SolidStateBattery

Weekly Intelligence Report

2026-09-13 ¦ 18 articles ¦ 5 countries

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This Week's Keyword

China SSB Dominance

Rapid commercialization & standardization efforts

18	5	381	10-15
articles	countries	Wh/kg	%
Total Articles Analyzed	Source Countries/Regions	ProLogium SSB Density	Dongfeng Fab Retrofit

All 18 Articles This Week — 5-Axis Evaluation Matrix

How to read columns — Tech Novelty: degree of breakthrough Market Proximity: closeness to commercialization Market Impact: industry-wide effect Data Reliability: quantitative data & peer review US/EU Relevance: direct impact on US/European companies & supply chains

#	Article Title	Type	Tech Novelty	Market Proximity	Market Impact	Data Reliability	US/EU Relevance	Summary
#01	China SSB Progress	Corporate Strategy	●●●○	●●●●	●●●●	●●●○	●●●●	Chinese firms Xinyuren & Easpring scale SSB materials; Dongfeng plans 350 Wh/kg hybrid EV launch Q4 2026.
#02	China 15th FYP SSB Plan	Policy	●●○○	●●●●	●●●●	●●●●	●●●●	China integrates automotive all-solid-state batteries into 15th Five-Year Plan, accelerating standardization.
#03	Semi-Solid Hybrid Dominance	Market Analysis	○○○○	●●●●	●●●○	●●●○	●●●●	Industry analysis confirms semi-solid hybrid batteries dominate EV 'solid-state' market in 2026; true SSB by late 2020s.
#04	Panasonic 150 ° C SSB	New Product	●●●●	●●●●	●●●○	●●●●	●●●●	Panasonic Energy to sample ship 150 ° C-resistant small all-solid-state batteries by late 2026 for non-EV uses.
#05	SSB Validation Phase	Market Overview	●●○○	●●●○	●●●●	●●●○	●●●●	SSB development shifts to 'validation phase'; Japan, China, Korea accelerate supply chain for EVs and high-value applications.
#06	Japan SSB Leadership	Market Overview	●●○○	●●●●	●●○○	●●●○	●●●○	Japan leads SSB development with solid electrolyte tech enabling miniaturization, high capacity, and long lifespan.
#07	NEDO Sodium-Ion Battery	Research Project	●●●○	○○○○	●●●●	●●●○	●●●○	NEDO project targets mid-2030s commercialization of next-gen sodium-ion batteries for grid storage, emphasizing longevity.
#08	ProLogium Mass Production	New Product	●●●●	●●●●	●●●●	●●●●	●●●●	Taiwan's ProLogium begins mass production of high-energy-density 'Gen 3.5 Lithium Ceramic Batteries' (381Wh/kg) for EVs.
#09	ETCRAM AI Hardware	Academic Breakthrough	●●●●	○○○○	●●●●	●●●●	●●●●	Novel ETCRAM device integrates synapse/neuron functions, demonstrating over 1,000 TOPS/W for AI hardware.
#10	Chery SSB Validation	Corporate Strategy	●●●○	●●●○	●●●●	●●●○	●●●●	China's Chery Automobile invests $1.5B to commence SSB validation in 2026, targeting over 400 Wh/kg energy density.
#11	Geely Ultra-Fast Charger	Corporate Strategy	●●●○	●●●●	●●●●	●●○○	●●●●	Geely developing 1800kW ultra-fast charger for 5-minute EV recharging; SSB 'months away from reality' in China.
#12	Nissan SSB Pilot Line	Corporate Strategy	●●○○	●●●○	●●●●	●●●●	●●●●	Nissan Motor Co. unveils all-solid-state battery pilot production line, reaffirming target for practical implementation by FY2028.

#	Article Title	Type	Tech Novelty	Market Proximity	Market Impact	Data Reliability	US/EU Relevance	Summary
#13	China IEC SSB Standard	Policy	●●○○○	●●●●●	●●●●●	●●●●●	●●●●●	China leads IEC standardization of EV all-solid-state batteries, defining 'true solid-state' by <0.5% volatile mass loss.
#14	JETRO Energy Outlook	Market Report	○○○○○	○○○○○	●●○○○	●●●○○	●●●○○	JETRO report forecasts fuel cell & battery market outlook, highlighting hydrogen networks and SSBs for decarbonization.
#15	Maxell Robot SSB	New Product	●●●●○	●●●○○	●●●○○	●●●○○	●●●○○	Maxell aims for 'Global No.1' in high-reliability small batteries with high-temp, long-life SSBs for robots.
#16	Idemitsu Sulfide IP	Corporate Strategy	●●●○○	●●○○○	●●●○○	●●●○○	●●●●○	Idemitsu Kosan strengthens IP in sulfide-based solid electrolytes, driving EV SSB commercialization via NEDO project.
#17	Dongfeng Hybrid SSB	New Product	●●●●○	●●●●●	●●●●●	●●●●○	●●●●●	Dongfeng Motors to unveil 350 Wh/kg hybrid solid-liquid battery in October, mass production for 1,000km+ EVs starting Q4.
#18	Kyushu Invests ProLogium	Corporate Strategy	●●○○○	●●●●●	●●●○○	●●●●○	●●●●○	Kyushu Electric Power deepens collaboration in next-gen battery sector through strategic investment in ProLogium.

●●●●○ High ●●●○○ Med-High ●●○○○ Med ●○○○○ Low ¦ Yellow highlight = featured article

Three Questions That Demand Your Decision This Week

❶ Is your EV battery roadmap competitive with China's rapid SSB deployment?

Chinese OEMs like Dongfeng are launching 350 Wh/kg hybrid SSBs for mass production by Q4 2026, promising 1,000km+ range and -30 ° C performance. This aggressive timeline and performance benchmark directly challenge US/EU EV platforms. Are your next-gen battery strategies keeping pace?

❷ How will China's new IEC solid-state battery standard impact your R&D; and supply chain?

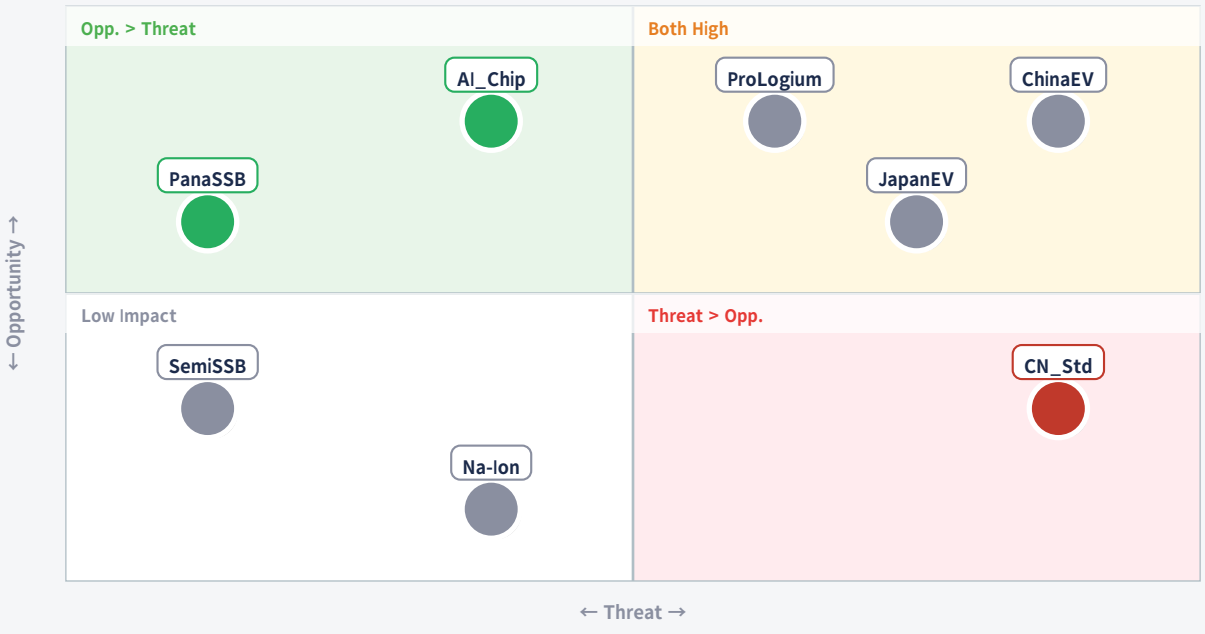
China has led the approval of an IEC standard defining 'true solid-state' batteries by a stringent <0.5% volatile mass loss at 120 ° C. This sets a global benchmark and could force US/EU manufacturers to re-evaluate current 'semi-solid' approaches and adjust R&D; priorities to meet these new definitions.

❸ Are you investing in neuromorphic computing to avoid AI hardware obsolescence?

A novel ETCRAM device integrating synapse and neuron functions demonstrated over 1,000 TOPS/W for AI matrix-vector multiplication. This academic breakthrough, though early-stage, signals a potential paradigm shift in AI hardware efficiency. Are your long-term AI strategy and R&D; teams tracking this fundamental innovation?

Opportunities vs. Threats for US/European Companies

Opportunity vs. Threat Matrix for US/European Companies



Item	Quadrant	↑ Opportunity	↓ Threat
ChinaEV	Critical	Partner, Compete	Market share loss
CN_Std	Threat	Influence stds	Compliance burden
ProLogium	Critical	Partner, Procure	Direct competition
PanaSSB	Opp.	Niche markets	Missed segments
AI_Chip	Opp.	Future AI HW	Tech obsolescence
JapanEV	Critical	Tech licensing	Lagging market
SemiSSB	Ref.	Pragmatic path	Misaligned R&D;

Na-ion	Ref.	Grid storage	—

Deep Dive ① — ProLogium's Mass Production of High-Density LCBs

#08 ¦ 2026/09/08 ¦ 電波新聞デジタル ¦ Tech Novelty●●●●○ Proximity●●●●● Market Impact●●●●● Data Reliability●●●●● US/EU Relevance●●●●●

Taiwanese manufacturer ProLogium has commenced mass production of its 'Gen 3.5 Lithium Ceramic Batteries' (LCB) for EVs, achieving a cell-level energy density of 381 Wh/kg and 903 Wh/L, verified by TÜV Rheinland. This marks a significant milestone for high-energy-density SSB commercialization.

The company, backed by Mercedes-Benz, is also constructing a gigafactory in Dunkirk, France, signaling aggressive global expansion and direct competition for US/EU OEMs and battery suppliers in the EV market. Ceramic materials enhance safety and thermal stability.

▶ Strategic Analyst's Perspective

Strategic Analyst's Perspective: ProLogium's verified 381 Wh/kg and mass production in Taiwan, with a French gigafactory underway, are highly realistic and represent a critical competitive threat. The technical barrier of scaling ceramic electrolyte production appears to be overcome. [Opportunity] for US/EU OEMs to partner with ProLogium for advanced battery supply, or for materials suppliers to integrate into their supply chain. [Threat] for US/EU battery manufacturers and OEMs who are lagging in SSB commercialization, risking market share loss to Asian competitors with established production. Next actions: [Procurement] Evaluate ProLogium's LCB samples immediately. [Strategy] Assess competitive landscape and potential partnerships by end of quarter. [R&D;] Benchmark ProLogium's technology against internal roadmaps.

Deep Dive ② — Dongfeng's 350 Wh/kg Hybrid SSB for Q4 EV Launch

#17 ¦ 2026/09/09 ¦ Cailian (via carnewschina.com) ¦ Tech Novelty●●●●○ Proximity●●●●● Market Impact●●●●● Data Reliability●●●●○ US/EU Relevance●●●●●

Chinese automaker Dongfeng Motors will launch its 350 Wh/kg hybrid solid-liquid battery in October, with mass production for 1,000km+ EVs starting Q4 2026. This battery boasts over 72% energy retention at -30°C, addressing a key EV challenge in cold climates.

Crucially, production requires only a 10-15% facility retrofit of existing gigafactories, offering a significant advantage in scalability and cost-efficiency. This pragmatic approach positions Dongfeng to lead the next-gen EV market ahead of rivals.

▶ Strategic Analyst's Perspective

Strategic Analyst's Perspective: Dongfeng's claims of 350 Wh/kg and 72% retention at -30°C for a hybrid SSB, coupled with Q4 2026 mass production, appear highly realistic given the rapid advancements in China. The low retrofit cost (10-15%) is a significant process innovation, enabling rapid scaling. Technical barriers for full solid-state remain, but this hybrid solution offers immediate market impact. [Opportunity] for US/EU OEMs to learn from this hybrid approach for faster market entry and for materials suppliers to adapt to hybrid SSB requirements. [Threat] for US/EU OEMs who may be outpaced in range and cold-weather performance, and for battery manufacturers facing a new, cost-effective production model. Next actions: [R&D;] Analyze Dongfeng's hybrid battery architecture and low-temperature performance data. [Manufacturing] Evaluate the feasibility of 10-15% gigafactory retrofits for existing lines. [Strategy] Assess competitive implications for US/EU EV market share by month-end.

Deep Dive ③ — ETCRAM Device: AI Hardware Breakthrough

#09 ¦ 2026/09/10 ¦ XenoSpectrum ¦ Tech Novelty●●●●● Proximity●○○○○ Market Impact●●●●● Data Reliability●●●●● US/EU Relevance●●●●●

A novel ETCRAM (Electrochemical Transistor based on Resistive Switching and Active Memory) device integrates synapse and neuron functions into a single element, demonstrating over 1,000 TOPS/W for matrix-vector multiplication in AI hardware.

Utilizing VOx and a solid electrolyte, it achieved a 9-digit conductivity adjustment range and over 3,000 programmable states. This academic breakthrough promises ultra-efficient neuromorphic AI hardware, potentially overcoming the von Neumann bottleneck.

▶ Strategic Analyst's Perspective

Strategic Analyst's Perspective: The reported >1,000 TOPS/W for MVM is an academic breakthrough with profound implications, and the numbers, while from a preprint, are plausible for lab conditions. However, proximity to market is very low; significant technical barriers remain in manufacturing robustness, scalability, and integration into practical systems. [Opportunity] for US/EU technology licensors and IP holders to acquire or partner for this foundational AI hardware IP. For OEMs & device manufacturers, this represents a long-term opportunity to develop next-generation AI platforms. [Threat] for current AI chip manufacturers if they fail to invest in or adapt to neuromorphic computing paradigms, risking future obsolescence. Next actions: [R&D;] Establish a dedicated task force to monitor neuromorphic computing advancements. [Strategy] Begin scenario planning for AI hardware beyond current architectures. [Legal/IP] Identify key patents and research groups in this domain for potential collaboration or acquisition by year-end.

Other Notable Articles

China Integrates All-Solid-State Batteries into 15th Five-Year Plan Standardization System (Shanghai Metals Market (SMM))
Tech Novelty●●○○○ Proximity●●●●● Market Impact●●●●●

China's national plan and standardization efforts are a major strategic move, shaping the global SSB market and requiring US/EU compliance.

Panasonic Energy to Sample Ship 150 ° C-Resistant Small All-Solid-State Batteries by Late 2026 (Vertex AI Search (引用元: Panasonic Energy, NEDO関連))
Tech Novelty●●●●○ Proximity●●●●○ Market Impact●●●○○

High-temperature SSB for non-EV applications opens new high-reliability markets for sensors, robots, and medical devices.

China Leads International Standardization of EV All-Solid-State Batteries, Defining 'True Solid-State' by <0.5% Volatile Organic Mass Loss at 120 ° C (STARNEWS (AI翻訳))
Tech Novelty●●○○○ Proximity●●●●● Market Impact●●●●●

China's IEC standard defines 'true solid-state,' impacting R&D; and product claims for all global battery developers.

Solid-State Battery Progress Accelerates: Xinyuren Trials Gen 2 Halide Electrolyte, Easpring Scales Sulfide Production, Dongfeng Plans 350 Wh/kg Hybrid EV Launch (Solid-State Battery Weekly)
Tech Novelty●●●○○ Proximity●●●●○ Market Impact●●●●○

Chinese material suppliers are scaling production, directly supporting near-term EV launches with advanced electrolytes.

Nissan Motor Co. Unveils All-Solid-State Battery Pilot Production Line, Reaffirming Target for Practical Implementation by FY2028 (日産自動車ニュースルーム)
Tech Novelty●●○○○ Proximity●●●○○ Market Impact●●●●○

Nissan's pilot line and FY2028 target show Japan's steady progress in EV SSB, focusing on manufacturing validation.

Recommended Actions This Week

Action recommendations based on article evaluation matrix and opportunity/threat analysis.

Immediate (this week)

- [Executive] Review competitive intelligence on Chinese EV battery roadmaps and commercialization timelines, especially Dongfeng's 350 Wh/kg hybrid SSB launch.
- [Procurement] Initiate contact with ProLogium for sample evaluation of their Gen 3.5 LCBs and assess supply chain integration potential, particularly for the French gigafactory.
- [R&D;] Begin preliminary analysis of China's new IEC solid-state battery standard (<0.5% volatile mass loss) and its implications for current and future battery designs.

Short-term (1 month)

- [Strategy] Conduct a detailed competitive analysis of ProLogium's technology and market entry strategy, including potential impacts on US/EU battery and EV manufacturers.
- [Legal/IP] Engage with international standards bodies (e.g., IEC) to understand the full scope of China's proposed SSB standards and explore opportunities for input or influence.
- [R&D;] Form a cross-functional team to evaluate the technical feasibility and market potential of high-temperature small solid-state batteries for non-EV applications (e.g., robotics, medical devices).

Medium-long term (quarter+)

- [R&D;] Establish a dedicated research program or partnership to explore neuromorphic computing and ETCRAM-like devices for future AI hardware, mitigating long-term obsolescence risks.
- [Business Dev] Explore strategic partnerships or joint ventures with Japanese material suppliers (e.g., Idemitsu Kosan) for sulfide-based solid electrolytes to secure future SSB supply chains.
- [Strategy] Develop a comprehensive strategy to address China's growing dominance in SSB technology and standardization, including potential market entry, technology licensing, or defensive IP strategies.

SolidStateBattery — Selected Articles

Date: 2026-09-13

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#18 Dongfeng Motors to Unveil 350 Wh/kg Hybrid Solid-Liquid Battery in October, Mass Production for 1,000km+ EVs Starting Q4

#19 Kyushu Electric Power Deepens Collaboration in Next-Gen Battery Sector Through Strategic Investment in ProLogium

#01 Solid-State Battery Progress Accelerates: Xinyuren Trials Gen 2 Halide Electrolyte, Easpring Scales Sulfide Production, Dongfeng Plans 350 Wh/kg Hybrid EV Launch

Published September 11, 2026 Solid-State Battery Weekly China

OVERVIEW

The solid-state battery sector is witnessing rapid advancements, with Xinyuren successfully piloting its second-generation halide solid electrolyte and Easpring achieving large-scale production of a new sulfide solid electrolyte. Academic efforts are concurrently improving interface stability, developing defect-engineered $LiYO_2$ interlayers for high-nickel cathodes and Li_6PS_5Cl, and adaptive interfaces for lithium-metal anodes. Dongfeng Motor plans an October launch and Q4 2026 delivery for a 350 Wh/kg hybrid solid-liquid battery, marking a significant step towards commercialization.

IN DEPTH

Key Findings

Significant progress in solid-state battery technology has been reported, with Xinyuren successfully trial-producing its second-generation halide solid electrolyte and Easpring establishing large-scale supply capabilities for a new sulfide solid electrolyte. These material breakthroughs are pivotal for enhancing solid-state battery performance and reducing manufacturing costs, thereby accelerating their commercial viability. Concurrently, Dongfeng Motor has announced an October launch and Q4 2026 delivery schedule for its 350 Wh/kg hybrid solid-liquid battery, providing a concrete example of near-term application.

Technical / Clinical Details

Xinyuren's second-generation halide solid electrolyte addresses critical challenges in ionic conductivity and stability that have hampered previous solid electrolyte designs. Halide electrolytes are recognized for their high ionic conductivity and wide electrochemical window, positioning them as strong contenders alongside sulfide electrolytes for next-generation solid-state batteries. Easpring's scaled production of sulfide solid electrolyte is crucial, given its high room-temperature ionic conductivity and favorable mechanical properties, which are essential for reducing manufacturing costs and improving the scalability of all-solid-state batteries. In academic research, significant attention is paid to interface engineering; for instance, a defect-engineered $LiYO_2$ interlayer is being developed to reduce interface resistance and improve stability between high-nickel cathodes and Li_6PS_5Cl solid electrolytes. Furthermore, adaptive interface strategies for lithium-metal anodes are critical for suppressing lithium dendrite formation, a key safety and performance concern.

Background & Context

Solid-state batteries are poised to revolutionize electric vehicles (EVs) and stationary energy storage by offering superior safety and higher energy density compared to conventional lithium-ion batteries. Eliminating liquid electrolytes removes the risks of leakage and thermal runaway, enhancing overall safety and reliability. The higher energy density translates to extended EV range and faster charging times. The Chinese government, through its '15th Five-Year Plan,' is actively promoting the standardization and industrialization of solid-state batteries. The recent advancements in material technology and specific product launch plans from major automotive manufacturers directly align with and validate this national strategic push towards a robust solid-state battery ecosystem. The global race to commercialize these advanced battery technologies underscores their perceived transformative potential across multiple industries.

Strategic Significance & Outlook

The mass production of new solid-state battery materials and their integration into EV production roadmaps indicate that solid-state battery commercialization is transitioning from theoretical promise to practical implementation. The critical next steps involve scaling these technologies cost-effectively and ensuring long-term reliability under diverse operating conditions. Dongfeng Motor's hybrid solid-liquid battery, with its 350 Wh/kg energy density, represents a pragmatic interim step towards full solid-state technology, and its market performance will be closely watched. The ongoing academic research into interface control remains fundamental, as stable interfaces are crucial for maximizing the performance and lifespan of all-solid-state cells. The convergence of material science breakthroughs, manufacturing scale-up, and strategic product launches suggests that the latter half of the 2020s will see a much broader adoption of solid-state battery technologies.

Source: https://news.metal.com/en/newscontent/104111073-solid-state-battery-weekly--steady-progress-cooling-hype-stronger-efforts

#02 China Integrates All-Solid-State Batteries into 15th Five-Year Plan Standardization System, Accelerating Breakthroughs and Large-Scale Adoption

Published September 11, 2026 Shanghai Metals Market (SMM) China

OVERVIEW

On September 9, 2026, China's Ministry of Industry and Information Technology (MIIT) and eight other departments issued the 15th Five-Year Plan for the Development of the Intelligent Connected New Energy Vehicle Industry. This pivotal plan incorporates automotive solid-state batteries into a specialized standards system, aiming to accelerate the supply of cutting-edge technology standards. The initiative is set to bolster regulatory support for technological breakthroughs and facilitate the large-scale application of solid-state battery technology across the industry.

IN DEPTH

Key Findings

The Chinese government, through its Ministry of Industry and Information Technology (MIIT) and eight other departments, officially integrated automotive all-solid-state batteries into a specialized national standardization system as part of the '15th Five-Year Plan for the Development of the Intelligent Connected New Energy Vehicle Industry,' announced on September 9, 2026. This strategic move is designed to provide robust policy support and a regulatory framework to accelerate technological breakthroughs and enable the large-scale commercial deployment of solid-state battery technology.

Technical / Clinical Details

The integration into a national standardization system will drive the formulation of specific technical specifications related to the performance evaluation, safety criteria, and interoperability of all-solid-state batteries. This foundational framework is crucial for facilitating the seamless integration and adoption of technologies currently in research and development phases into industrial applications. For instance, detailed metrics like China's existing 0.5% mass-loss criterion for all-solid-state classification (GB/T 43568-2026) are expected to be further developed and refined within this comprehensive standardization system. Such standardization is anticipated to foster greater technical cooperation and product development among material suppliers, battery manufacturers, and automotive OEMs, ultimately enhancing the efficiency of the entire supply chain.

Background & Context

All-solid-state batteries are widely recognized as the next-generation battery technology, promising significant advantages over conventional lithium-ion batteries in terms of safety, energy density, and cycle life. The global race to develop and commercialize these batteries is intense, with China leading the world in the new energy vehicle market. By positioning solid-state batteries as a cornerstone of its national strategy, China aims to establish technological leadership in this critical sector. Government-led standardization is intended to prevent market fragmentation, accelerate innovation, and enhance the likelihood of Chinese-developed technologies being adopted as international standards. This will strengthen the global competitiveness of Chinese enterprises in the long term.

Strategic Significance & Outlook

The explicit inclusion of solid-state batteries in a national plan and the push for standardization are expected to prompt Chinese companies to significantly increase their R&D investments and capital expenditures in manufacturing facilities. This could lead to a faster pace of technological breakthroughs and accelerate the mass production and widespread adoption of solid-state batteries. Given that China's proposed standards are already being considered by the International Electrotechnical Commission (IEC) for international adoption, China is poised to play a decisive role in shaping the future of the global solid-state battery industry. For researchers, engineers, and investors, this signifies that developments in the Chinese market will be more critical than ever, with potential ramifications for global technology roadmaps and market dynamics.

Source: https://news.metal.com/en/newscontent/104110871-solid-state-battery-nine-departments-15th-five-year-plan-incorporates-automotive-solid-state-batteries-into-the-specialized-standards-system-accelerating-the-supply-of-cutting-edge-technology-standards

Collected: September 11, 2026 | Automated Research System (Gemini API)

#03 Semi-Solid Hybrid Batteries Dominate EV 'Solid-State' Market in 2026; True All-Solid-State EVs Face Late 2020s Small-Scale Production

Published September 10, 2026 Industry Analyst USA

OVERVIEW

As of 2026, most 'solid-state' batteries available for electric vehicles (EVs) are in fact semi-solid-state hybrid designs. The article highlights that the mechanical properties of solid electrolytes effectively suppress lithium dendrite formation, significantly enhancing battery safety. True all-solid-state batteries are projected for commercialization in the late 2020s, with small-scale production anticipated around 2027-2028.

IN DEPTH

Key Findings

An industry analysis reveals that in 2026, the term 'solid-state battery' in the electric vehicle (EV) market primarily refers to semi-solid-state hybrid designs, which incorporate both solid and liquid electrolyte components. The report projects that the commercialization of true all-solid-state batteries, featuring entirely solid electrolytes, will not occur until the late 2020s, with initial small-scale production expected around 2027-2028. This indicates a phased approach to the adoption of solid-state technology in the automotive sector.

Technical / Clinical Details

Semi-solid-state batteries serve as an intermediary solution between traditional liquid lithium-ion batteries and full solid-state variants. They leverage existing manufacturing processes, making them relatively easier and more cost-effective to produce at scale. A key advantage of solid electrolytes in these hybrid designs is their mechanical rigidity, which physically impedes the growth of lithium dendrites—needle-like lithium structures that can cause short circuits and safety hazards in batteries. This suppression of dendrites enhances the safety and lifespan of the battery. While true all-solid-state batteries promise even greater safety and higher energy density by eliminating all liquid components, they still face considerable technical challenges related to high interface resistance between solid materials, manufacturing complexity, and scaling production efficiently.

Background & Context

The surging demand for electric vehicles has intensified the need for batteries with improved range, faster charging capabilities, and, critically, enhanced safety. All-solid-state batteries are viewed as the ultimate solution to these challenges, attracting substantial investments from global automotive and battery manufacturers. However, fundamental obstacles such as managing lithium dendrite formation, ensuring stable solid-solid interfaces, and establishing viable manufacturing processes remain significant hurdles from research to mass production. The current prevalence of semi-solid batteries in 2026 reflects a pragmatic industry approach to delivering safer, higher-performing batteries within the constraints of existing technological capabilities, prior to overcoming the more complex hurdles of full solid-state implementation.

Strategic Significance & Outlook

For the next few years, semi-solid batteries are expected to remain the dominant high-performance option in the EV market. During this period, research institutions and companies will intensify their efforts to develop mass production technologies for true all-solid-state batteries, focusing on improving interface engineering, innovating new solid electrolyte materials, and establishing advanced manufacturing processes. The projected commencement of small-scale production for full solid-state batteries from 2027-2028 onwards marks the beginning of their broader integration, potentially transforming the EV landscape. Investors and engineers should recognize this staged technological transition, paying close attention to both the short-term advancements in semi-solid technologies and the long-term breakthroughs required for all-solid-state solutions.

Source: https://www.evinfrastructurenews.com/ev-battery/solid-state-vs-lithium-ion-batteries

Collected: September 11, 2026 | Automated Research System (Gemini API)

#04 Panasonic Energy to Sample Ship 150°C-Resistant Small All-Solid-State Batteries by Late 2026, Targeting Diverse Non-EV Applications

Published Published September 09, 2026　Vertex AI Search (引用元: Panasonic Energy, NEDO関連)　Japan

OVERVIEW

Panasonic Energy has announced plans to begin sample shipments of small all-solid-state batteries capable of stable operation at 150°C by Q3 FY2026, with mass production targeted within 1-2 years. These high-thermal-stability batteries are strategically aimed at diverse non-EV applications, including industrial sensors, robotics, and medical devices. This move underscores significant progress in addressing the critical solid-solid interface challenge for all-solid-state battery commercialization, positioning Panasonic to lead in high-reliability segments.

IN DEPTH

Background

All-solid-state batteries represent a pivotal frontier in the global pursuit of next-generation energy storage, promising significant advancements in energy density, inherent safety, and operational longevity compared to conventional lithium-ion batteries. While much of the industry's focus and public anticipation have centered on their potential to revolutionize electric vehicles (EVs), Panasonic Energy is strategically directing its initial commercialization efforts toward smaller-format products designed for high-reliability segments. This includes applications in industrial sensors, robotics, factory automation equipment, and specialized medical devices. This calibrated market entry strategy enables Panasonic to introduce and monetize its all-solid-state battery technology in niche, high-value markets without immediate reliance on the high-volume, cost-sensitive EV sector, thereby allowing for incremental market expansion as the technology matures. This approach is also expected to provide invaluable experience and facilitate the refinement of manufacturing processes.

Key Findings

Panasonic Energy has announced plans to initiate sample shipments of small all-solid-state batteries capable of stable operation at an elevated temperature of 150°C, beginning in the third quarter of fiscal year 2026 (October-December). This development marks a significant step toward accelerating the practical application of next-generation batteries across a broad spectrum of industries, addressing the inherent thermal stability limitations of conventional lithium-ion technologies. The company targets mass production within 1-2 years after commencing sample distribution.

Technical Details

These novel all-solid-state batteries inherently eliminate liquid electrolytes, a design choice that significantly mitigates the risk of thermal runaway and extends the safe operational temperature range. The capability to function reliably at 150°C is particularly crucial for demanding applications in sectors such as industrial machinery, aerospace, and medical devices, where current battery technologies encounter severe performance and safety limitations. The New Energy and Industrial Technology Development Organization (NEDO) has consistently highlighted the optimization of the "solid-solid interface" between the solid electrolyte and electrodes – specifically, reducing interfacial resistance – as a formidable technical hurdle for the widespread commercialization of all-solid-state batteries. Panasonic Energy's announcement suggests substantial progress in overcoming this critical barrier.

Strategic Significance & Outlook

Panasonic Energy's initiative further solidifies Japan's prominent position in the global race for all-solid-state battery commercialization. While major Japanese automakers, including Toyota and Nissan, are intensely focused on EV-specific all-solid-state solutions, Panasonic's pioneering strategy of targeting high-value, small-format markets is expected to contribute to enhanced technological reliability and accelerated cost reduction for the fundamental battery technology. This phased approach will, in turn, establish a crucial foundation for broader integration into EVs. The demonstrated capability for stable high-temperature operation is especially significant as it inherently simplifies thermal management requirements, potentially enabling more compact and lighter system designs across various applications. This breakthrough is poised to catalyze innovation across numerous industrial sectors worldwide, setting new benchmarks for battery performance, safety, and operational versatility.

Source: https://kansai-sanpo.com/panasonic-all-solid-state-battery/

Collected: September 11, 2026 | Automated Research System (Gemini API)

#05 All-Solid-State Battery Development Shifts to 'Validation Phase,' Japan, China, and Korea Accelerate Supply Chain Buildout for EVs and High-Value Applications

Published September 03, 2026 36Kr Japan Japan

OVERVIEW

According to TrendForce's Q2 2026 report, all-solid-state battery development is transitioning from material performance improvement to technical validation for mass production. Japanese automakers like Toyota, Honda, and Nissan are establishing pilot lines, with Nissan targeting EV launch by FY2028. South Korean and Chinese companies are also actively conducting pilot tests and solidifying commercialization roadmaps, with initial applications expected in high-value sectors such as drones, eVTOLs, and robots where performance outweighs cost.

IN DEPTH

Key Findings

The global race in all-solid-state battery development is shifting its focus from merely enhancing material performance to the crucial phase of technical validation for mass production, as highlighted by TrendForce's Q2 2026 report. Major Asian players, including Japan, China, and South Korea, are rapidly accelerating the establishment of supply chains for all-solid-state batteries, targeting both electric vehicles (EVs) and high-value-added applications such as drones, electric vertical take-off and landing (eVTOL) aircraft, and advanced robotics.

Technical Details

Japanese automotive manufacturers continue to play a pioneering role in all-solid-state battery advancement. Leading companies like Toyota, Honda, and Nissan have already established pilot production lines and are actively engaged in validation processes aimed at scaling up for mass production. Notably, Nissan has set an ambitious target to introduce EVs equipped with its self-developed all-solid-state batteries to the market by fiscal year 2028. This commitment underscores the industry's drive to overcome the primary challenges of all-solid-state batteries: high manufacturing costs and scalability. Concurrently, South Korean and Chinese companies are vigorously pursuing their own technical roadmaps, conducting extensive pilot tests, with China particularly active in spearheading international standardization efforts.

Background & Context

All-solid-state batteries are widely hailed as a potential "game-changer" for EVs, offering significant advantages over conventional lithium-ion batteries in terms of enhanced safety, higher energy density, longer lifespan, and faster charging capabilities. However, significant hurdles have remained, primarily in establishing reliable mass production techniques, ensuring stable interfaces between solid electrolytes and electrodes, and drastically reducing manufacturing costs. Governments worldwide are providing strategic support for all-solid-state battery R&D for instance, Japan's NEDO funds various projects, while China is taking a leading role in defining international standards. Initial commercialization is expected in niche, high-value sectors such like drones, eVTOLs, and robotics, where premium performance justifies higher initial costs, before broader adoption in the mass-market EV segment.

Strategic Significance & Outlook

The intensifying competition among Japan, China, and South Korea to build robust all-solid-state battery supply chains will shape the future of energy storage. Each nation and its key players are pursuing distinct technological approaches, with Japan often focusing on sulfide-based solid electrolytes and China exploring oxide-based and semi-solid solutions. Success in this technical validation phase is paramount for securing dominance in the next-generation battery market. The accumulation of data from pilot lines and the subsequent establishment of scalable manufacturing processes are critical factors that could significantly transform the EV landscape beyond 2030. Achieving cost-effective, high-volume production remains an essential prerequisite for widespread adoption across diverse applications, making the progress of these companies highly anticipated.

Source: https://36kr.jp/500754/

Collected: September 11, 2026 | Automated Research System (Gemini API)

#06 Japan Leads All-Solid-State Battery Development with Solid Electrolyte Technology Enabling Miniaturization, High Capacity, Fast Charging, and Extended Lifespan

Published Published September 08, 2026　化学・バイオ　Japan

OVERVIEW

Japan is aggressively spearheading the development of all-solid-state batteries, leveraging solid electrolyte technology to deliver superior performance characteristics—including miniaturization, higher capacity, faster charging, and extended lifespans—beyond conventional lithium-ion cells. With robust government backing, Japanese manufacturers aim to dominate this crucial next-generation battery market, evidenced by Hitachi Zosen's 1000mAh battery breakthrough and Murata Manufacturing's early mass production of small all-solid-state units.

IN DEPTH

Market Imperatives and National Strategy

The pervasive adoption of lithium-ion batteries has simultaneously amplified the demand for significant performance upgrades, particularly concerning safety and energy density. The burgeoning electric vehicle (EV) market, in particular, has underscored the urgent need for extended driving ranges and drastically reduced charging times. All-solid-state batteries are widely recognized as one of the most compelling solutions to these formidable challenges. In Japan, a comprehensive, national-level strategy is in motion, encompassing fundamental research, applied development, and the establishment of robust mass production capabilities. This concerted effort is spearheaded by synergistic industry-academia-government collaborations, notably the "All-Solid-State Battery Research and Development Project." Such national backing, synergized with concrete product advancements from leading corporations, has propelled Japan's all-solid-state battery technology into a globally advantageous position.

Technological Advantages and Strategic Ambition

All-solid-state batteries are emerging as a transformative next-generation secondary battery technology, directly addressing the inherent limitations of conventional lithium-ion batteries through the adoption of solid electrolytes. This innovative architecture enables unprecedented miniaturization, substantially increased energy density, enhanced rapid charging capabilities, and significantly extended operational lifespans. Japan has positioned itself at the vanguard of this development, with robust government support for domestic manufacturers aimed at preventing a recurrence of the market dominance experienced by Chinese and Korean firms in the prior lithium-ion era.

Core Innovations and Commercialization Milestones

At the heart of all-solid-state battery technology is the solid electrolyte, which inherently mitigates critical safety concerns such as liquid leakage and thermal runaway. This foundational safety improvement also broadens the spectrum of compatible electrode materials, paving the way for even higher energy and power densities. Japanese manufacturers are demonstrating tangible progress: Hitachi Zosen, for instance, has successfully developed a 1000mAh all-solid-state battery, a practical capacity ideal for small consumer electronics and IoT devices. Furthermore, Murata Manufacturing commenced mass production of its compact all-solid-state batteries by the end of fiscal year 2020, unequivocally signaling Japan's leadership in transitioning this advanced technology from laboratory to commercial reality.

Future Trajectory and Global Impact

Japan's all-solid-state battery technology is poised for a significant expansion, transitioning from its current pioneering practical applications in small, high-reliability domains—such as IoT and medical devices—towards larger-scale applications like electric vehicles (EVs) in the near future. The inherent superior safety and performance characteristics of these batteries promise to dramatically extend EV driving ranges and substantially reduce charging times, thereby accelerating global EV adoption and fostering a more sustainable society. Japan's deep expertise in material science and precision manufacturing is expected to be instrumental in surmounting the cost challenges currently associated with the mass production of all-solid-state batteries. The continued technological evolution and projected market expansion within this critical sector are being observed with keen interest by global stakeholders.

Source: https://www.nikken-totalsourcing.jp/business/tsunagu/column/238/

Collected: September 11, 2026 | Automated Research System (Gemini API)

#07 NEDO Project Targets Mid-2030s Commercialization of Next-Gen Sodium-Ion Batteries for Grid Storage, Emphasizing Longevity Over Weight

Published Published September 10, 2026　NEDOプロジェクト、東京理科大学関連報道
Japan

OVERVIEW

Japan's New Energy and Industrial Technology Development Organization (NEDO) is backing a project to commercialize next-generation sodium-ion batteries (NIBs) for grid storage by the mid-2030s. Led by Professor Shinichi Komaba of Tokyo University of Science and a consortium of 13 partners, this initiative emphasizes longevity and cost-effectiveness. This positions NIBs as a robust alternative to LFP batteries for large-scale grid applications where sustained performance outweighs gravimetric energy density.

IN DEPTH

Background

The global energy landscape is undergoing a rapid transformation towards decarbonization and increased reliance on renewable energy sources, leading to greater variability in power grids. Large-scale, highly reliable energy storage systems are thus becoming indispensable for grid stabilization and the effective storage of excess renewable energy. While lithium iron phosphate (LFP) batteries are gaining traction in the grid storage market, sodium-ion batteries (NIBs) offer a compelling alternative due to their resource sustainability, abundant materials, and potentially superior cost-performance ratio. This Japanese public-private partnership represents a strategic national effort to establish international competitiveness in this vital sector, aiming to enhance energy self-sufficiency and foster industrial growth through advanced battery technologies.

Key Findings

A project spearheaded by the New Energy and Industrial Technology Development Organization (NEDO) is making significant strides in developing next-generation sodium-ion battery (NIB) technology specifically for grid-scale energy storage systems, targeting commercialization by the mid-2030s. This initiative aims to provide essential large-scale storage solutions crucial for stabilizing power grids and accelerating the integration of renewable energy sources.

The project is led by Professor Shinichi Komaba of Tokyo University of Science and involves a robust consortium of 13 academic and industrial partners, including prominent companies such as GS Yuasa, Kuraray, and Toagosei. These NIBs leverage the abundant and inexpensive nature of sodium, offering a significant cost advantage over lithium-based alternatives. Crucially, these batteries are demonstrating promising performance in terms of longevity—a paramount requirement for grid storage applications—potentially outperforming existing lithium iron phosphate (LFP) batteries in this regard. This strategic focus on durability over gravimetric energy density positions NIBs as a highly competitive option for utility-scale storage, particularly where sustained performance is critical.

Development efforts are concentrated on advanced material formulations and optimized cell structures to enhance capacity, extend cycle life, and bolster safety. The commercialization of these sodium-ion batteries for grid storage has the potential to revolutionize power infrastructure and dramatically accelerate renewable energy integration. While challenges remain in pilot plant validation, further performance enhancements, and cost reductions towards the mid-2030s target, the abundant resources and superior longevity of NIBs could provide a sustainable and economic alternative to the rapidly expanding LFP battery market, especially when considering long-term total cost of ownership. Successful deployment of this technology would significantly improve grid resilience and facilitate a more stable and cleaner energy supply globally.

Source: Unknown

Collected: September 11, 2026 | Automated Research System (Gemini API)

#08 Taiwan's ProLogium Begins Mass Production of High-Energy-Density 'Gen 3.5 Lithium Ceramic Batteries' for EVs

Published Published September 08, 2026　電波新聞デジタル　Taiwan

OVERVIEW

Taiwanese all-solid-state battery innovator ProLogium Technology has initiated mass production of its 'Generation 3.5 Lithium Ceramic Batteries (LCB)' in Taiwan. These advanced batteries integrate ceramic materials within their electrolyte and electrodes, delivering a validated cell-level energy density of 381 Wh/kg and 903 Wh/L. This breakthrough signifies a pivotal step for high-performance EV applications, setting the stage for widespread commercial adoption of solid-state battery technology.

IN DEPTH

Background

The global automotive industry is in a rapid transition towards electric vehicles (EVs), confronting critical challenges related to extending driving range, minimizing charging times, and ensuring uncompromising safety. All-solid-state batteries (ASSBs) are widely recognized as a transformative technology poised to simultaneously resolve these obstacles, fueling intense research and development competition among leading automakers and battery innovators worldwide. ProLogium, backed by strategic investments from automotive giants like Mercedes-Benz, has cultivated robust partnerships within the EV ecosystem. This mass production launch aligns seamlessly with ProLogium's ambitious strategic roadmap, which includes the scheduled operationalization of its Taoyuan factory in 2024, the establishment of its proprietary ceramic platform in 2025, and the groundbreaking of a gigafactory in Dunkirk, France, in February 2026, underscoring a consistent trajectory of global business expansion and technological leadership.

Key Findings

ProLogium Technology, a pioneering Taiwanese all-solid-state battery manufacturer, has announced the commencement of mass production for its advanced 'Gen 3.5 Lithium Ceramic Batteries (LCB)' at its facility in Taiwan. This achievement represents a pivotal breakthrough for the widespread adoption of all-solid-state batteries in the electric vehicle (EV) sector, heralding the commercial deployment of high-energy-density battery technology integrating ceramic materials.

The Gen 3.5 LCBs incorporate innovative ceramic materials within specific components of their electrolyte and electrodes. This proprietary design is engineered to deliver superior safety attributes and unparalleled energy density, essential for demanding EV applications, surpassing the capabilities of conventional lithium-ion battery chemistries. ProLogium reports a remarkable cell-level gravimetric energy density of 381 Wh/kg and a volumetric energy density of 903 Wh/L – performance metrics independently evaluated and verified by TÜV Rheinland, a renowned international third-party certification authority. The strategic utilization of ceramic materials fundamentally eliminates the risks associated with liquid electrolyte leakage and significantly enhances thermal stability, thereby bolstering the overall safety profile and long-term reliability of the battery system.

Strategic Significance & Outlook

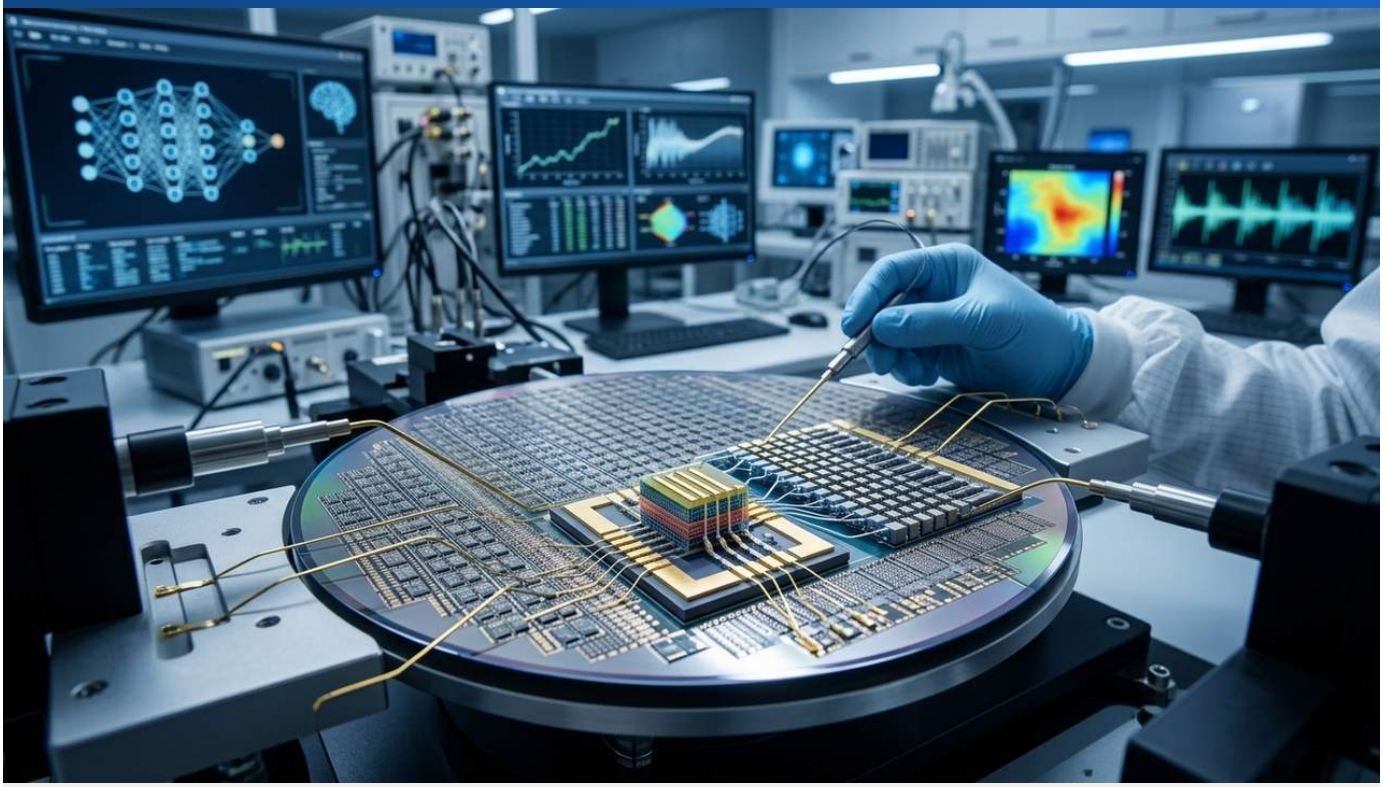
ProLogium's initiation of mass production for its Gen 3.5 LCBs marks a substantial leap forward in accelerating the widespread adoption of all-solid-state batteries within the EV market. The exceptional energy density of these batteries is poised to dramatically extend EV driving ranges, while their rapid charging capabilities will significantly improve user convenience and mitigate range anxiety. Crucially, the inherent safety advantages of solid-state technology are expected to foster greater consumer confidence, further accelerating EV penetration globally. Moving forward, ProLogium intends to intensify collaborations with automotive Original Equipment Manufacturers (OEMs) and vigorously pursue the construction of its French gigafactory to fortify its global supply chain capabilities. These strategic endeavors are bringing closer the vision of all-solid-state batteries serving as the predominant power source for electric vehicles, firmly positioning ProLogium as a pivotal catalyst in this profound industrial transformation.

Source: https://dempa-digital.com/article/724938

Collected: September 11, 2026 | Automated Research System (Gemini API)

#10 Novel ETCRAM Device Integrates Synapse and Neuron Functions into Single Element, Demonstrating Over 1,000 TOPS/W for Matrix-Vector Multiplication in AI Hardware

Published September 10, 2026 XenoSpectrum Unknown



OVERVIEW

A new ETCRAM (Electrochemical Transistor based on Resistive Switching and Active Memory) device has demonstrated an operating principle that integrates synapse-like analog memory and neuron-like switching into a single element. Utilizing VOx and a solid electrolyte, it achieved a 9-digit conductivity adjustment range and over 3,000 programmable states. This breakthrough shows potential for exceeding 1,000 TOPS/W in matrix-vector multiplication efficiency, paving the way for ultra-efficient neuromorphic AI hardware.

IN DEPTH

Key Findings

A novel ETCRAM (Electrochemical Transistor based on Resistive Switching and Active Memory) device has successfully demonstrated an operational principle that integrates both analog memory, akin to brain synapses, and neuron-like switching capabilities into a single, compact element. This remarkable achievement, utilizing vanadium oxide (VOx) and a solid electrolyte, opens new avenues for developing ultra-efficient neuromorphic AI hardware that could potentially overcome the limitations of current computing architectures.

Technical Details

The ETCRAM device leverages a combination of a VOx layer and a solid electrolyte layer to achieve an impressive 9-digit conductivity adjustment range, maintaining over 3,000 programmable states (resistance values). A key innovation is its ability to realize uniform phase coexistence without relying on filament formation, coupled with non-volatility at room temperature. This ensures stable analog memory and switching operations. According to a preprint (arXiv:2505.15936) by the researchers, this technology holds the potential to achieve an astounding computational efficiency exceeding 1,000 TOPS/W (Tera Operations Per Second per Watt) specifically for matrix-vector multiplication (MVM) operations. This represents a breakthrough in power efficiency, orders of magnitude beyond current high-performance AI accelerators, promising dramatic reductions in energy consumption for training and inference of large-scale AI models.

Background & Context

Despite rapid advancements in AI technology, its progress is increasingly bottlenecked by the immense computational resources and energy consumption it demands. The energy expenditure primarily associated with data movement, often referred to as the von Neumann bottleneck, is a major limiting factor for AI hardware efficiency. Brain-inspired computing, or neuromorphic computing, is a promising approach to circumvent these challenges. The ETCRAM device embodies the principles of "in-memory computing," where memory and computation occur at the same physical location. By mimicking the structure and function of the brain, it aims to minimize energy losses incurred by data transfer, offering a path toward more sustainable and powerful AI systems.

Strategic Significance & Outlook

The successful demonstration of the ETCRAM device is poised to significantly influence the design of next-generation AI hardware. It promises dramatic improvements in power efficiency across a wide range of applications, including smartphones, edge AI devices, and large-scale AI systems in data centers, thereby accelerating the widespread adoption and evolution of AI. Achieving over 1,000 TOPS/W for MVM operations could break current AI chip performance barriers, enabling more complex and sophisticated AI models to run with substantially less power. This, in turn, is expected to make AI more accessible and foster the creation of novel services and applications. Future work will focus on establishing robust manufacturing techniques and verifying the scalability of these devices for large-scale integrated circuits.

Source: https://xenospectrum.com/sandia-etcram-vanadium-oxide-analog-memory/

Collected: September 11, 2026 | Automated Research System (Gemini API)

#11 China's Chery Automobile to Commence All-Solid-State Battery Validation in 2026 with $1.5 Billion Investment, Targeting Over 400 Wh/kg Energy Density

Published Published September 04, 2026　BigGo ファイナンス (引用元: 毎日経済新聞)　China

OVERVIEW

Chinese automaker Chery Automobile has committed $1.5 billion to begin validation testing of all-solid-state batteries by 2026, aiming for an energy density exceeding 400 Wh/kg—roughly double that of current lithium-ion cells. The company stresses a 'safety-first' approach, asserting that these advanced batteries will only be integrated into its vehicles once their absolute safety is unequivocally proven through rigorous testing.

IN DEPTH

Background

The global electric vehicle (EV) market is experiencing exponential growth, with China playing an increasingly central role in this expansion. Battery technology stands as a pivotal determinant of EV performance, range, and cost, making the advancement of next-generation solutions a fiercely contested arena. All-solid-state batteries are widely anticipated as the next 'game-changer,' promising substantial improvements over current liquid lithium-ion systems. Chery Automobile's substantial investment reflects a broader trend in China towards vertical integration and localization within the battery industry, where automakers are not merely consumers but active developers of core battery technology. While some high-end EV models in the Chinese market, such as those from NIO, already utilize semi-solid-state batteries, Chery is directly targeting the more advanced 'true' all-solid-state technology, intensifying competition not only with traditional battery giants like BYD and CATL but also among vehicle manufacturers themselves for leadership in battery innovation.

Key Findings

Chery Automobile, a prominent Chinese automaker, has unveiled ambitious plans to commence validation testing of its all-solid-state batteries in 2026, backed by a substantial $1.5 billion (USD) investment. This strategic initiative underscores the company's profound commitment to advancing next-generation battery technology and enhancing its competitiveness in the rapidly evolving EV market through the introduction of high-performance and inherently safer battery solutions.

Chery Automobile's all-solid-state batteries are engineered to achieve an energy density exceeding 400 Wh/kg. This target represents approximately double the energy density of current mainstream liquid lithium-ion batteries, holding the potential to dramatically extend the driving range of EVs – a critical factor for wider consumer adoption and overall performance enhancement. Crucially, Chery has placed an unequivocal emphasis on safety as a paramount concern. The company has explicitly stated that these advanced batteries will not be integrated into its vehicles until their absolute safety is definitively proven through rigorous and comprehensive testing. This strict adherence to safety protocols reflects lessons learned from past battery-related incidents across the industry and demonstrates a commitment to deploying robust, secure, and trustworthy battery technology.

Chery's planned commencement of validation testing in 2026 marks a crucial juncture in China's drive towards the commercialization of all-solid-state batteries. Successful achievement of the ambitious energy density targets and, critically, the assurance of absolute safety, would grant Chery's EVs a significant competitive edge in the domestic and global markets. This unwavering commitment to safety is essential for building consumer trust and fostering broader EV adoption. Depending on the outcomes of these validation tests, all-solid-state batteries have the potential to become a leading technology driving further performance enhancements and market proliferation within China's EV sector, making Chery's progress a key area to monitor for industry observers.

Source: https://finance.biggo.jp/news/41d4258a-7c28-498a-b65d-7d6f5dc23db1

Collected: September 11, 2026 | Automated Research System (Gemini API)

#12 Geely Developing 1800kW Ultra-Fast Charger for 5-Minute EV Recharging; All-Solid-State Batteries 'Months Away from Reality' in China

Published Published September 09, 2026 AUTOCAR JAPAN (引用元: carview!) China

OVERVIEW

Chinese automotive giant Geely is developing an 1800kW ultra-fast EV charger, targeting a revolutionary five-minute full charge, aiming to surpass rival BYD's 'Flash' technology. Concurrently, a Geely managing director stated that all-solid-state batteries are "months away from reality" in China, signaling rapid progress in next-generation battery deployment. Geely plans to introduce these advanced charging solutions in international markets within years, positioning ultra-fast charging as a key competitive advantage.

IN DEPTH

Background

The global electric vehicle (EV) market is witnessing an intensified competitive landscape, where differentiation increasingly extends beyond vehicle performance to encompass advancements in charging infrastructure and battery technology. In China, this race is particularly fierce, with companies like BYD already deploying their 'Flash' ultra-fast charging solutions. Geely's latest initiatives represent a strategic move to secure a competitive edge. This domestic innovation is further bolstered by the Chinese government's active promotion of international standardization for all-solid-state batteries, providing substantial support for indigenous R&D. The rapid commercialization of solid-state battery technology is critical for China to solidify its leadership in the global EV and battery sectors, positioning these next-generation batteries as the ultimate long-term solution despite ongoing improvements in conventional liquid lithium-ion variants.

Key Findings

Chinese automotive conglomerate Geely has unveiled plans for an 1800kW ultra-fast charger for electric vehicles, engineered to deliver a full charge in a remarkable five minutes. This ambitious development is designed to significantly outperform rival BYD's 'Flash' charging technology, promising a substantial enhancement in EV user convenience and operational efficiency. Concurrently, a Geely managing director has stated that all-solid-state batteries are "months away from reality" within China, underscoring the rapid pace of advancement in next-generation battery technology across the nation.

Technical Details

Geely's proposed 1800kW ultra-fast charging architecture represents a substantial engineering advancement over current mainstream EV charging infrastructure. This immense power delivery promises to virtually eliminate range anxiety for EV users undertaking long-distance journeys. Implementing such high-power charging demands sophisticated battery pack designs engineered to withstand extreme power input and output, alongside highly efficient and robust thermal management systems to prevent overheating and ensure longevity. The executive's declaration regarding all-solid-state batteries nearing commercial reality within months implies imminent practical application of this transformative technology in China. All-solid-state batteries are distinguished by their higher energy density, inherent safety advantages due to the absence of flammable liquid electrolytes, and superior rapid charging characteristics, which are anticipated to synergistically enhance EV performance and overall usability when integrated with ultra-fast charging capabilities.

Strategic Significance & Outlook

Geely intends to deploy its 1800kW ultra-fast charging solution into international markets, including Europe and the UK, within the coming years. This aggressive strategy positions ultra-fast charging as a paramount competitive differentiator for its expanding EV portfolio. The anticipated synergy between the imminent commercialization of all-solid-state batteries and this groundbreaking ultra-fast charging technology is expected to present an exceptionally compelling value proposition for prospective EV buyers, thereby accelerating global EV adoption rates. With these developments, Chinese-led innovations in battery and charging infrastructure are increasingly poised to become significant drivers of the global EV market, warranting close observation by industry analysts and competitors worldwide.

Source: https://carview.yahoo.co.jp/news/detail/ce90ef9eae0adac94ee41c789a8070f31261fe6a/

#13 Nissan Motor Co. Unveils All-Solid-State Battery Pilot Production Line, Reaffirming Target for Practical Implementation by FY2028

Published Published September 10, 2026　日産自動車ニュースルーム　Japan

OVERVIEW

Nissan Motor Co., Ltd. has officially unveiled its all-solid-state battery pilot production line, a strategic move to restructure its Japanese operations and bolster global competitiveness. The company reaffirmed its ambitious target for the commercial implementation of all-solid-state batteries by fiscal year 2028, underscoring significant progress in developing this core technology crucial for next-generation electric vehicles.

IN DEPTH

Background

The global automotive industry is undergoing an accelerated transformation towards electrification, with superiority in battery technology becoming an increasingly decisive factor in corporate competitiveness. All-solid-state batteries (ASSBs), holding the potential to surpass the performance limits of existing liquid-electrolyte lithium-ion batteries, are the subject of intense research and development competition among numerous automakers and battery manufacturers worldwide. Nissan Motor Co., Ltd. has positioned all-solid-state battery development as a cornerstone of its future strategy, pursuing a long-term approach of developing these core technologies in-house to differentiate its electric vehicles (EVs) and ensure a stable supply chain. This strategic focus is integral to Nissan's comprehensive initiatives aimed at restructuring its Japanese operations and bolstering its global competitiveness in the rapidly evolving EV landscape. The ambitious target year of FY2028 for practical implementation, relatively aggressive compared to some competitors, underscores the critical importance Nissan places on all-solid-state batteries within its overarching electrification strategy.

Key Findings

Nissan Motor Co., Ltd. has officially unveiled its dedicated all-solid-state battery pilot production line, marking a significant milestone in the company's ambitious electrification roadmap. This unveiling reaffirms Nissan's unwavering commitment to commercializing all-solid-state batteries by fiscal year 2028, signaling tangible progress towards realizing its next-generation EV vision.

The newly showcased pilot production line is specifically designed to validate manufacturing processes and rigorously address the inherent technical challenges associated with the mass production of all-solid-state batteries. These advanced batteries promise substantial advantages over conventional liquid-electrolyte lithium-ion counterparts, including significantly enhanced safety, higher energy density leading to extended ranges, faster charging capabilities, and prolonged lifespans. However, formidable obstacles to mass production persist, notably reducing interfacial resistance between the solid electrolyte and electrodes, achieving substantial reductions in manufacturing costs, and stabilizing production yields.

Nissan's pilot line represents a critical, proactive step in systematically overcoming these barriers. Its objective is to optimize the entire process chain, spanning from fundamental material selection and innovative cell design to efficient assembly and comprehensive performance evaluation. The FY2028 target for practical implementation is understood to critically hinge on the successful establishment and scalability of sulfide-based solid-state battery technology.

The successful achievement of this goal is poised to transform Nissan's EV offerings, providing consumers with vehicles boasting substantially extended driving ranges, dramatically reduced charging times, and intrinsically enhanced safety—delivering compelling new value. Furthermore, the successful establishment of all-solid-state battery technology is anticipated to bring transformative innovation across Nissan's entire EV product lineup, significantly bolstering its presence in competitive global markets. Industry observers will closely monitor future progress emerging from the pilot line's validation efforts and the subsequent concrete steps towards large-scale manufacturing.

Source: https://global.nissannews.com/ja-JP/channels/channel-NNG1433?source=nng

Collected: September 11, 2026 | Automated Research System (Gemini API)

#14 China Leads International Standardization of EV All-Solid-State Batteries, Defining 'True Solid-State' by <0.5% Volatile Organic Mass Loss at 120°C

Published Published September 03, 2026 STARNEWS (AI翻訳) China

OVERVIEW

The International Electrotechnical Commission (IEC) has approved a Chinese-led proposal establishing an international standard for electric vehicle (EV) all-solid-state batteries. This standard rigorously defines 'true all-solid-state' by requiring less than 0.5% volatile organic mass loss at 120°C in a vacuum, aiming to differentiate it from semi-solid solutions. Bolstered by government tax exemptions and aggressive investments from major manufacturers like Sunwoda and EVE Energy, China is rapidly advancing its pilot lines, targeting 400 Wh/kg energy density and 0.2 GWh/year production, positioning itself at the forefront of next-generation battery technology.

IN DEPTH

Background

All-solid-state batteries represent a focal point of intense global research and development, lauded for their potential to deliver high energy density, superior safety, and extended lifespan – qualities positioning them as the widely anticipated next-generation power source for EVs. As the world's largest market for EV adoption and battery production, China is aggressively pursuing leadership, not only in technological innovation but also in the crucial domain of standardization. Establishing international standards is a strategic imperative that streamlines technological diffusion, diminishes trade barriers, and strategically positions national technologies and products within the competitive global marketplace. This IEC approval unequivocally highlights China's expanding international influence in defining the technological roadmap and market trajectory for all-solid-state batteries.

Key Findings

The International Electrotechnical Commission (IEC) has formally approved a Chinese-led proposal establishing a global standard for all-solid-state batteries in electric vehicles (EVs). This landmark decision is set to profoundly influence the worldwide development and commercialization trajectory of this critical technology. Crucially, the standard introduces a stringent definition for a 'true all-solid-state battery,' mandating a mass loss threshold of less than 0.5% due to volatile organic evaporation at 120°C under vacuum conditions, thereby drawing a clear line between fully solid and semi-solid battery chemistries.

Technical Details

Now formally adopted by the IEC, the Chinese-proposed international standard establishes new benchmarks for both the performance evaluation and safety criteria of all-solid-state batteries. The mandate for less than 0.5% volatile organic mass loss under the rigorous conditions of 120°C and vacuum directly addresses the core advantages expected from all-solid-state technology: superior thermal stability and the effective elimination of liquid electrolyte leakage risks. This stringent benchmark serves to distinguish true all-solid-state batteries not only from conventional liquid lithium-ion counterparts but also from certain semi-solid batteries utilizing gel electrolytes. Complementing this standardization effort, the Chinese government has introduced tax exemptions for all-solid-state batteries, valid until December 31, 2028, to foster domestic innovation. Concurrently, major Chinese battery manufacturers, including Sunwoda and EVE Energy, are rapidly advancing their pilot production lines, with ambitious targets of achieving an energy density of 400 Wh/kg and an annual production capacity of 0.2 GWh.

Strategic Significance & Outlook

The Chinese-led international standardization of all-solid-state batteries is set to profoundly reshape the development strategies of battery manufacturers and automakers across the globe. This newly established, rigorous definition will likely accelerate the pursuit of genuinely all-solid-state battery technologies, simultaneously crystallizing the distinction from semi-solid alternatives. Within China, the synergy of government-backed tax incentives and substantial investments from key manufacturers is expected to significantly propel the mass production and performance optimization of these advanced batteries. Through these integrated efforts, China is strategically positioning itself to exert substantial leadership in both technological advancement and standardization within the nascent next-generation battery market, ultimately shaping the long-term future of the global EV industry.

Source: https://www.starnewskorea.com/ja/business-life/2026/09/03/2026090310000067861

#15 JETRO Report Forecasts Fuel Cell & Battery Market Outlook: Hydrogen Networks and All-Solid-State Batteries Key to Decarbonization Amid Rising Power Demand

Published Published September 07, 2026　ジェトロ (JETRO)　Japan

OVERVIEW

A new JETRO report highlights the critical role of fuel cells and advanced batteries in global decarbonization efforts, driven by increasing electricity demand. While focusing on Polymer Electrolyte Fuel Cells (PEFC/PEMFC) and Solid Oxide Fuel Cells (SOFC), the analysis also covers next-generation energy storage, including all-solid-state batteries. Significant government support in Europe and the US for hydrogen networks and infrastructure indicates a rapid energy transition, positioning these technologies as central to a sustainable future.

IN DEPTH

Background

Global concerns over climate change and energy security are accelerating national strategies to expand renewable energy integration and reduce reliance on fossil fuels. This has made highly efficient energy storage systems, crucial for stabilizing power grids and mitigating fluctuations from renewable sources, indispensable infrastructure. Fuel cells, utilizing hydrogen as a clean energy carrier, contribute significantly to CO2 emission reduction and offer flexibility for diverse power demands. Meanwhile, all-solid-state batteries are emerging as a transformative solution to conventional battery limitations, promising higher performance for everything from small electronics to grid-scale applications, with widespread adoption particularly anticipated in the electric vehicle (EV) market.

Key Findings

The Japan External Trade Organization (JETRO) has published "Outlook for the Fuel Cell and Storage Battery Market (Part 2)," a detailed report analyzing market trends for fuel cells and storage batteries amidst rising global electricity demand and accelerated decarbonization. While its primary focus is on fuel cells such as Polymer Electrolyte Fuel Cells (PEFC/PEMFC) and Solid Oxide Fuel Cells (SOFC), the report also offers a broad perspective on various next-generation energy storage solutions, including all-solid-state batteries, highlighting significant governmental backing in Western nations.

Technical Details

The report elaborates on the technological evolution of fuel cells, particularly advancements in Polymer Electrolyte Fuel Cells (PEFC/PEMFC) and Solid Oxide Fuel Cells (SOFC) for industrial and mobility applications. These technologies enable highly efficient, direct power generation from hydrogen, positioning them as vital power sources for a decarbonized future. Simultaneously, innovative storage battery technologies like all-solid-state batteries are presented as critical solutions for the increasing demand for higher energy density, enhanced safety, and extended lifespan in electric vehicles (EVs) and stationary energy storage systems. Governments across Europe and the United States are providing substantial policy support and funding to develop extensive hydrogen supply networks, expand transportation infrastructure, and establish regional hydrogen hubs, collectively accelerating the emergence of a robust hydrogen economy.

Strategic Significance & Outlook

JETRO's analysis indicates that fuel cells and advanced storage batteries, especially next-generation technologies such as all-solid-state batteries, are set to become pivotal in the global energy transition over the coming decades. Substantial investments in hydrogen-related infrastructure across Western countries are anticipated to catalyze the full-scale launch of the hydrogen economy, significantly boosting demand for fuel cell technologies. Moreover, as all-solid-state batteries near commercialization, they are expected to dramatically enhance EV performance and render stationary storage systems more economical and safer, further accelerating renewable energy integration. The integrated and widespread deployment of these advanced technologies will be a critical force in achieving global decarbonization targets.

Source: https://www.jetro.go.jp/biz/areareports/2026/8c672840b9e462a8.html

Collected: September 11, 2026 | Automated Research System (Gemini API)

#16 Maxell Aims for 'Global No.1' in High-Reliability Small Batteries with High-Temperature, Long-Life All-Solid-State Batteries for Robots, Eliminating Harnesses for Weight Reduction

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OVERVIEW

Maxell has declared its ambition to become the global leader in high-reliability small battery segments by leveraging advanced all-solid-state technology. Its newly developed high-temperature, long-life solid-state batteries are designed for direct integration into robot joints, enabling significant weight reduction by eliminating traditional wiring harnesses. These batteries promise over a decade of operational life, drastically cutting maintenance costs for large robot fleets and offering strong profitability as production scales.

IN DEPTH

Background

The proliferation of robots across manufacturing, logistics, and service sectors has driven demand for enhanced functionalities, extended operating hours, and more compact, lighter designs. Consequently, battery performance has emerged as a critical enabler for the next generation of robotics. Traditional lithium-ion batteries, however, present limitations in safety, lifespan, and design flexibility. All-solid-state batteries offer a compelling solution, mitigating liquid leakage risks to provide superior safety, unparalleled design freedom, and significantly extended longevity. Maxell is strategically applying this advanced, next-generation technology within its established expertise in small battery segments, aiming to forge a unique, high-value position in the highly competitive battery market.

Key Findings

Maxell has announced an ambitious strategic goal: to become the global leader in the high-reliability small battery segment, specifically leveraging its advancements in all-solid-state battery technology. The company has developed high-temperature resistant, long-life all-solid-state batteries engineered for direct integration into robot joints. This pioneering design fundamentally reduces the overall weight of robotic systems and dramatically lowers operational expenditures by eliminating the necessity for complex, bulky wiring harnesses.

Technical Details

Maxell's robotic all-solid-state batteries boast superior thermal resistance, ensuring stable operation even in demanding high-temperature environments, thus surpassing the limitations of conventional battery technologies. A pivotal technical innovation is the design philosophy enabling direct placement of the battery within previously inaccessible, confined spaces such as robot joints. This integration eliminates the need for intricate wiring harnesses that typically connect multiple battery cells, thereby significantly reducing overall robot weight and expanding their potential range of motion. Moreover, these all-solid-state batteries offer an exceptionally long cycle life exceeding 10 years. This extended lifespan provides substantial direct economic advantages for clients managing extensive robot fleets by drastically cutting battery replacement frequencies and associated maintenance overheads. Maxell projects that scaling production volumes will further enhance the profitability of these high-performance all-solid-state batteries.

Strategic Significance & Outlook

Maxell's all-solid-state batteries are poised to usher in a significant paradigm shift within the robotics industry. The combined benefits of weight reduction, facilitated by a harness-free design, and an operational lifespan exceeding 10 years, will dramatically improve robot operational efficiency and overall economics. This, in turn, is expected to accelerate the development of higher-performance and more autonomous robotic systems. The company intends to bolster its cost competitiveness through scaled-up production, solidifying its position as a global leader in the high-value small battery market. As the robotics market continues its rapid expansion, Maxell's innovative all-solid-state battery technology is anticipated to become a foundational component, powering the digital transformation across numerous industrial sectors.

Source: https://minkabu.jp/news/4610972

#17 Idemitsu Kosan Strengthens IP in Sulfide-Based Solid Electrolytes, Driving EV All-Solid-State Battery Commercialization through NEDO Project Participation

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OVERVIEW

Idemitsu Kosan is strategically advancing the development and commercialization of sulfide-based solid electrolytes, a critical component for next-generation all-solid-state lithium-ion batteries. Leveraging its unique hydrogen sulfide handling expertise from petroleum refining and petrochemicals, the company has secured a dominant intellectual property position in this vital field. Its participation in a NEDO-led national project further underscores its pivotal role in accelerating Japan's efforts towards mass-market EV all-solid-state batteries.

IN DEPTH

Background

The rapid global proliferation of electric vehicles (EVs) has elevated battery performance to the paramount factor defining an EV's market competitiveness, directly influencing range, charging speed, and safety. All-solid-state batteries (ASSBs) are widely anticipated as a transformative next-generation technology, engineered to surpass the inherent limitations of conventional liquid-electrolyte lithium-ion batteries. ASSBs promise superior safety by eliminating flammable liquid electrolytes, alongside higher energy density for extended range, faster charging capabilities, and significantly prolonged cycle lifespans. Japan maintains a global leadership position in ASSB research and development, where the contributions of material manufacturers like Idemitsu Kosan are crucial for strengthening the entire supply chain. Recognizing this strategic imperative, the Japanese government is aggressively promoting substantial investment and fostering robust industry-academia-government collaboration to preserve and enhance the nation's industrial competitiveness in this critical sector.

Key Findings and Technical Insights

Idemitsu Kosan is making strategic strides in the development and market introduction of sulfide-based solid electrolytes, a pivotal material for next-generation all-solid-state lithium-ion batteries. The company leverages its proprietary hydrogen sulfide handling technology, meticulously refined through decades of petroleum refining operations, complemented by its deep expertise in petrochemical applications. This unique synergy has enabled Idemitsu to amass a substantial patent portfolio, establishing a leading global position in sulfide-based solid electrolyte intellectual property. This strategic focus is paramount for Japan's broader ambition to secure and enhance its global competitiveness in advanced battery technology.

Sulfide-based solid electrolytes are particularly promising for EV applications within the all-solid-state battery paradigm, primarily due to their superior ionic conductivity and robust performance at room temperature. Idemitsu Kosan's core advantage stems from its long-standing expertise in the safe and efficient management of hydrogen sulfide—a critical precursor in the synthesis of these electrolytes, derived as a byproduct from its petroleum refining processes. By integrating advanced materials synthesis and processing technologies honed through its petrochemical business, Idemitsu aims to engineer high-quality, stable solid electrolytes. Furthermore, Idemitsu is a pivotal partner in a national project led by NEDO (New Energy and Industrial Technology Development Organization), dedicated to establishing foundational technologies for EV all-solid-state lithium-ion batteries. In this collaborative endeavor, the company works with industry giants such as Toyota Motor Corporation to jointly develop and industrialize mass production techniques for sulfide-based solid electrolytes.

Strategic Outlook

Idemitsu Kosan's pioneering work in developing and introducing sulfide-based solid electrolytes to the market is poised to be a significant catalyst for the broader commercialization of all-solid-state batteries. Should this technology be widely adopted in EVs, it would empower automakers to launch vehicles offering unparalleled safety and performance, thereby accelerating consumer confidence and driving broader EV adoption. The company's robust patent strategy, coupled with its intensive R&D efforts within the NEDO project, is expected to further entrench Japan's technological advantage in sulfide-based solid electrolyte development. As mass production techniques are refined and costs are progressively driven down, Idemitsu Kosan is strategically positioned to secure a vital role as a key supplier in the nascent all-solid-state battery market, thereby solidifying its presence as a crucial player in the ongoing global energy transition.

Source: https://www.pasonacareer.jp/job/81136297/

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#18 Dongfeng Motors to Unveil 350 Wh/kg Hybrid Solid-Liquid Battery in October, Mass Production for 1,000km+ EVs Starting Q4

Published September 09, 2026 Cailian (via carnewschina.com) China

OVERVIEW

Chinese automaker Dongfeng Motors will officially launch its self-developed 350 Wh/kg hybrid solid-liquid battery in October 2026, with mass production in EVs commencing Q4 2026. This battery supports over 1,000 km of range on a single charge and maintains over 72% energy retention at -30°C. Production requires only a 10-15% facility retrofit of existing gigafactories, positioning Dongfeng to lead the next-gen EV market ahead of rivals like BYD and Chery.

IN DEPTH

Key Findings

Chinese automotive giant Dongfeng Motors has announced it will officially unveil its self-developed 350 Wh/kg hybrid solid-liquid battery in October 2026, with integration into mass-produced vehicles starting in the fourth quarter of the same year. This innovative battery promises a driving range exceeding 1,000 km on a single charge and demonstrates superior low-temperature performance, maintaining over 72% energy retention in extreme -30°C conditions, addressing a critical challenge for EVs.

Technical & Clinical Details

The hybrid solid-liquid battery developed by Dongfeng Motors adopts an approach that retains a partial liquid electrolyte while utilizing solid-state components. This strategy aims to leverage the benefits of high energy density and safety characteristic of all-solid-state batteries, while mitigating the complex manufacturing challenges and costs. The battery achieves an impressive energy density of 350 Wh/kg, significantly surpassing current mainstream lithium-ion batteries (typically 200-300 Wh/kg). A standout feature is its robust performance in freezing temperatures, with over 72% energy retention at -30°C, which is a major breakthrough for EV usability in colder climates. From a manufacturing perspective, converting existing gigafactories for semi-solid battery production requires only a modest 10-15% equipment modification, offering a significant advantage in terms of scalability and cost-efficiency. This enables rapid mass production and market deployment.

Background & Context

In the electric vehicle (EV) market, driving range, charging infrastructure, and cost remain primary barriers to widespread adoption. While all-solid-state batteries are considered the ultimate solution to these issues, their technical complexity and manufacturing costs have thus far prevented full-scale mass production. In this context, Dongfeng Motors' decision to adopt an 'hybrid solid-liquid' approach for early commercialization and performance improvement signifies a pragmatic evolution within the industry. The year 2026 is often designated as the 'validation year' for solid-state battery technology, with many manufacturers unveiling prototypes and commissioning pilot lines. Dongfeng Motors, by committing to mass production vehicle integration, is positioning itself to lead with tangible results, a strategic move to establish a technological edge against competitors such as BYD and Chery in the rapidly evolving Chinese EV market.

Strategic Significance & Outlook

The market introduction of Dongfeng Motors' hybrid solid-liquid battery could significantly influence the Chinese and global EV markets. A driving range exceeding 1,000 km coupled with excellent low-temperature performance will strongly encourage consumer transition to EVs, particularly facilitating adoption in regions where EV penetration has been slow. If mass production can be achieved at a low cost, it will also enhance the price competitiveness of EVs, making high-performance electric vehicles accessible to a broader consumer base. Dongfeng Motors aims to leverage this technology to establish a leading position in the next-generation EV market and drive battery technology innovation in China. The future trajectory of this hybrid technology—whether it serves as a bridge to fully solid-state batteries or establishes its own distinct market segment—will be closely watched by the industry.

Source: https://cnevpost.com/2026/09/09/dongfeng-unveil-hybrid-solid-liquid-battery-oct-2026/

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#19 Kyushu Electric Power Deepens Collaboration in Next-Gen Battery Sector Through Strategic Investment in ProLogium

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OVERVIEW

Kyushu Electric Power announced increased strategic investment in Taiwanese solid-state battery pioneer ProLogium Technology, deepening collaboration in next-generation batteries and energy. ProLogium, which commercialized solid-state battery technology in 2013 and won a 2026 Gold Edison Award for its "Superfluidized Inorganic Next-Generation Lithium Ceramic Battery," leads innovation. This partnership is a key step for Kyushu Electric Power to enhance renewable energy integration and develop regional mobility solutions.

IN DEPTH

Key Findings

Kyushu Electric Power has announced its further strategic investment in ProLogium Technology, a pioneering Taiwanese all-solid-state battery manufacturer, with the aim of deepening their collaboration in next-generation batteries and the broader energy sector. This move represents a significant step for Kyushu Electric Power in integrating innovative battery technology into its business strategy as it seeks new energy solutions for realizing a decarbonized society.

Technical & Clinical Details

ProLogium is one of the first companies globally to commercialize all-solid-state battery technology in 2013, and its technological prowess is highly regarded. The company has achieved continuous breakthroughs, including the unveiling of its "Superfluidized Inorganic Next-Generation Lithium Ceramic Battery" in 2025 and winning the Gold Edison Award for technological innovation in 2026. The 3.5th generation Lithium Ceramic Batteries (LCB), which ProLogium has begun mass production of at its Giga-level manufacturing facility in Taiwan, boast a gravimetric energy density of 381 Wh/kg and a volumetric energy density of 903 Wh/L. Kyushu Electric Power's investment aims to accelerate the application of ProLogium's advanced all-solid-state battery technologies in integrating renewable energy into power grids, popularizing electric mobility (such as EVs and electric construction machinery) in the region, and developing large-scale energy storage systems. Specifically, ProLogium's safe and high-performance batteries are expected to contribute to grid stabilization, peak shaving, and off-grid solutions.

Background & Context

As global decarbonization efforts accelerate, the expanded adoption of renewable energy and the development of high-performance energy storage systems to support it have become urgent priorities for power utility companies. Particularly in Japan, investment in next-generation battery technology is crucial for both energy security and reducing environmental impact. Kyushu Electric Power is actively promoting the integration of renewable energy in the Kyushu region and aims to contribute to grid stabilization and improved sustainability of local communities by adopting innovative technologies like all-solid-state batteries. ProLogium's technology, with its high energy density and superior safety, is highly valued for its potential not only in EVs but also as stationary energy storage, with significant applicability to power infrastructure.

Strategic Significance & Outlook

The strengthened collaboration between Kyushu Electric Power and ProLogium offers strategic benefits for both companies. Kyushu Electric Power can integrate ProLogium's advanced all-solid-state battery technology into its energy business, enabling further expansion of renewable energy adoption and the construction of more efficient and stable power supply systems. For ProLogium, the strategic investment and partnership with Kyushu Electric Power provide an opportunity to strengthen its access to the Japanese market and expand the application scope of all-solid-state batteries in the power infrastructure sector. This alliance demonstrates the potential for next-generation battery technology to become a core component of a broad energy ecosystem, rather than just a power source for EVs, and is expected to serve as an important model for realizing a sustainable future society.

Source: https://www.globenewswire.com/news-release/2026/09/09/3358421/0/en/kyushu-electric-power-advances-strategic-investment-in-prologium-deepening-collaboration-in-next-generation-batteries-and-energy-sector.html