

Materials enabling breakthrough battery performance



Ampcera November
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INTRODUCTION

Dear reader,

As we continue to drive innovation in clean energy, Ampcera remains committed to shaping the future of energy storage through groundbreaking solid-state battery technology.

In November, we had the privilege of participating in the Plug and Play Silicon Valley Summit, where we showcased our advancements in solid-state electrolytes. Abhishek Kumar discussed the pressing challenges of the lithium-ion battery industry and Ampcera's comprehensive solutions, including our full-stack business model that leverages our proprietary electrolyte technology.

Read on to discover how Ampcera is addressing global supply chain gaps, advancing battery performance, and accelerating the commercialization of next-generation energy solutions.

Best regards,

BUSINESS DEVELOPMENT UPDATES

Participation at Plug and Play Tech Center Silicon Valley Summit, November 2024

Sunnyvale, CA

Ampcera is pleased to share highlights from the Plug and Play Tech Center Silicon Valley Summit, an event that convened over 3,500 innovation leaders to showcase the latest advancements in clean energy, mobility, AI, and sustainability.

At the summit, Ampcera proudly presented its cutting-edge solid-state battery technology. Designed to deliver faster charging speeds and extended battery life, this breakthrough innovation is set to redefine the future of energy storage solutions.

The event also provided a valuable platform to engage with industry leaders, investors, and forward-thinking startups. These meaningful interactions and collaborations underscore the importance of collective efforts in driving progress within clean energy and technological innovation.



[Learn more ↗](#)

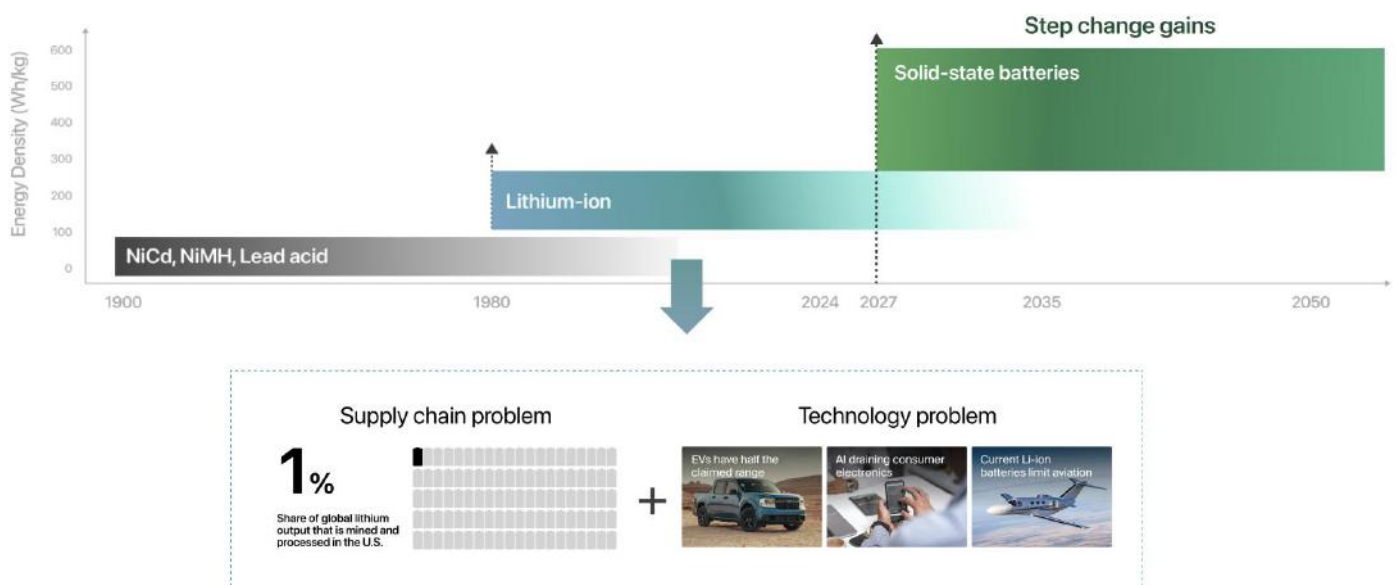
Participation at Plug and Play Tech Center Silicon Valley Summit, November 2024

Abhishek's discussion at the Plug and Play Silicon Valley Summit.

The rechargeable battery, a pinnacle invention in modern history, has significantly improved lives worldwide. Originating in the early 1900s, NiCd, Ni-metal-hydride, and lead-acid batteries proved exceptionally durable and we continue to see their use. Then came the era of lithium-ion batteries, which have surged in recent decades due to their outstanding performance. Their adoption in electric vehicles, consumer electronics, and grid energy storage has driven rapid growth. **The lithium-ion battery is poised to be one of the most crucial technologies of our century. However, two major problems confront us.**

Firstly, China's near-monopoly in the entire value chain leaves America lagging in developing a domestic battery industry, echoing past experiences in steel, solar, and other sectors. **In 2024, a second problem with Lithium-ion batteries has surfaced: Electric vehicles are delivering only half of their claimed range in real-world scenarios, including acceleration, braking, towing, and driving in adverse conditions like snow.** Next, more demanding tasks like video streaming and playing AI-based games are draining batteries in less than four hours. Furthermore, critical markets like aviation need decarbonization, and the current battery technology falls short of enabling a "bare minimum product" for such applications.

Solid-state batteries are the solution and an almost sure bet. This is a very key technological development in the EV industry as it would enable safer automotives (liquid electrolytes tend to be more flammable), higher capacity and faster charging (solid electrolytes can hold more energy and also facilitate faster movement of electrons), and greater durability and lifespan (solid electrolytes can operate in a wider range of temperatures and are more resilient). Ampcera's mission is to accelerate the advent of solid-state batteries by rapidly introducing high-performance solid electrolytes to the market.



America's lithium supply chain crisis and the limitations of current batteries create a prime opportunity for solid-state energy storage innovation

Participation at Plug and Play Tech Center Silicon Valley Summit, November 2024

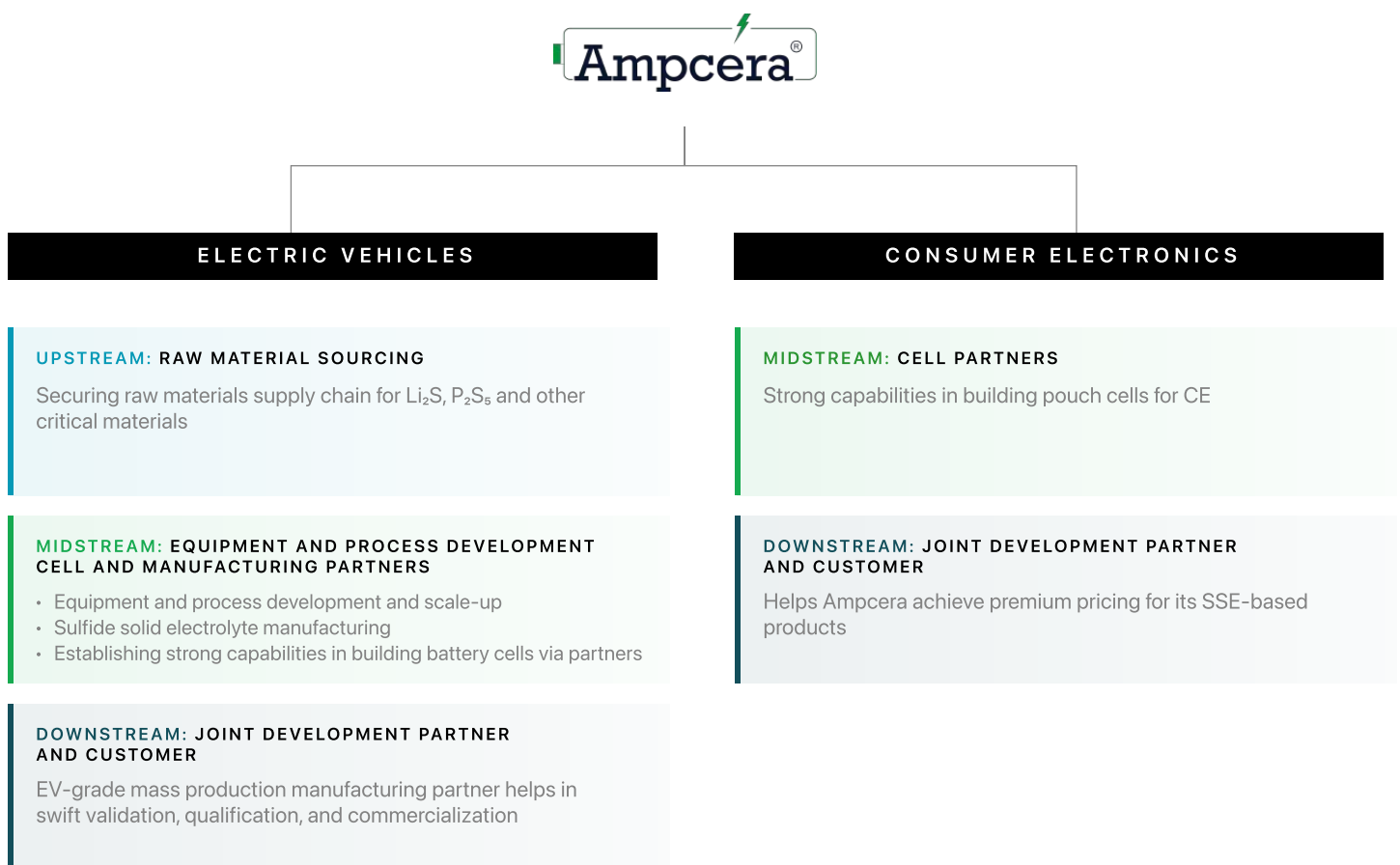
Abhishek's discussion at the Plug and Play Silicon Valley Summit.

Ampcera meets the criteria for long-term partnerships with EV and cell OEMs, delivering significant value to its stakeholders by building a full-stack cell solution that integrates Ampcera's solid electrolyte technology. The company has established strategic partnerships across the upstream, midstream, and downstream areas of the SSB value chain to bring its innovations to the commercial market.

Building a full-stack solution offers three key advantages for Ampcera:

1. The ability to scale up development with a clear understanding of mass-production requirements and limitations.
2. Leveraging economies of scale and gaining EV-grade manufacturing expertise through the learning curve.
3. Providing validation and assurance to battery gigafactories and EV OEMs, encouraging the adoption of solid electrolytes.

The criteria for long-term partnerships with EV and cell OEMs are presented in the Annexure.



ANNEXURE

Criteria for long-term partnership with EV/Cell OEMs

Ampcera oversees technical and techno-commercial Criteria #1 and #2, while commercial and business Criteria #3-7 is jointly being pursued by Ampcera and its strategic JDA partners.

S.NO.	CRITERIA	CELL SAMPLE STAGE	DESCRIPTION
1	Cell technology and design know how	Pre-A sample, A sample	Innovativeness and technical performance of current and future SSE offerings
2	Fulfilment of technical requirements	A sample, B sample	<ul style="list-style-type: none"> Meeting technical specifications and desired time-to-market agreements Industrialization competence and knowledge of sourcing/quality standards
3	Delivery reliability and capacity	C sample, D sample	Access to secured capacity with flexible adjustments and the capability to supply specified volumes at designated times with consistent, high-quality output
4	Secured raw material supply	C sample, D sample	<ul style="list-style-type: none"> Ensuring a resilient supply chain against shortages or price spikes. Maintaining a transparent sub-supplier structure for responsible and sustainable sourcing.
5	Cost competitiveness	C sample, D sample	Efficient, optimal-cost development and production achieved through scale and streamlined processes
6	Production presence in EV production regions	C sample, D sample	Global footprint / extend of geographical coverage of major sales regions with OEM production proximity
7	Collaboration mode and differentiating services	B sample, C sample, D sample	Willingness to share knowledge and IP with joint efforts to enhance competitiveness and cost structures or fostering differentiating services, e.g., ecosystem offering

AMPCERA'S CORPORATE VIDEO

Ampcera | Powering towards a sustainable future



Empowering lives with material solutions
for next-generation energy storage



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