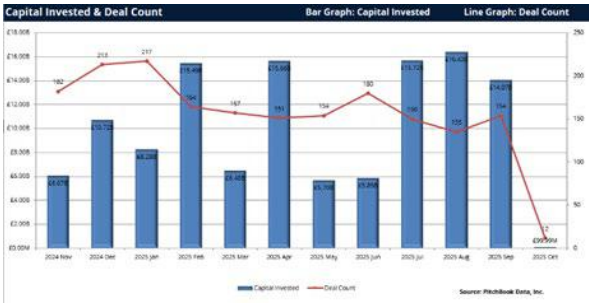
Competition for life sciences investment can be perceived as a highly competitive arena as inward investment teams seek to secure industry investment. As illustrated here for Oct. 2024 – Oct. 2025, capital deployment of nearly $25Bn is dominated by the US, with the UK and Europe a step back.



US

UK

EUROPE



GLOBAL

Delving into the sources, partners and investor syndicates involved in this global effort, however, exemplifies how the causes of ill health do not respect international borders, and neither do those innovating or investing in potential solutions. Winning against unmet need is a collaborative effort of the global life science industry and the different ecosystems available to companies offering complementary innovation strengths and commercial advantages. So perhaps, in the words of Simon Sinek of 'Find your why' fame, these different locations are more worthy rivals than competitors in an infinite game.

Selecting the Best Ecosystem

Taking the above reality on board, accepting the underlying dynamic for our members is to innovate through collaboration. It cannot be ignored that securing the collaborations, investment and outsourcing deals is competitive, not least since every player has finite bandwidth to engage. A key driver for One Nucleus, therefore, is to support our members in being competitive on the global stage, grabbing the attention they need from others. The two aspects of such support are different sides of

the same connectivity coin. First, to provide the connectivity and trusted environment locally to enable effective knowledge-sharing and best practices among their peers. Second, to provide the connectivity and insight to key international locations where our members wish to develop their business. Moreover, connecting with and sharing insights about the strengths of other locations enables our members to make informed decisions about which ecosystem offers the best opportunity for each part of their company's journey. Increasingly, even small-to-medium-sized companies have operations in multiple locations as they leverage what any ecosystem has to offer. This could be differentiation on the basis of factors such as research excellence, access to capital, available talent with the right experience, clinical trial infrastructure or appropriate manufacturing capacity. Business incentives, regulations and commercialisation routes can all be influential also.

One Nucleus Members Connect the Globe

The map below illustrates how global the One Nucleus membership base is. A truly global network creating intercontinental bio-bridges for anyone seeking peer-to-peer connectivity. Scan the QR code to delve deeper into the breakdown.

The One Nucleus international connectivity stretches far beyond our members through three main areas of activity:

International Biopartnering:

One Nucleus maintains great working relationships with collaborators who deliver global bio-partnering and investment forums, securing discounted rates and/or increased profile for members to ensure they are putting their global competitiveness in the life science shop window. These include via One Nucleus Partner EBD Group and collaborators such as Life Science Nation (RESI conferences), BioCentury and NLS Days.

Inward Missions:

A regular feature of the One Nucleus activities is the hosting of visiting economic development and trade missions from overseas. These can be in person or online, and recent months have included engaging with delegations from Canada, China, Finland, Florida, Germany, Japan, North Carolina, Ohio, South Carolina and Utah. In addition, the sharing of key market intelligence is also key. An example is the regular webinars with Orrick and developments on policy and engagement at the FDA.

International Initiatives:

One of the higher-profile international activities One Nucleus undertakes is the annual Boston Bootcamp. A competition funded by One Nucleus, where the winners receive an expenses-paid trip to Boston to engage with local experts to gain understanding of how to do business in Massachusetts and access US investors and the business incentives available. In addition, satellite events such as breakfast seminars and networking receptions are delivered around the annual BIO International Convention to bring our members together with international peers. Planned for the year ahead is a targeted partnering mission to Flanders, Belgium, hosted at the impressive VIB research centre, and a high-profile innovation visit to Boston.

For more information on the One Nucleus international activities, please email info@onenucleus.com

Did You Know as a Member You Can...?

Connect via groups in the EU, North America, Australasia & Asia

Save more than your membership fee via member discounts

Post job vacancies online

Be seen as an employer of choice

Access the on-demand library of debates and information

Raise your company's profile

Access the Learning & Development centre for your team

Network with investors, collaborators and customers

Do get in touch to learn more about membership benefits and how to maximise the return on your investment.

one nucleus™

Knitting Together London's Life Sciences Story

Image Courtesy of LBIC - Martina Ferrera

The One Nucleus team expanded in the summer with the recruitment of a new Director of Business Development (Philippa Clark). Whilst working with colleagues to evolve the One Nucleus value proposition as the external environment changes for our members, Philippa will have a day-to-day focus on London. The step has a feel of both fast forwarding to the future as well as to the past.

Looking to the future, it is plain to see the potential growth for the London cluster, enabled by the private sector investing in copious amounts of new laboratory space and public sector investment in a more coordinated promotion of the science (MedCity/London & Partners) to drive investment (Mansion House Accord).

MedCity's published aspirations for the London Life Sciences Sector set out the vision by 2032 to have 6.2M sq ft of Life Science lab and office space accommodating 80,000 direct jobs and having contributed £13.35Bn to UK R&D spending. Considering the past, returning to an increased focus on London is reminiscent of the creation of the London Biotechnology Network by London First (now Business London) which ran for a decade, creating the BioWednesdays and Genesis conference, before being acquired by Cambridge-based ERBI (now One Nucleus).

Focussing on the present, London is already a remarkable centre for life sciences. It is home to more than 2,700 life sciences companies and world-leading universities, research hospitals, and investors. The sector here employs around 11% of the UK's life sciences workforce, with employment growing nearly 30% between 2018 and 2022. Investors continue to see the city as a safe bet, in the final quarter of 2024, London companies raised over £170 million across 30+ funding rounds. These figures show just how vibrant the ecosystem is but also remind us of the responsibility to ensure this momentum benefits companies of all sizes. Whether it's a small start-up looking for its first round of funding or a large-scale player innovating on the global stage, London must remain a city where all life sciences businesses can thrive. The goal is simple: to help create more opportunities for collaboration and to strengthen the ties between the many life sciences communities spread across the capital.

One of London's greatest strengths is also one of its challenges: the city's many hubs. From White City and King's Cross to Canary Wharf and Sutton, clusters of excellence are thriving, each with its own specialisms and value proposition. The opportunity now is to better connect them, so that breakthroughs in one area can spark innovation across others. Collaboration between these hubs will not only accelerate research but ensure that start-ups feel just as included as larger players. It's crucial that London's life sciences community remains inclusive and cohesive, offering every organisation, regardless of size, a chance to contribute and benefit.

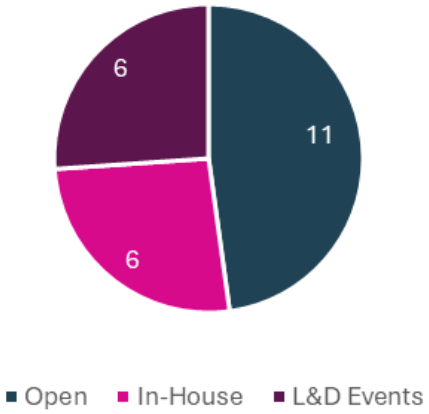
Infrastructure is another consideration. While new lab space is coming onto the market, uptake is uneven and we must work together to make sure the right companies find the right environments to grow. This is where networks like One Nucleus can play an important role, helping members navigate choice and ensuring innovation isn't held back by fragmentation. Our networks must also be supported by efficient and accessible support systems, whether it's talent development, regulatory advice, or funding routes, that enable companies to scale effectively.

The future of London life sciences will depend on collaboration, energy, and consistency. One Nucleus is committed to being an anchor for companies, investors and researchers, creating spaces where ideas are shared and acted on and where connections translate into real outcomes. London has always been a global gateway for life sciences and our task now is to keep strengthening those threads, so the ecosystem grows even more connected, resilient and internationally competitive.

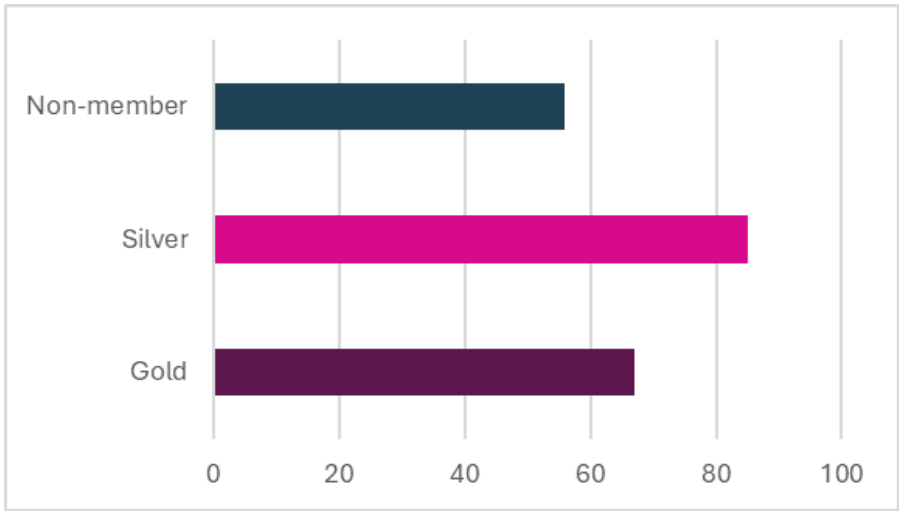
Training Highlights

Throughout 2025 we have delivered 17 courses, offered as in-house, online and open course format to 200+ delegates. In addition, we have hosted a number of lunch and learn, and roundtable sessions.

Number of Courses and Learning & Development Events



Number of Delegates by Membership Level



Training Overview

Empower Your Team Through Tailored Training

One Nucleus knows that one size does not fit all when it comes to professional development. We offer flexible, high-quality training courses designed to meet your company needs. Whether you are a small start-up or an established company, we have options that work for you.

Working with industry experts to deliver practical, industry focussed courses ranging from technical expertise to essential business ('soft') skills. The IOSH Approved Biological Safety Management and Practice course is an intensive two-day course, from understanding the importance of managing biological risks in the laboratory through to carrying out suitable and sufficient risk assessments under COSHH and the GMO Regulations. On the softer skills side, we have a range of options from presentation skills training to practical introductions to managing projects, all tailored specifically for those working in the life sciences ecosystem.

Delivery Formats to Suit Your Needs

From in-house delivery, exclusive to one company, to open courses where smaller companies can send individual employees, in-person and online options are available.

Supporting Career Growth Through Mentoring

Professional development isn't just about formal training; it is also about guidance, wisdom, and the kind of insights that only come from experience.

The One Nucleus mentoring initiative connects seasoned professionals with those seeking advice, creating relationships that benefit both parties.

Discounted rates for One Nucleus gold and silver members. We also offer discounted rates to members of the BIA, Bionow, SLAS and CCRA.

A Network of Training Providers

We are delighted to be working with a group of member companies offering discounted learning and development services to One Nucleus members.

- Health & Safety Works
- Wellcome Sanger Institute
- My Green Lab
- MyData-Trust
- Perla Development

In addition, we maintain a directory (sat nav) of external providers within the sector offering training outside of our own portfolio.

Contact training@onenucleus.com for more information.

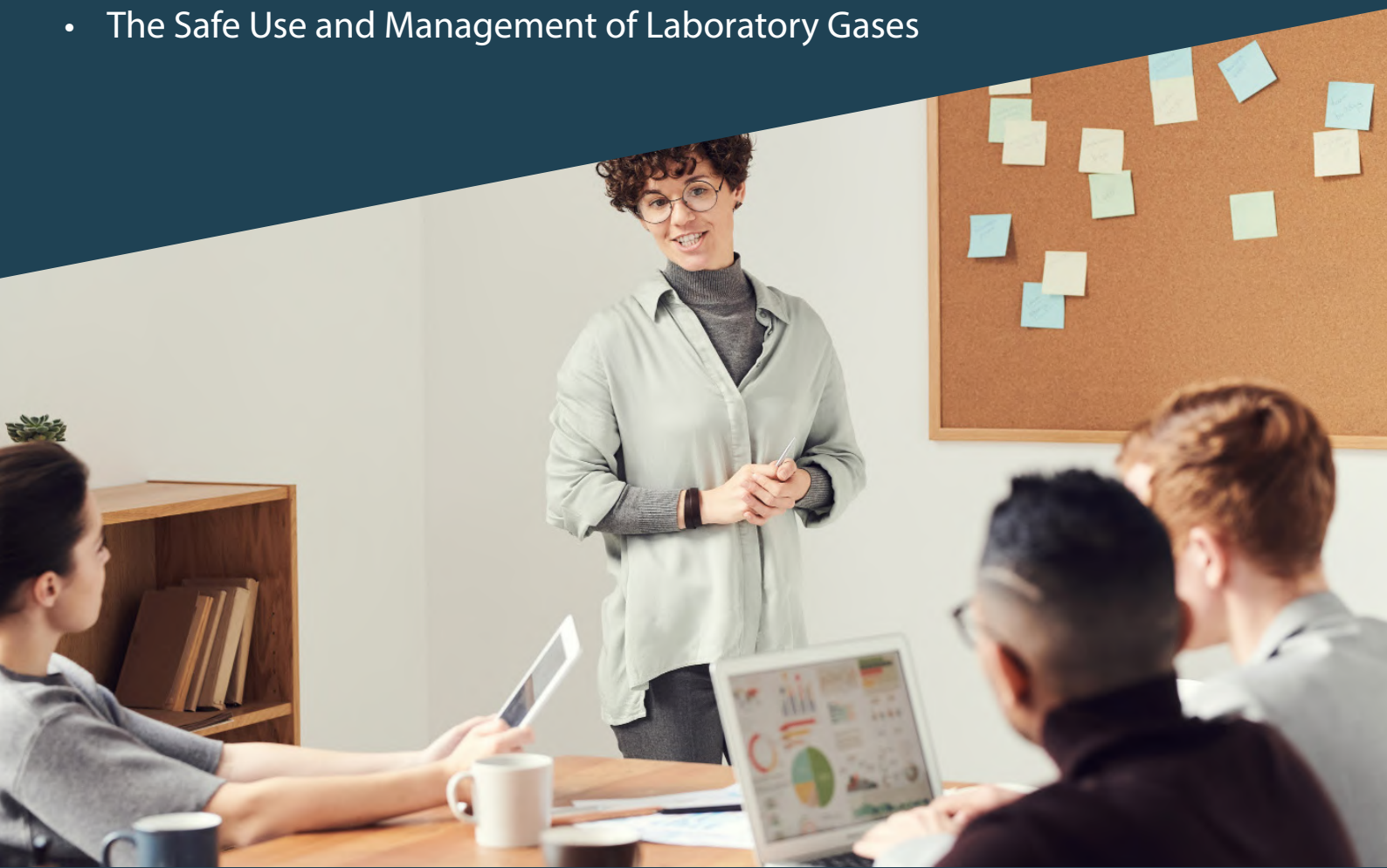
One Nucleus Upcoming Training Courses

Up to 30% off

Training Courses for One Nucleus Members

Courses include:

- Introduction to Drug Discovery - From Idea to Clinical Candidate
- IOSH Approved Biological Safety - Management and Practice (2 day course)
- Introduction to Drug Development - From Candidate Selection to Patients in Healthcare
- Introduction to Managing Life Science Projects
- Laboratory Health & Safety
- Presentation Skills for Scientists and for Life Science Professionals
- The Safe Use and Management of Laboratory Gases



Visit **onenucleus.com/training-courses** to see the list of current training course we have to offer.

Facilities Work Performed

Facilities

Our Chief Technical Specialist, Richard Dickinson, has over 30 years' experience as a facilities manager and has worked for more than 40 years in the life science sector.
Richard has been with One Nucleus for 17 years and has worked with over 40 companies in this time with many companies returning for his services.

Services

- Richard can help you find the lab space to meet your needs; he often hears about space being available before the Agents, especially sub-lets.
- Design and project manage lab and office fit-out projects.
- Relocation projects.
- Dilapidations.
- On site Facilities Management.

In 2025 Richard has helped Advent Bioservices, Alloy Therapeutics, Canary Wharf, Forth Therapeutics, Gen Two, Constructive Bio, Healx, Howard Group, Insmed Innovation UK, Quotient Therapeutics, T-Therapeutics and Xap Therapeutics.

Case Studies can be viewed here.

Purchasing Scheme

25 years ago, 10 Cambridge Biotech companies sat in a meeting room at St John Innovation Centre with Jeff Solomon the former CEO of ERBI and the ERBI Group Purchasing Consortium was born.

The One Nucleus purchasing scheme is now available to all Gold members and gives them discounts on goods and services purchased from our preferred suppliers, listed below:

001* – providing utility savings and green energy contracts
Air Liquide – providing laboratory gases
BOC – providing dry ice services
Complete* – providing stationery, office goods, IT consumables and office furniture
Deliver Plus* – providing courier services
Fisher Scientific – providing laboratory consumables, laboratory chemicals, low value apparatus and Life Science Products
Grundon - integrated waste management and environmental services
Jewels Airport Transfers* - providing discount on airport transfers
Quy Mill Hotel & Spa* - providing accommodation for business and leisure
STARLAB – providing pipette maintenance and calibration services

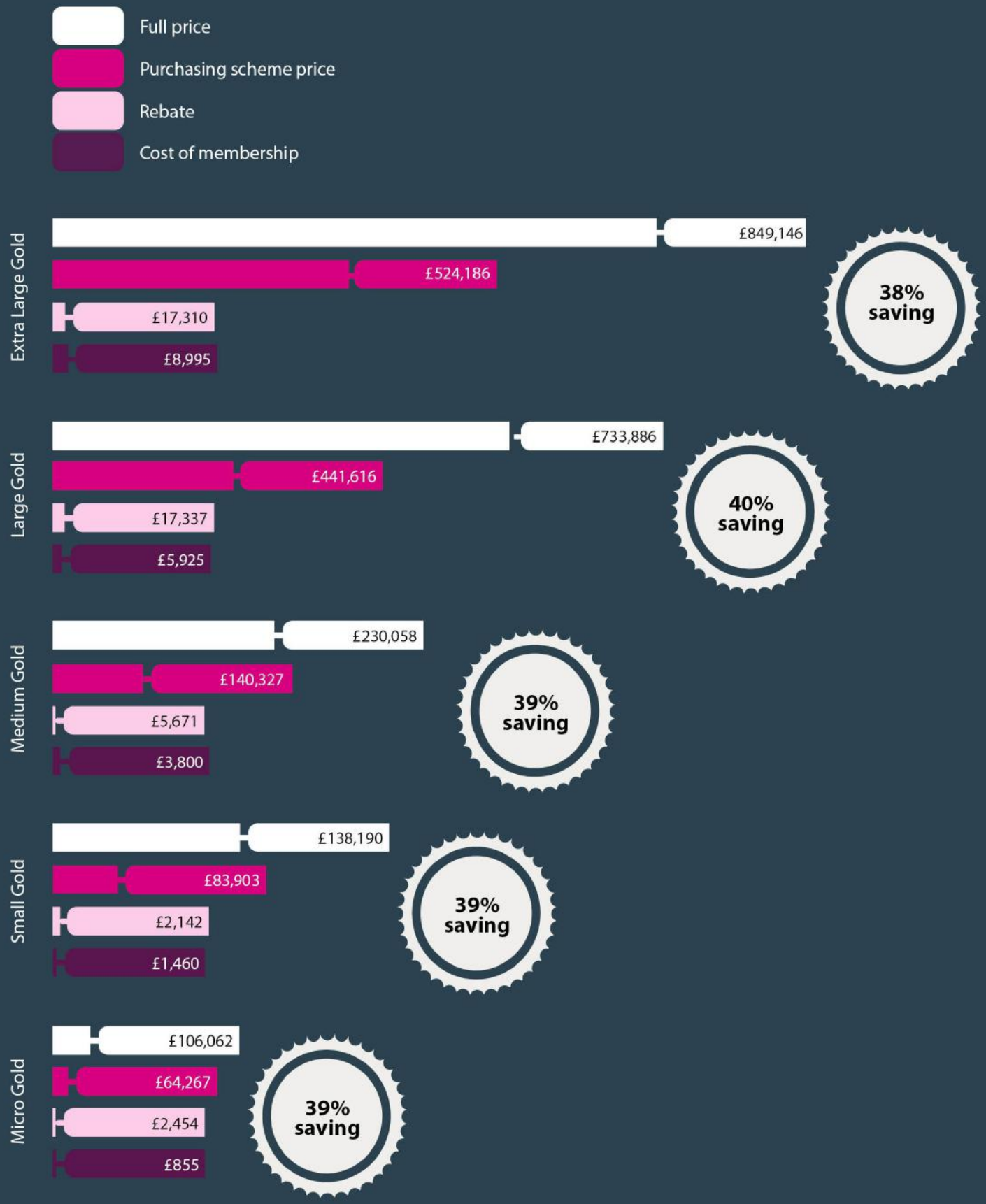
*discounts available to Silver members

See examples of the savings made by a selection of member companies by size in 2024 overleaf.

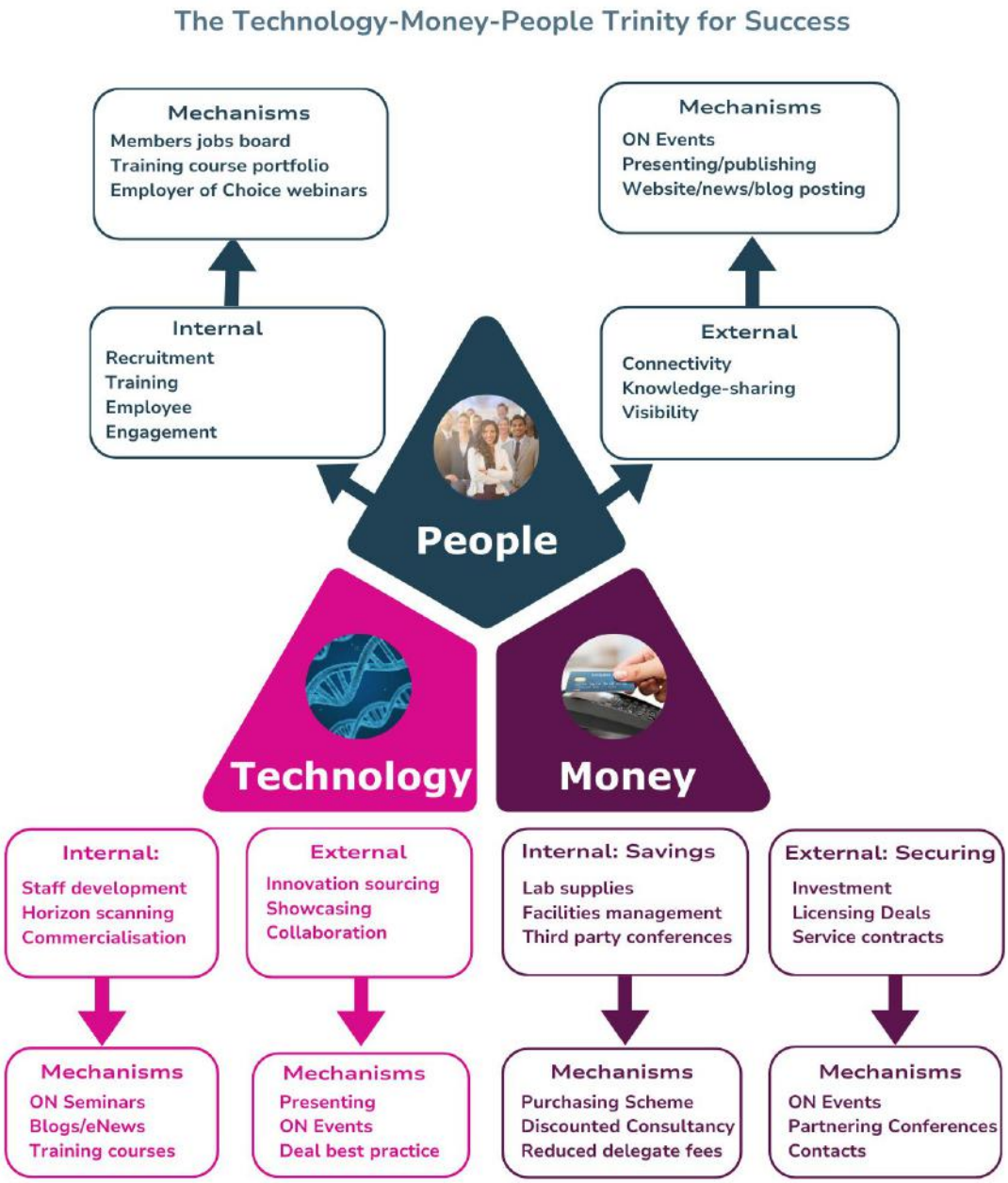
Contact Richard Dickinson at richard@onenucleus.com for further information

One Nucleus Purchasing Scheme - Examples of Members' Savings (year ended 31 December 2024)

The chart below provides actual examples of the savings made by a selection of member companies by size, ranging from extra large to micro, using our Purchasing Scheme.
For some, the rebate alone **covered the cost** of membership.



About One Nucleus



As illustrated, the goals of One Nucleus as a not-for-profit membership organisation are to support our members and the wider Life Science & Healthcare ecosystem across the trinity of aspects critical to success: Technology, Money and People. The activities focus on our members' needs both within their own organisations and when sourcing expertise, capacity, innovation and finance externally. Each activity undertaken by One Nucleus is required to support at least one of the following hierarchies of criteria:

- Provide effective support to our sponsors, partners and members to achieve their goals
- Nurture and environment for deal flow
- Attract inward business enquiries for our members
- Support UK plc success in foreign direct investment and policy.

The service offerings detailed in the following pages set out the key member benefits aimed at supporting the above remit, which include Member Savings, Learning & Development, Events, Facilities Management Support and Profiling. These year-round activities are complemented by two annual conferences, an annual awards celebration, a plethora of collaborations including international collaborations and access to subscribed business intelligence databases.

Board and Team Changes during 2025

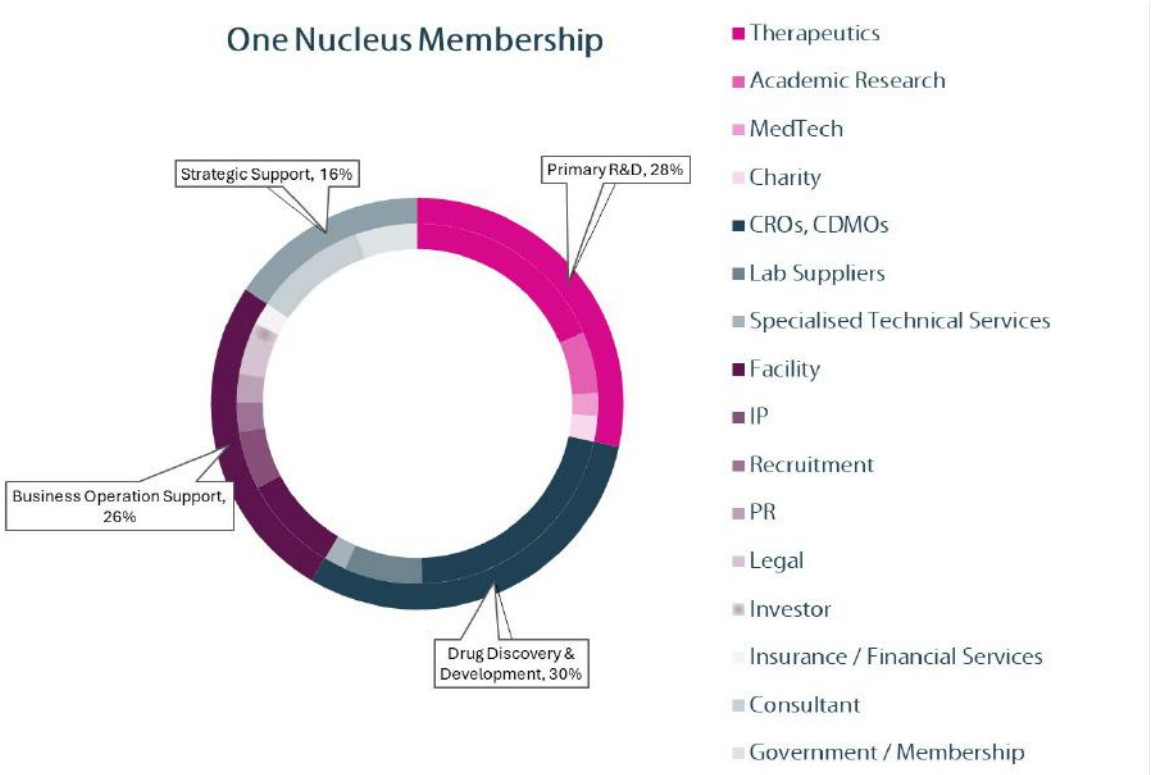
As the Life Sciences sector evolves, the need to evolve the One Nucleus board and staff team evolves with it to enable us to deliver the best support in the most effective way. 2025 has seen One Nucleus welcome the following individuals to our family:

Melanie Leveridge, Vice President Assays, Profiling and Cell Sciences at AstraZeneca (left) and Hannah Sore, CEO & Founder PharmEnable (right) have joined as non-executive directors. Both bring extensive knowledge of emerging approaches in R&D, governance and industry trends.

2025 has also seen the One Nucleus team joined by Sadie Foxall (Assistant Accountant), Harriet Thornton (Events Administrator) and Philippa Clark (Director of Business Development):

One Nucleus Membership – A Breakdown of Member Types

Concentrated in the Greater Cambridge and Greater London clusters, the One Nucleus membership base is diverse and represents the full breadth of the life science sector.



One Nucleus Membership Benefits

Website & Social	Non-Member	Silver Member	Gold Member
Listed in Online Membership Directory	✗	✓	✓
Post News to Website & Social Media	£75+VAT	✓	✓
Advertise Jobs on Website	£75+VAT	✓	✓
Advertise Events on Website	£75+VAT	✓	✓
e-Newsletter Sponsorship - banner advert	£800+VAT	£500+VAT	£500+VAT
Advertise in One Nucleus Highlights	£750+VAT	£500+VAT	£500+VAT
Events			
ON Helix Delegate	£545+VAT	£435+VAT	£325+VAT
Genesis Delegate	£545+VAT	£435+VAT	£325+VAT
BioWednesdays	£50+VAT	✓	✓
Innovation Seminars	Invitation Only	✓	✓
Services			
Training	✓	15% Discount	30% Discount
Facilities Management Consultancy Day Rate*	£1,195+VAT	£1,015+VAT	£840+VAT
Preferred Supplier Discounts	✗	✓**	✓
Access M2M Marketplace Discounts	✗	✓	✓
Access to Themed Interest Groups	✗	£30+VAT	✓
Employer of Choice Sessions	Invitation Only	✓	✓
Access to On-Demand Library	Restricted	✓	✓

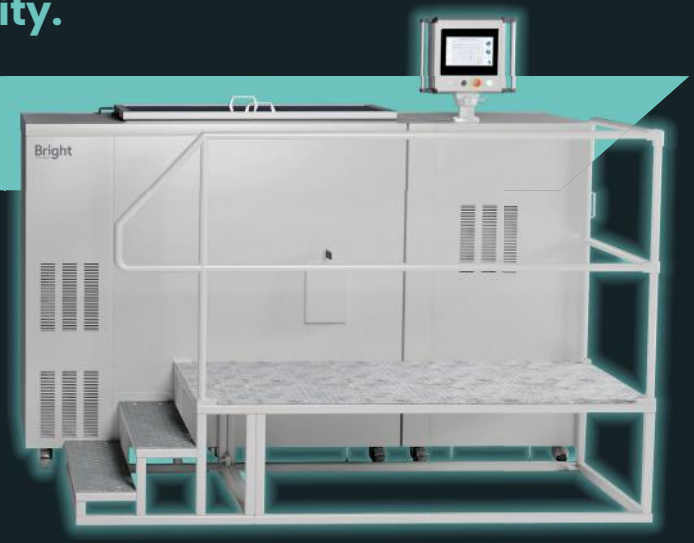
*All prices are exclusive of expenses.
**Access to some but not all.
Prices correct at time of print.

Bright Instruments

For over 80 years, Bright Instruments has led the way in precision cryostat and microtome manufacturing. Trusted by scientific institutions worldwide, our machines are renowned for their reliability, accuracy, and engineering excellence.

Precision Frozen Sectioning Systems for Advanced Research: Providing sections that preserve both anatomical and molecular integrity.

Whole Frozen Human Brain Sectioning Cryostat



- The world's only cryostat engineered specifically for whole frozen human brain sectioning.
- Delivers reproducible, micron-precision coronal slices without pre-dissection.
- Preserves DNA, RNA, and native proteins for molecular analysis.
- Protected under Global Patent.

Whole Small Animal Sectioning Cryostat

- Designed for complete anatomical sectioning of whole frozen small animals.
- Ideal for neuroscience, toxicology, and whole-organ imaging workflows.
- Robust, reliable, and engineered for high-throughput environments.
- Protected Under Global Patent.

For more information, contact:
David Sanders, Managing Director
David@brightinstruments.com
Mobile: +44 (0)7956 709 625
Landline: +44 (0)0808 168 9697

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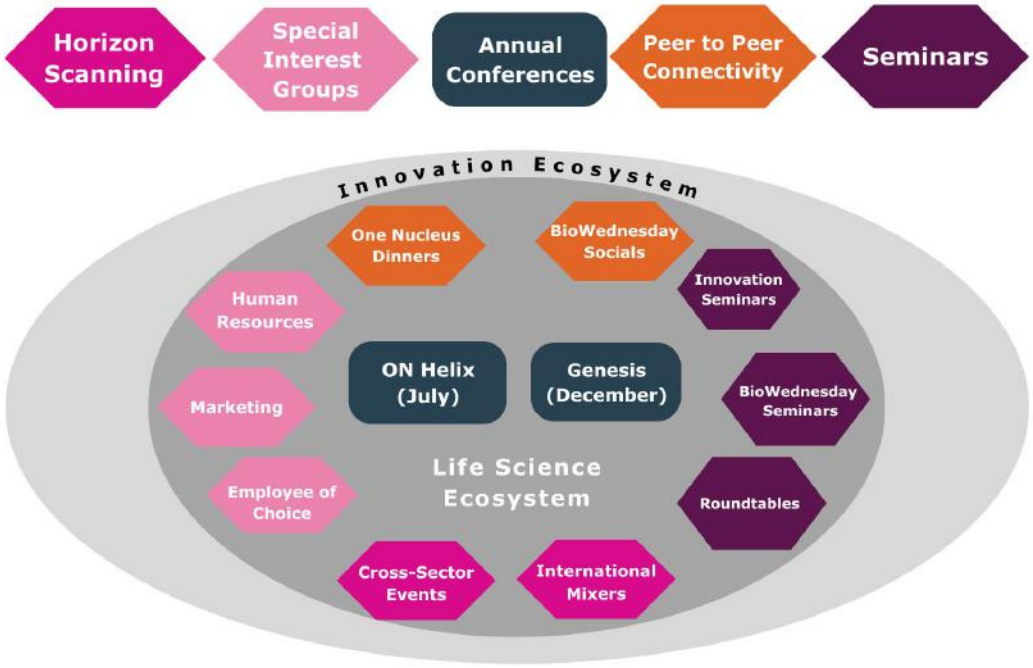
Peer-to-Peer Knowledge Sharing via One Nucleus Events and Conferences

The One Nucleus events portfolio has been strategically curated to foster peer-to-peer knowledge sharing and facilitate collaboration and business across the life science innovation ecosystem. Through a diverse range of forums, we provide our network with an environment for deal flow, be those deals investment, R&D agreements, outsourcing, lab leasing or any other transactions necessary for success.

Our events provide:

- A trusted environment for engagement where professionals can share insights, explore shared challenges and identify solutions
- Facilitate introductions, pitching opportunities and conversations that can lead to new partnerships and investment
- Support sector best practice by disseminating key updates on areas such as policy, talent development, regulation or emerging technologies
- Release of registered attendee lists ahead of the event to maximise the connection power
- Targeted attendee invitation where appropriate to enable informed, closed meeting discussion.

One Nucleus Events in Numbers (Jan-Aug 2025)

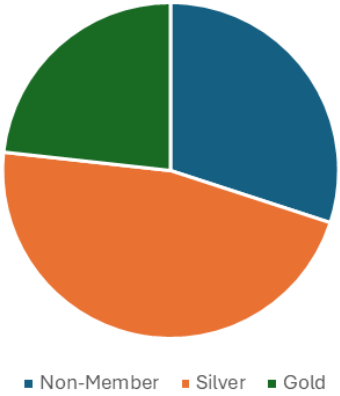


1300+ delegates engaged across 30+ events, including:

- 15 Seminars & Roundtables
- 9 Peer-to-Peer Connectivity
- 5 Special Interest Groups
- 2 Horizon Scanning.

Our events attract a balance of members and non-members, showcasing the opportunity for attendees to engage with a broad and inclusive range of stakeholders. Members enjoy benefits such as free and discounted rates, making membership the most cost-effective way to build strong relationships and boost the visibility of your brand within our community.

Attendees by Membership Status



BioBeat: Celebrating Over a Decade of Impact and Launching an Exciting New Chapter

For the past 12 years, BioBeat has been energising the UK life sciences scene by delivering an informed and intimate forum for ideas exchange, dogma challenging and future scoping among leaders in the biotech industry. What started as a bold idea to celebrate and connect talent has grown into a vibrant, highly anticipated annual event. BioBeat has become much more than a conference; it's a community, an opportunity for conversations, collaborations and the kind of inspiration that sticks with you long after the last session ends.

At the heart of BioBeat's energy and success is its founder, Miranda Weston-Smith. Her vision, dedication and infectious enthusiasm have evolved BioBeat from a small idea into a flagship event. Through the annual BioBeat summit and the 50 Movers & Shakers in BioBusiness report, Miranda has consistently spotlighted talent, celebrated achievements and created meaningful and lasting connections across industry, academia and investment. Her dedication has left a lasting impact on the life sciences community.

Having celebrated its 12th anniversary this year, BioBeat is ready to step into an exciting new chapter. Aligning with the One Nucleus ethos of nurturing a trusted environment to stimulate collaborations and deal flow through which innovation thrives, BioBeat is an ideal addition to the One Nucleus stable of events. With Miranda remaining in an advisory capacity, responsibility for the event is now transitioning to One Nucleus, bringing the event into one of the most dynamic and exciting life sciences networks in the industry. This change is not just a handover; it's an opportunity to amplify BioBeat's impact, broaden its reach and create even more impactful moments for the community.

One Nucleus has long been a hub for life sciences innovation, supporting companies of all sizes through networking, training and thought leadership. With BioBeat now under the direction of One Nucleus, the event retains its signature spirit: inclusive, inspiring and buzzing with energy, while gaining access to One Nucleus' expansive network, resources and reach.

For those who have attended BioBeat over the years, this new era will feel both familiar and progressive whilst retaining the core values Miranda has built upon when celebrating talent, sparking conversation, and championing innovation. With so much information and data available online and an ever-increasing pressure for innovators and company builders to be efficient in this global industry, the value of such engaged select forums built on communities is enhanced to enable companies to be the best version of themselves ahead of embarking on their next pitch, partnering meeting or corporate development strategy. Limited to approximately 100 attendees, BioBeat will continue to deliver informative content and inspiration in a safe environment where it is perfectly acceptable to question the norm.
Of course, we must pause to thank Miranda. Founding and nurturing BioBeat for over ten years has required vision, passion and dedication. Miranda's commitment has shaped a legacy that will inspire and connect leaders for years to come. Passing the baton is never easy, but her work ensures that BioBeat is poised for a brilliant future.

The next chapter, BioBeat 2026, will be delivered at The Nucleus, Chesterford Research Park, on Thursday 14 May. Plans are already taking shape with potential key topics for discussion emerging at this time when the biotech sector is changing faster than ever before. We look forward to the first of a new era of BioBeat's being just as vibrant and inspiring as the first.

If you would like to be involved in BioBeat 2026 and help shape the content, sponsor or simply attend, it is never too early to get in touch. Please contact Philippa Clark pclark@onenucleus.com for an informal discussion in the first instance.

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Antibody Discovery		■	■		
Proteomics	■	■	■	■	■
Chemistry		■	■		
Biology	■	■	■	■	
Bioanalysis		■	■		
Project Management	■	■	■	■	

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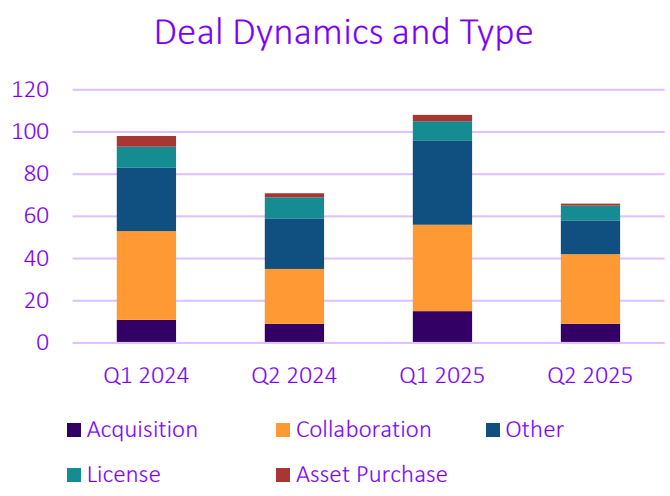
Diagnostics in H1 2025: Acceleration, Integration, and the Shift from Innovation to Infrastructure

H1 2025 saw sustained Dx deal activity, highlighting sector resilience despite macroeconomic headwinds. We Identified a total deal volume of 174 across Q1 and Q2, which was stable year-over-year (vs. 171 in H1 2024), but deal composition signalled a strategic shift. Companies are increasingly shifting toward platform-driven, biomarker-centric models and adopting flexible structures such as partnerships and modular integrations. Dealmaking increasingly reflects integrated infrastructure over fragmented innovation, with a clear emphasis on scalable systems, risk-sharing, and cross-sector convergence with therapeutics and digital health. Beneath steady volumes, the diagnostics sector is evolving toward greater sophistication and commercial readiness.
The continued robustness of activity signals sustained interest across disease areas, technologies, and modalities.

Deal Dynamics and Type: Shifting Execution Strategies in Diagnostics Dealmaking

While we see an equal number of deals between H1 2024 and H1 2025, the composition of deal types across H1 2024 and H1 2025 reveals a diagnostics market that is maturing in structure but still exploratory in execution. Most deals across both periods were structured as collaborations, reflecting an enduring appetite for shared R&D, co-development, and go-to-market strategies, particularly in areas that demand technological convergence, such as artificial intelligence, next-generation sequencing (NGS), and multiomics.



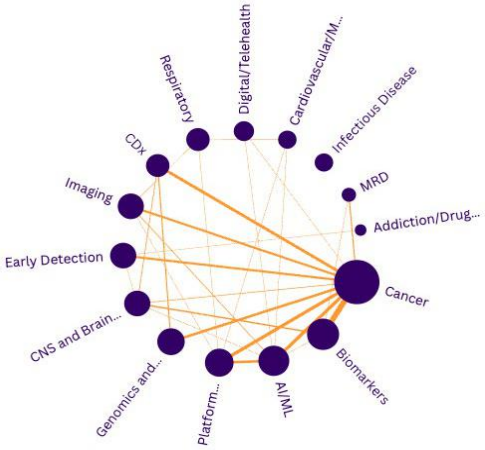
However, more nuanced shifts in deal structures across the quarters illuminate evolving strategic priorities and caution around commitment.

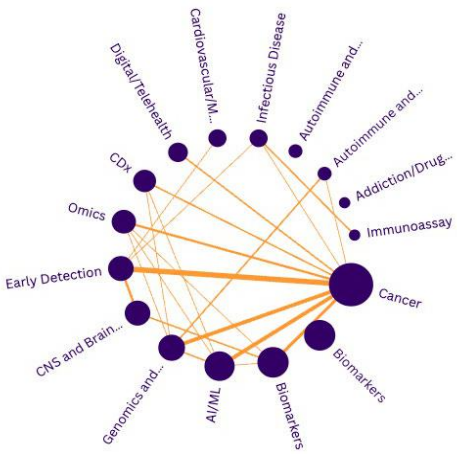
This consistent prominence suggests that diagnostics players continue to pursue some risk and versatile arrangements in a landscape that is increasingly reliant on data, analytics, and precision modalities. These partnerships frequently underpin cross-disciplinary synergies, such as AI-pathology or sequencing-neurodegeneration combinations and support the growing need for platform integration between diagnostics developers, pharmaceutical partners, and digital health players. The spike in collaboration activity in H1 2025 notably coincided with the surge of co-development deals tied to biomarker platforms and complex diagnostic ecosystems, such as the strategic pairing of Agenus and Noetik, or QIAGEN and Incyte.

Acquisition activity rose slightly in Q1 2025 to 15 (vs. 11 in Q1 2024), reflecting targeted consolidation, particularly in spatial biology, oncology, and digital infrastructure, before levelling out at 9 in Q2 2025. However, the relatively modest M&A volumes suggest buyers are still cautious in the face of valuation pressures and macro uncertainty.

Licensing and asset deals declined slightly across 2025, with licensing falling from 10 per quarter in 2024 to 9 and 7 in H1 2025, and asset purchases dropping to just 1 by Q2 2025. This hints at a broader shift toward collaborative rather than transactional access to innovation.

In summary, H1 2025 deal dynamics reveal a diagnostics landscape leaning into modular, reversible partnerships that preserve optionality. Collaborations remain core, while acquisitions and licensing are deployed with precision, highlighting a sector increasingly deliberate about how it builds, accesses, and scales innovation.

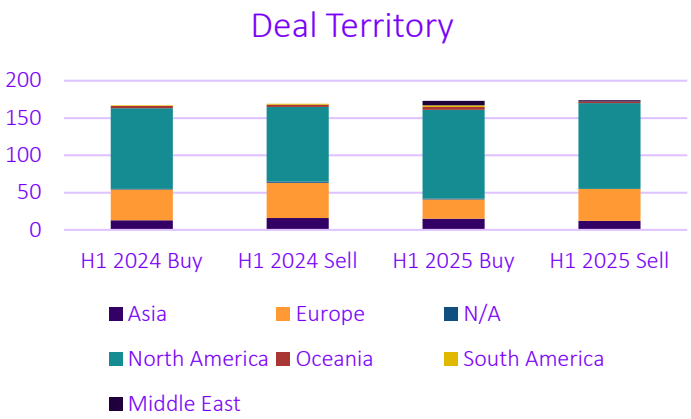




Regional Trends: Globalisation and Regional Balancing

North America maintained its lead in both acquirer and target activity, with buy-side deal volume increasing by 10% year-over-year. Europe experienced a 37% decline in buy-side activity, even as sell-side levels remained high, pointing perhaps to increased outbound licensing, exits, or asset divestitures. Asia held steady with balanced buy/sell dynamics across both periods. The Middle East saw a sharp rise from a zero baseline, with new buy- and sell-side activity emerging, reflecting growing interest in diagnostic infrastructure, regional partnerships, and market access.

These shifts likely reflect broader macroeconomic and strategic forces. While valuation pressures and regulatory hurdles may be tempering Europe's outbound moves, North American firms remain acquisitive and are increasingly targeting emerging markets. The Middle East's momentum aligns with regional healthcare digitization and rising R&D investment.



Networked Innovation: Insights from Thematic Maps

Network diagrams for H1 2024 and H1 2025 (based on co-occurrence of themes) demonstrate a sector moving toward higher thematic interconnectedness. In H1 2024 node sizes (indicating theme frequency) clustered heavily around cancer, with thinner edges linking oncology to peripheral topics like AI and liquid biopsy. By H1 2025, this map had evolved: while cancer remains central, new hubs have emerged, notably AI, blood-based testing, neurodegeneration, proteomics, and early detection.

The increasing edge weights between nodes like "AI" and "biomarker," or "blood-based" and "neurodegeneration," reflect the rise of integrated, platform-based innovation. For instance, Alzheimer's-related initiatives frequently involve liquid biopsy, statistical modelling, and AI interpretation tools. Similarly, cancer diagnostics increasingly incorporate spatial biology, transcriptomics, and digital pathology in unified workflows.

The densification of the network suggests that diagnostics innovation is less siloed than before. Companies are investing in technologies that overlap categories and partnering to unlock synergies across modalities, a trend that likely enhances resilience, scalability, and regulatory alignment.

For more details, visit https://www.pharmaventures.com
Follow us on LinkedIn: https://www.linkedin.com/company/pharmaventures/

How AI is Transforming Pharmaceutical Research Workflows

The pharmaceutical industry operates at the frontiers of science and medicine, but it faces daunting challenges as the pace of knowledge creation accelerates. With millions of scientific articles published annually and regulatory demands only growing, researchers and organizations are feeling the strain. Artificial intelligence (AI) is increasingly shaping workflows, helping companies streamline operations and enhance the pace of scientific breakthroughs.

This summary explores key challenges in pharmaceutical research, ways AI-powered solutions such as AI-driven solutions can address these issues, and the practical benefits that AI-powered tools can provide.

The Complexity of Pharmaceutical Research Workflows

Pharmaceutical companies rely on meticulous research and evidence-based decision-making, but the complexities of working with vast and fragmented data lead to significant obstacles.

Core Challenges

1. **Information Overload:** The volume of scientific literature is astonishing. In 2022, there were 3.3 million articles published globally in science and engineering, a 59% increase from a decade earlier. Staying updated on relevant studies amidst this flood of data overwhelms researchers and consumes valuable time.
2. **Disjointed Systems:** Traditional literature management involves scattered workflows across multiple platforms, causing inefficiencies, poor collaboration, and frustration. Researchers often toggle between 8 to 12 separate systems just to gather, review, and cite materials.
3. **Regulatory Pressure:** With patient safety a priority, pharmaceutical companies must rigorously document and comply with regulatory standards across various jurisdictions. Failures in citation accuracy or reference management can lead to missed deadlines, penalties, or credibility issues.

Smaller biopharmaceutical firms struggle to meet deadlines with fewer resources, while larger companies can find themselves navigating bureaucratic inefficiencies. In both cases, there is a clear need for more effective workflows.

How AI Bridges the Gap

AI is becoming a critical tool for addressing these challenges. McKinsey & Company estimates AI advancements could unlock up to $1 trillion in potential value for healthcare operations. AI's ability to automate labor-intensive processes, analyze large data sets, and manage documents at scale paves the way for significant improvements in pharmaceutical research.

Approaches to AI-Powered Literature Management

AI can be integrated thoughtfully into pharmaceutical research processes to tackle many of the most common literature workflow challenges. Tools like ReadCube, for example, offer AI-powered features that support literature management and enhance the efficiency of research workflows. These approaches provide researchers with resources to manage information more efficiently.

Selected Capabilities

- **Centralized Reference Library:** Scientific literature can be brought into a single, searchable space, simplifying organization and retrieval. Integration with extensive databases helps facilitate access to a broader range of documents and insights.
- **AI-Supported Review:** AI functionalities can assist in identifying patterns, summarizing findings, and connecting information across studies. Users can interact with documents to clarify complex concepts and gain a deeper understanding of the research landscape.
- **Automated Content Alerts:** Literature monitoring and alerts help teams stay informed as new research emerges, supporting ongoing awareness in rapidly evolving fields.
- **Workflow Support:** Tools for annotating documents, managing evidence protocols, and building consistency in regulatory documentation support teams as they align their research processes.

Key Benefits of AI in Research

1. **Accelerated Literature Discovery:** AI solutions can scan and summarize vast amounts of scientific literature in moments, saving hours of manual effort. Tools using natural language processing (NLP) also help refine searches, ensuring researchers surface relevant studies they might otherwise miss.
2. **Streamlined Data Management:** Centralized platforms enabled by AI consolidate data and workflows, allowing researchers to organize, annotate, and share insights without switching between numerous applications. Dashboards simplify data visualization, so teams can focus on actionable insights rather than combing through dense reports.
3. **Improved Compliance and Accuracy:** AI supports regulatory compliance by automating citation generation and document tagging, helping to reduce errors and maintain information integrity. Sophisticated algorithms can also trace data provenance, ensuring the quality and ethical use of research sources.

Building Transparency and Collaboration

By supporting human oversight, AI-driven approaches can enhance researchers' decision-making while maintaining transparency in the use of AI. These systems are designed to supplement expertise, allowing users to extract greater value from their existing workflows without replacing the core knowledge brought by scientific teams.

Driving Progress With AI

Across the industry, artificial intelligence is accelerating progress in drug discovery, regulatory compliance, and day-to-day research operations. AI reduces time spent on routine or repetitive tasks and helps teams focus on high-impact work. Examples such as the rapid development of the Moderna COVID-19 vaccine highlight the transformative potential of AI in pharmaceutical research.

By effectively incorporating AI tools into their operations, pharmaceutical companies can improve efficiency and adapt to an ever-growing body of scientific knowledge.

Discover How AI Can Revolutionize Research

For a deeper exploration of how AI is shaping pharmaceutical research and practical strategies for implementation, read the full white paper, *How AI Can Drive Smarter, Faster Pharmaceutical Research Workflows*.

READ THE FULL WHITE PAPER NOW

University Spinouts: Antidote to Merck and AstraZeneca Gloom?

When Merck and AstraZeneca announced their retreat from UK investment, pundits claimed UK life science is in crisis. Then came good news: a £150bn US investment from Google, Microsoft and Blackstone during the President's state visit, seen as a counterweight to pharma challenges.

As leader of UCL's technology transfer company, taking the university's most promising medical research and deep-tech inventions from lab to market, I don't see these as contrasting storylines.

Instead, I see AI and life sciences converging and I'm optimistic about what it means for healthcare and the economy.

It's been argued that AI in healthcare is overhyped, that we're years from meaningful breakthroughs. But in the vibrant spaces where universities, hospitals and investors collaborate, we're seeing that the AI revolution in life sciences is already here. Inside universities, previously unrelated specialisms are collaborating to harness this power.

AI is morphing traditional life science disciplines into new specialisms in data-driven diagnostics, predictive prognostics and healthcare planning.

Companies that didn't exist five years ago are developing treatments using computational biology impossible under traditional pharmaceutical models. What's changed dramatically is how quickly we move from discovery to viable business, accelerating outcomes for patients and growth.

Mycardium, founded by Professor Moon of UCL's Institute of Cardiovascular Science, uses AI to interpret heart scans, spotting cardiac issues long before they're obvious to the human eye. Now headquartered in Liverpool, Mycardium is bringing jobs and growth to the city.

Odin Vision uses AI to diagnose potential cancerous lesions earlier, quicker and more accurately. Trained on large datasets of patient scans, it assists clinicians in real-time during endoscopy procedures, highlighting abnormalities that might lead to bowel cancer.

UCL's approach, where some staff are both clinicians and academics in partner hospitals, including UCLH, Moorfields, Great Ormond Street and the Royal Free, enables it to push boundaries in understanding mechanisms underlying the planet's biggest health challenges: cancers, neurological disorders and inherited diseases.
This is a development pipeline that would impress even 'big pharma' companies.

I've seen this before. Twenty-nine years ago at Harvard, I worked in the foothills of the gene-therapy revolution.

That boom was driven by brilliant academics willing to step away from labs and take breakthroughs to market. I returned to the UK to bring this enterprising spirit to our world-leading universities.

My job is to bridge the gap from discovery to market. Our teams help academics realise research potential: protecting ideas, honing entrepreneurial skills, launching spinouts, licensing IP, testing markets and connecting to investors.

This specialist support, offered by UK research universities, creates a thriving ecosystem delivering life-saving treatments and innovation-led growth.

When Trace Neuroscience recently secured $101m to trial a potential breakthrough for motor neurone

disease treatment designed at UCL using AI-powered drug discovery platforms, it wasn't despite the UK's commercial environment, it was because of our unique ecosystem.

The Government repeatedly cites university spinouts as key to creating economic growth. That's a welcome recognition of a flourishing sector; recent reports found spinouts secured £2.60bn in equity investment, even as wider high-growth company investment declined 19%.

My colleagues in other universities' 'technology transfer' operations agree this buzz is felt UK-wide. University-born companies create nationwide ripples of jobs and wealth.

With more capital access to test ideas and scale up, these spinouts can grow, create jobs and deliver impact.

Let's not juxtapose AI investment and big pharma divestment. Let's be excited about the next generation of UK life sciences spinout companies.

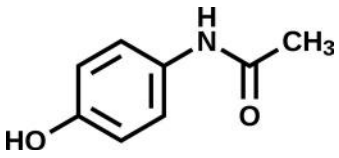
The new Business Secretary wants to see the UK's first trillion-dollar company. By bringing together cutting-edge technology and drug development, that ambition could be realised sooner than we think.

Dr. Anne Lane, CEO UCL Business
www.uclb.com

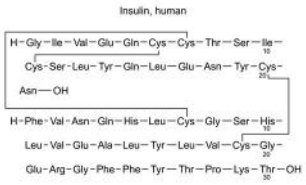
Small Molecule Drug Discovery & Development

A Synthetic Organic Chemist's Perspective on the Impact of AI

Paracetamol and **Insulin** are the two commonly known drugs —representing two distinct categories of medicines. Paracetamol is classified as a **small molecule drug**, whereas Insulin is a **large molecule (biologic) drug**. The difference primarily lies in their molecular size and the way they are produced.



Large molecule drugs have gained significant attention in recent years. Their popularity stems from advances in genomics and a better understanding of targeted therapies. However, about **90% of drugs currently on the market are still small molecule drugs**, derived from chemical synthesis.



As a **Synthetic Organic Chemist**, I have spent many years in small molecule drug discovery and development and have witnessed first-hand how technology continues to transform this field. The journey of a typical drug—from concept to commercialisation—is notoriously long and expensive, often taking **12–15 years** and costing **up to $3 billion USD**. This mostly linear process involves an extensive network of professionals, including chemists, biologists, pharmacologists, toxicologists, clinicians, regulatory experts, and marketers.

The Traditional Drug Discovery Journey

Each stage requires strict safety, efficacy, and scalability standards. Many compounds fail due to toxicity, instability, low efficacy, or manufacturing issues, which incurs high costs and disappoints scientists who devote years to these programmes.

Technological advancements have steadily improved the process. In early stages, especially **hit identification** and **hit-to-lead development**, drug discovery has shifted from manual experimentation to **high-throughput screening (HTS)**. Tasks once requiring labour-intensive column packing and single-sample analysis are now automated, with pre-packed columns and systems capable of processing hundreds of samples simultaneously.

The Impact of AI on Drug Discovery

In recent years, **artificial intelligence (AI), machine learning (ML)**, and **generative AI (GenAI)** have begun to revolutionise drug discovery. By leveraging large datasets and powerful predictive algorithms, AI significantly reduces the time, cost, and human resources needed to develop new drugs.

AI models can analyse complex biological and chemical data to predict **target properties, compound structures**, and **structure–activity relationships (QSAR/QSPR)**. For chemists, one of the most valuable contributions of AI lies in retrosynthetic analysis—predicting how a desired compound can be synthesized efficiently using commercially available and cost-effective starting materials.

Large pharma, with greater resources, are already running AI-driven research programmes that enable parallel progress across multiple stages. Smaller biotechs are adopting these technologies to avoid being left behind.

In the past, medicinal chemists often proposed promising theoretical compounds based on computational modelling, only to find them impractical to synthesize in the lab. AI now bridges this gap by suggesting **synthetically feasible molecules**, allowing faster transitions from **hit identification** to **lead optimization**.

AI, however, is not a replacement for chemists. Instead, it acts as a **powerful collaborator**. Chemists bring essential intuition, creativity, and contextual understanding that machines lack. The role of the modern chemist is evolving—requiring new skills in **data interpretation, model evaluation**, and **collaboration with data scientists** who may come from non-chemical backgrounds.

AI enhances precision and efficiency but still depends on human insight for validation, innovation, and ethical decision-making.

The Impact of AI on Laboratory Infrastructure
Over the past decade, my focus has shifted toward **laboratory design and delivery**, where I have observed how AI, automation, and robotics are reshaping the physical research environment.

In the past, laboratories were often designed around single disciplines. Today's research increasingly requires **interdisciplinary collaboration**, integrating **computational (dry)** and **experimental (wet)** spaces. Future laboratories will need to support fluid interaction among chemists, biologists, data scientists, and automation engineers.

AI-driven workflows demand new spatial configurations:

- **Hybrid labs** combining wet and dry areas.
- **Collaborative zones** for data review and brainstorming.
- **Smart, connected environments** with real-time data capture and sharing.

These changes will also influence the building services that support laboratories—**power, water, ventilation, gas supply, and waste management**. For example, automation may reduce the need for large numbers of fume cupboards and intensive ventilation systems, thereby **lowering energy consumption** and **simplifying planning requirements**.

While AI and robotics may reduce the scale of some physical operations, the need for **hands-on experimental validation** remains critical. Drug candidates must still undergo selective, synthesis, **toxicity testing** and **ADME studies** (absorption, distribution, metabolism, and elimination). Likewise, **scale-up processes** for pilot and commercial production will continue to rely on physical facilities, though these will become more **efficient, automated, and environmentally sustainable**.

Conclusion
Artificial intelligence is transforming all aspects of? small molecule drug discovery—from concept to chemistry to infrastructure. It enables faster design, smarter synthesis, and more collaborative science. Yet, it also reinforces the enduring value of human expertise, creativity, and adaptability.

As a synthetic organic chemist, I view AI not as a replacement but as an **accelerator of discovery**, helping us design better drugs, faster, and with greater precision. The future of drug development will belong to teams that combine **scientific intuition** with **technological innovation**, building a more efficient and connected research ecosystem for the medicines of tomorrow.

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How AI Can Reshape the Pharma R&D Funnel

Is this the end of the R&D lottery?

The conversation about Artificial Intelligence (AI) in Life Sciences is often focused on how fast we can find a new molecule, rather than how reliably we can bring one to patients. With over 90% of drugs that enter clinical trials failing to reach the market, the cost of bringing a single successful treatment to patients is massively inflated by the high chance of late-stage attrition. This catastrophic loss has crippled the R&D business model for decades. The true revolutionary impact of AI in life sciences, therefore, is not just acceleration, but the intelligence it provides to fundamentally change our relationship with risk, failure and opportunity.

How does the Psychology of Risk influence the R&D Funnel?

The traditional R&D process is a high-stakes, 20-year lottery. We continually pour money into the top of the funnel, knowing that if a promising candidate fails in Phase I due to toxicity, the entire multi-million-pound investment is simply written off. This “write-off” mentality is the root of the problem. It treats failure as a total loss, ensuring that critical data is buried and the financial risk is unmanaged until it becomes irreversible. For ambitious SMEs and the venture capitalists who back them, this extreme volatility is the greatest impediment to sustainable growth and innovation. The industry desperately needs to move from a gambling model to a precision engineering model.

Using AI to Pivot from Failure to Redemption

The most powerful, least-discussed application of AI is its ability to turn the industry’s greatest financial liability - the failed drug - into its greatest asset. A strategic pivot is now emerging, with forward-thinking companies using AI to focus on the redemption of failure. They recognise that a scientific failure is an undeciphered dataset, rather than a dead end. By applying advanced deep learning to the “dark data” of toxicity reports, preclinical findings and multi-omics data, AI acts as a “precision diagnostic engine”, capable of finding the signal in the noise.

Consider the difference: a human pathologist can tell you a compound caused liver toxicity. An AI, however, can integrate multi-modal data from the failed trial to build a high-resolution in silico model. This allows it to pinpoint the exact molecular mechanism of failure, the specific off-target binding event or pathway activation that triggered the adverse event.

This transforms a program-killing problem (“toxic”) into a solvable engineering challenge (“binds to Target Y, which can be blocked by modifying structure Z”).
This capability immediately re-engineers a sunk cost into a de-risked asset. By providing the blueprint for molecular repair, the drug can be strategically redesigned and fast-tracked back into the pipeline, bypassing years of initial discovery and validation.

How can we re-engineer R&D for Stability and Value?

The future of AI in Life Sciences R&D will be defined by its ability to create a more stable, intelligent, and profitable pipeline. In this new model, failure data is never wasted. It becomes the essential currency that continuously trains and sharpens the AI models, creating a powerful feedback loop that makes the entire R&D system smarter with every experiment, successful or otherwise. This approach also promises to build stronger cases for regulatory bodies, as a deeper mechanistic understanding can proactively address safety, efficacy, and patient stratification concerns.

By focusing on the intelligent resolution of attrition, AI is finally plugging the catastrophic leak in the R&D funnel. The economic imperative for the next decade is a stable, de-risked R&D model where every pound invested contributes to a more reliable path to patient treatments. Groundbreaking science must no longer be hostage to luck, and AI ensures that more ideas translate into life-saving medicines, more efficiently than ever before.

https://www.ignotalabs.ai/

Layla Hosseini-Gerami
Co-Founder and Chief Data Science Officer at Ignota Labs

Ignota Labs

Life Sciences Embrace the Unified Patent Court: Strategy, Speed, and Opportunity

The European patent system has undergone a major transformation with the launch of the Unified Patent Court (UPC) and Unitary Patent (UP) just over two years ago. These offer a single court and a single granted patent for conducting patent litigation across participating EU countries (currently 18). Before launch, the life sciences industry was expected to be cautious about the new system – why risk putting valuable IP rights in the hands of an unknown and untested court? Why allow competitors to have a simple way to attack your IP across an enormous market? For an initial period it is possible to opt-out conventional European patents from the court's jurisdiction, and around half a million patents were opted out even before the court opened.

This is changing. The court has established itself as a reliable forum for disputes, developing case law and building on the settled approaches of the EPO. Life sciences companies are turning to the UPC and UP with more confidence. As life sciences innovations are often covered by multiple patents, with geographically widespread coverage, the idea of avoiding the traditional fragmented system – or at least, using this as one option in your arsenal – has to be appealing.

Key life sciences players are using the UPC: for example Amgen and Sanofi have been in dispute over PCSK9 antibodies, while Edwards and Meril have clashed over heart valve technologies. Multijurisdictional disputes around mRNA vaccines involving BioNTech, Pfizer, and GSK are ongoing with a significant UPC element. This is clear evidence of confidence in the system.

Published statistics show around a quarter of all infringement cases filed to date are concerned with patents in the fields of medicines, life sciences, or speciality chemicals. The first UPC case relating to a supplementary protection certificate (SPC) has recently been filed. Take up of the UP shows increasing numbers of grants in the medical and life sciences fields. Over half of all UPC cases are conducted in English, and many UK patent attorneys have the right to act before the court. With these options now on the table, strategic decisions around opting in or out, portfolio segmentation and management, and litigation planning become increasingly complex and critical. This article offers a few key considerations to help with patent strategy.

Monitor competitor activity

All life science companies should, of course, routinely monitor both IP activity and general commercial developments. If there are specific patents of concern, their opt-out status should be part of this monitoring. There are several examples of patentees withdrawing an opt-out and then almost immediately (or even on the same day!) launching an action in the UPC. If a patent is opted back in to the UPC system, this is a signal of forthcoming proceedings.

The UPC can grant preliminary injunctions to cease a potential infringement prior to full trial taking place if there is a likelihood of imminent infringement. One way to show likelihood is by competitors taking steps to prepare to place a generic drug on the market. The risk of price erosion from generic competitors is one consideration of the court when deciding whether to grant a preliminary injunction.

Act quickly

Any unnecessary delay in seeking a preliminary injunction can cause the case to fail. Be prepared to file as soon as possible after becoming aware of an infringement – the precise period depends on the facts of the case, but within two months appears to be common. Similarly, when monitoring competitor patents, be ready to attack any of concern if necessary. (This author was once noted in a popular patent blog as having filed a revocation action at the UPC minutes after midnight on the day of patent grant).

"Act quickly" also applies to proceedings at the UPC overall. The stated intention is to resolve first instance cases within 12-14 months of filing. In consequence timelines are tight, and extensions of time are relatively rare. If you intend to bring proceedings, be sure you have the necessary legal and scientific teams assembled before pressing go. If you are a defendant, the importance of beginning work on a defence as soon as possible cannot be overstated, particularly if there is a need to carry out experiments as part of this.

Be proactive

If you are at risk of an infringement action, two key steps could help. One is obviously to file a revocation action first – this puts the timing of the action and associated preparations within your control, putting the patentee on the defensive. The other is to file a "protective letter"

to reduce the risk of a preliminary injunction being granted without a hearing. The protective letter is essentially a pre-emptive defence to infringement (or an attack on validity), and the aim is to persuade the court that no injunction should be granted without first hearing the parties. This allows you to present your case to the court. Caution should be taken though, as weak protective letters have been dismissed by the court, and preliminary injunctions granted without hearing the defendant.

Use the long arm of the law

The jurisdiction of the UPC does not necessarily stop at the borders of the UPC member states. Under certain circumstances the court can rule on infringement of European patents in non-UPC member states (including non-EU countries such as the UK). The court can consider a defence of invalidity, although it cannot formally invalidate non-UPC patents. Using this long reach effectively can avoid the need to bring multiple separate actions in other territories – although it cannot prevent other invalidation actions being brought, and sometimes it may be strategically useful to file separate infringement actions.

Use a mixed strategy

The UPC absolutely should not be treated in isolation. Consider opting out or opting in strategically – perhaps retain core patents opted out for now, but bring a UPC action for a less critical patent. When attacking patents, consider overall cost implications; although UPC proceedings may be less expensive than some national litigations, they can still be costly. Consider whether revocation at a national patent office may be possible, or use the UKIPO opinion service (which does not lead to revocation, but does obtain an opinion on validity or infringement). Just because you can bring an action in the UPC it doesn't necessarily mean you should.

UPC actions can also be combined with EPO proceedings, if a patent is still within the post-grant opposition period. EPO oppositions have the advantage of potentially revoking a patent for all 39 EPO contracting states (plus other validation or extension states), and not only the 18 UPC states. The EPO also allow "straw man" oppositions, filed in the name of a third party. This may be desirable if you wish to remain somewhat anonymous, although clearly this will be somewhat limited in effect if a UPC action is also filed. Where parallel proceedings are pending, the court and the EPO may accelerate proceedings, or the court has the option to stay the UPC proceedings if the EPO is likely to issue a decision soon. Having two pending proceedings also allows development of arguments or evidence in one forum to take into account events in the other. The existence of multiple proceedings may put additional pressure on the patentee to reach a settlement.

File Unitary Patents

The above strategies apply for "conventional" European patents which are validated nationally. You may wish to consider validating at least some of your IP portfolio as Unitary Patents. The decision does not have to be taken until the patent is granted by the EPO. The obvious disadvantage of a UP is that it is not possible to opt out of the UPC, which clearly restricts flexibility and prevents use of some of these tactics. However the major advantage of the UP is in terms of cost – validation as a UP and subsequent annual renewal fees are far cheaper than seeking 18 separate national validations and renewals. As with the advice to differentiate your portfolio by combining opted in and opted out patents, you should also consider whether selectively validating some filings as unitary patents would be advantageous, and help keep IP costs down.

Finally – avoid litigation!

Despite the foregoing discussion of the advantages of the UPC system for life sciences companies, nobody (other than lawyers) actually wants to end up in court. The best IP strategic advice remains to ensure you have freedom to operate by monitoring the IP landscape and considering ways to avoid third party patents where possible. At the same time, building a strong defensive portfolio of your own IP will deter competitors and make it harder for them to clear the way by revoking your IP. When necessary, however, do not be deterred from going on the offensive - the latest statistics suggest that perhaps up to half of all UPC cases so far have been concluded by settlement or withdrawal before final judgment is given. This is testament to the strength of the UPC system in encouraging (partially) amicable resolution.

About the author: Gareth Williams is a European Patent Attorney and UPC Representative at Marks & Clerk LLP in the UK. He has acted before the UPC in a number of disputes, as well as having an active patent prosecution practice in the life sciences field. He is always happy to discuss patent strategy.

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The Cost of Greenwashing: Why Verified Transparency Is Your Best Investment

Greenwashing isn't just bad for the planet; in today's climate-conscious economy it has become a major financial and reputational threat as regulators, consumers, and investors increase scrutiny. Misleading or exaggerated environmental claims are no longer seen as simple marketing missteps but are now treated as legal violations that can result in multimillion-dollar fines and lasting brand damage.

Transparency in sustainability efforts is increasingly critical as the consequences of greenwashing escalate. In response, organizations are turning to third-party verification to strengthen the credibility of their environmental claims. Programs like My Green Lab Certification and the ACT Ecolabel provide structured, science-based frameworks for assessing and improving sustainability performance.

What Is Greenwashing and Why Is It Risky?

Greenwashing occurs when organizations mislead consumers or stakeholders about the environmental benefits of a product, service, or organization. Whether overstating recyclability or promoting unverified emissions reductions, the goal is often to appear more sustainable than the facts support.

This undermines both scientific integrity and consumer trust. Today, the public expects measurable action, not vague green language. Regulators are treating misleading claims as serious violations with significant financial penalties and long-term credibility damage.

The Real-World Cost of Waiting

Recent enforcement cases illustrate the risks of greenwashing across industries:

- **Deutsche Bank's Investment Arm, DWS (Germany)**: Fined $27M for overstating ESG credentials, showing that even large institutions are not immune from accountability.
- **Coca-Cola (EU)**: Agreed to revise "100% recycled" and "recyclable" labels after consumer challenges, damaging trust and requiring costly rebranding.
- **Clorox (Australia)**: Fined AUD $8.25M after falsely advertising bin liners as "50% ocean plastic."

The cost of unsubstantiated or misleading environmental claims is rising, while the cost of third-party verification represents a fraction of potential penalties.

The Regulatory Landscape Is Shifting

As these examples demonstrate, governments are strengthening environmental oversight worldwide. Canada amended its Competition Act in 2024 to require substantiated claims backed by recognized methodology. France's Anti-Waste and Circular Economy Law bans vague terms like "biodegradable" and mandates product labeling. Additionally, the EU is strengthening oversight through the new Empowering Consumers for the Green Transition Directive, which prohibits non-credible sustainability labels and requires certification schemes to meet strict standards for transparency and independent monitoring.

The global trend is clear: sustainability messaging must be backed by verifiable evidence.

Reputational Risk: The Hidden Cost of Inaction

Regulatory penalties are costly, but reputational damage can be even more significant. Research published in the Asia-Pacific Journal of Business Administration shows that greenwashing erodes trust and damages corporate reputation, costs that can take years and substantial investment to rebuild.

Calculating the ROI of Sustainability

While some companies hesitate to invest in verified sustainability, the return on investment is clear. Regulatory fines can reach 4-10% of global revenue, in addition to lost trust and brand damage. Companies that invest in verification see measurable financial performance. Through My Green Lab Certification:

- **AstraZeneca** reduced energy use by 1.2M kWh, cut 900 tonnes of CO_2, and is saving over $300,000 annually.
- **University of Alabama at Birmingham** labs saved 35,000 kWh per year and cut 34,000 kg of waste, the equivalent of powering 75 U.S. homes.
- **Technical University of Berlin** lowered energy use by 35% and saved nearly €15,000 annually, delivering a 30x ROI.

These examples show that sustainability is not just good for the planet, it's a practical and profitable strategy that quickly justifies its initial investment.

Building a Culture of Verified Impact

For organizations concerned about upfront costs of sustainability programs, the real question isn't whether you can afford verification, it's whether you can afford not to. The financial and reputational risks of misleading claims far exceed the investment in credible programs.

My Green Lab Certification and the **ACT Ecolabel** provide the science and transparency regulators demand. They offer verifiable data and credentials that protect against legal challenges and differentiate organizations from competitors. Both programs are recommended by credible institutions like the U.S. Environmental Protection Agency and offer assurance to organizations while protecting against misleading claims.

The Path Forward

While financial, legal, and reputational costs of greenwashing are growing, they are avoidable. Companies that invest in credible sustainability practices are better positioned to navigate regulations, public scrutiny, and save money.

The choice is clear: invest now in verified transparency or risk paying far more down the road.

https://mygreenlab.org/

my green lab®

The Future of AI in Life Sciences R&D

By Stacey Arrambide, Senior Vice President, Clinical Development Operations, Advanced Clinical

In 2010, launching a Phase III oncology study required approximately 769 steps, 36 approvals, and took a median of 2.5 years. Since then, clinical trials have only become more complex, introducing more procedures, endpoints, and data collection requirements. The incorporation of artificial intelligence (AI) into clinical trials is the next catalyst for more streamlined clinical development.

The immediate future for AI in clinical development is one of partnership with people. Even Microsoft's AI Diagnostic Orchestrator, (claimed to be four times more accurate than physicians), only achieved such impressive results because it was tested against "raw human performance", such as physicians working without textbooks, tools, or peer input. Moreover, recognizing the potential of AI to streamline clinical development, the Duke Clinical Research Institute (DCRI) convened a multidisciplinary think tank to identify areas where AI could offer both immediate benefit and more transformative change.

A low-risk, high-impact use of generative AI in clinical development is producing customised drafts and documents. AI is rapidly generating content based on existing data, saving time on repetitive tasks while keeping experts in control through review and approval. However, AI tools that interact directly with end users, such as chatbots, introduce additional risks. While they can support sites, patients, and caregivers by answering questions, they are prone to "hallucinations," where the AI produces confident but incorrect information. This is a known limitation of large language models, with some experts suggesting it may be inherent to how they function.

Beyond accuracy, privacy is another concern. Generative AI may reproduce fragments of training data, potentially exposing identifiable patient information if datasets are not properly anonymised. While there are mitigation strategies, these risks highlight the need for caution with AI-to-user applications, especially before AI is introduced to more complex areas of clinical development.

Clearly the usage of AI needs governance and oversight to ensure safe and secure application. Even though AI might not get it right all the time, the DCRI think tank concluded that generative AI is likely to offer "acceptable accuracy and relevancy over time" if the limitations are understood. Even implementing low-risk AI applications, such as tools to automate documentation, support site queries, or streamline study training, will deliver meaningful improvements. For trial sites, which are increasingly strained by the growing number of digital platforms, logins, and administrative requirements, these small, targeted interventions could significantly reduce operational friction.

So, where are we right now? Although interest in AI is growing, adoption within clinical development remains limited. According to a recent survey of clinical development and

pharmaceutical and biotechnology companies, only 10.7% of organizations surveyed had fully implemented AI, while more than a third have yet to adopt it at all, highlighting that for many organizations, AI remains in the exploratory phase and is considered promising, but not yet embedded into core operations.

As the capabilities of AI evolve, companies that invest in governance, internal skills, and practical knowledge while keeping humans in the loop (HITL) today will be well-placed to use AI effectively and sustainably as its adoption grows. Equally, organizations that delay adoption may find themselves unprepared if employees use AI tools without awareness of the risks or compliance implications.

To ensure safe and responsible implementation in clinical development, AI strategies must be built on ethical safeguards, human oversight, and continuous monitoring. A clear understanding of both the strengths and limitations of AI is essential.

With proper oversight and understanding in place, generative AI will accelerate clinical development in ways we are only beginning to imagine, paving the way for a more effective, inclusive, and patient-centric future.

About Advanced Clinical
The clinical development journey is complex, and finding an agile, consultative partner is critical. We offer optimized solutions from early-phase research to commercialization with CRO, FSP, and Strategic Resourcing services while driving the quality and validation of therapeutics - delivering a better clinical experience.

https://www.advancedclinical.com/

Advanced Clinical

Preventing Problems Before They Happen: Pharmorphix® Solid Form Services as Part of Veranova

For over two decades, Pharmorphix® has been a cornerstone of Cambridge's life sciences community. Formed 22 years ago, the company has built a global reputation for helping drug developers understand and control the solid form properties of their active pharmaceutical ingredients (APIs). Today, Pharmorphix is proud to serve as Veranova's Centre of Excellence for Solid Form and Particle Engineering, combining its heritage of scientific excellence with the broader capabilities of a leading global CDMO.

Why Solid Form Matters

Drug development is fraught with challenges, and for biotech companies the stakes are especially high. A promising candidate can fail for reasons that have little to do with biology and everything to do with poor physical attributes of the solid form of an API: poor solubility, stability issues, variable pharmacokinetics, or the wrong choice of salt and/or polymorph. In fact, around 40% of drug failures can be traced back to poor pharmacokinetics. [1]

The solid form of an API is generally fixed by Phase IIb, and making changes late in the process often means costly bridging studies and delays. The earlier developers consider the solid form properties for a molecule, and subsequent potential to modify these via crystal and particle engineering strategies, the better positioned they are to avoid setbacks in later development. Solid form science is not just a regulatory requirement; it's an opportunity to strengthen intellectual property (IP), improve manufacturability, and accelerate progress from lab bench to clinic.

Pharmorphix: a Trusted Partner for Biotechs

Pharmorphix has long specialised in guiding emerging biotechs and established pharma developers through this complex territory. With over 2,500 customer projects and investigations into more than 1,000 compounds across a wide range of modalities, its team has developed unmatched expertise in solid form and particle engineering. This work has directly contributed to the success of more than 15% of small molecule drugs approved by the FDA since 2014.

From early-stage profiling to robust crystallisation development, Pharmorphix offers tailored services to help companies:

- Select the optimal solid form via robust salt, cocrystal and polymorph screening protocols
- Improve solubility, stability and bioavailability
- Develop processes that are scalable and reproducible
- Build a stronger IP position through comprehensive solid form characterisation

For biotechs navigating the uncertainty of early development, having access to this depth of expertise can mean the difference between advancing smoothly into the clinic and encountering expensive roadblocks.

Now Part of Veranova

As part of Veranova, Pharmorphix is not only continuing its legacy but expanding its impact. Veranova is a global contract development and manufacturing organisation with capabilities spanning complex APIs, high potency compounds, and controlled substances. Pharmorphix's integration into Veranova provides biotech innovators with seamless access to end-to-end development services, from solid form selection to large-scale manufacturing.

For Cambridge's biotech community, this means the reassurance of working with a familiar partner, now backed by the resources and reach of a global CDMO. The Pharmorphix team remains rooted in Cambridge, continuing its hands-on, collaborative approach, while leveraging Veranova's wider network to support clients at every stage of development.

Prevent Problems Before they Happen

There is no one-size-fits-all approach to solid form. Each compound presents its own challenges, and the optimal pathway must be carefully designed. But what is consistent is the value of addressing solid form science early and comprehensively. For biotech companies striving to move fast while conserving resources, that foresight can safeguard investment, accelerate timelines, and improve the chances of clinical success.

At Pharmorphix, now part of Veranova, we are committed to enabling innovators to unlock the full potential of their molecules.

Find out more about how our solid form and particle engineering expertise can help you prevent problems before they happen. Visit our website at www.veranova.com

References
1 – Manikandan, P. & Subramanian, N., Improving Solubility and Bioavailability of Poorly Water-Soluble Drugs by Solid Dispersion Technique – A Review, Int. J. Pharm. Sci. Rev. Res., 2013, 23(1), 220-227

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Be Included in One Nucleus Highlights Magazine

We're preparing the next edition of One Nucleus Highlights—our A4 printed and digital publication launching on Day 1 of BIO-Europe Spring. This issue will include select thought-leadership pieces from across our life sciences ecosystem, building on the key discussion points arising at Genesis 2025 felt to be shaping our industry.

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Prime visibility – distributed at our high-profile in-person events, showcased on our website, and amplified through a social media campaign to over 17,000 followers on our platforms.

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