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1. Europe Must Move Fast on LFP Batteries

Europe should urgently embrace lithium-iron-phosphate (LFP) battery technology: it is safer, cheaper and avoids reliance on socially or environmentally problematic materials like cobalt or nickel. Thanks to recent innovations, LFP batteries now offer sufficient range and quick charging at a far lower cost, making electric vehicles broadly accessible. In 2024, over 40 % of electric cars sold worldwide already used LFP, and this share is projected to reach nearly 60 % by 2030. But the supply chain is almost completely dominated by China — raising strategic risks for Europe. To secure autonomy, the EU should support local LFP production through joint ventures and industrial policy. At the same time, scaling up recycling and sustainable supply-chain infrastructure is vital to ensure long-term environmental benefit. If Europe acts decisively now — combining innovation, industrial strategy, and regulation — LFP could become a cornerstone of sustainable, mass-market e-mobility.

<https://www.transportenvironment.org/articles/cant-stop-the-market-why-europe-should-embrace-lfp-batteries-sustainably>

2. Liantown and Argosy Tap Strong Lithium Demand with Premium Spot Sales

Liantown Resources has sold 10,000 wet metric tonnes of spodumene concentrate from its Kathleen Valley project through its first online auction, achieving a premium price well above prevailing spot levels and attracting strong global buyer interest. The transparent auction format is part of Liantown's strategy to broaden its customer base and improve real-time price discovery. At the same time, Argosy Minerals has executed a spot-sales contract for its lithium carbonate, reflecting a broader industry shift toward flexible, opportunistic sales rather than long-term offtake agreements. Together, these moves signal strengthening confidence in the lithium market, with miners capitalising on rising demand and improved pricing after a period of volatility.

<https://www.ltresources.com.au/latest-news/inaugural-spodumene-concentrate-auction-outcome/>

3. SQM Sees Record Lithium Prices and Strong Demand Outlook

SQM reported a sharp rebound in lithium prices, driving its quarterly profit up 36% and lifting revenue nearly 9%. The company expects global lithium demand to surge around 25% in 2025, supported by strong growth in electric vehicles and expanding energy-storage applications. Despite trimming its medium-term capital expenditure plans, SQM says its production and sales targets remain unchanged. The miner is also advancing a major joint-venture with Codeco to expand lithium output in Chile's Atacama region, awaiting final regulatory approval. Overall, SQM sees tightening supply, rising prices and accelerating demand as key drivers of a stronger lithium market in the years ahead.

<https://ir.sqm.com/static-files/06547484-fa27-473d-9ae5-f5991c734d97>

4. EU Eyes Direct Stakes in Australian Critical-Mineral Projects

The European Union has signalled its readiness to take direct equity stakes in Australian resource projects as it seeks to secure stable supplies of critical minerals essential for its green-energy transition. EU trade officials say several priority projects have already been identified, with a formal list to be published soon. The move reflects rising concern over Europe's heavy dependence on a small number of suppliers, particularly China, for key materials such as lithium, rare earths and nickel. By investing directly — rather than relying solely on trade agreements — the EU aims to become an early stakeholder in the supply chain and strengthen long-term supply security. Discussions to revive a broader free-trade agreement with Australia are also advancing, potentially deepening cooperation. Overall, the EU's shift signals intensifying global competition for critical minerals and positions Australia as a central partner in Europe's supply-chain diversification strategy.

<https://www.luxtimes.lu/europeanunion/eu-may-invest-in-australian-critical-minerals-emulating-us/106670005.html>

5. CATL Targets December Restart of Major Lithium Mine

CATL is preparing to restart operations at its Jianxiawo lithium mine in Yichun by early December, following a suspension in August when its mining permit expired. The company has already instructed suppliers and processing partners to ready equipment, chemicals and personnel pending final regulatory approval. The mine's shutdown contributed to recent volatility in lithium-carbonate prices, as the site accounts for an estimated 3% of global lithium supply. A successful restart could ease current supply tightness and help stabilise prices as demand for lithium continues to rise with accelerating electric-vehicle and energy-storage adoption. Market participants are now closely watching whether the required approvals will come through in time to bring the mine back online.

<https://cnevpost.com/2025/11/21/catl-aims-restart-lithium-mine-dec/>

6. POSCO and ANSTO Partner on Advanced Critical-Minerals Refining

POSCO Holdings has signed an agreement with Australia's ANSTO to jointly develop advanced refining and processing technologies for critical minerals, including lithium and rare earths. The collaboration will focus on strengthening mid-stream and downstream capabilities by combining POSCO's industrial operations with ANSTO's research expertise in complex mineral processing. The deal is designed to boost POSCO's technological competitiveness and secure high-purity materials needed for batteries and clean-energy applications. It also reflects a broader global trend of companies seeking to internalise refining capacity to improve supply-chain resilience. As demand for strategic minerals continues to grow, this partnership positions both organisations to play a stronger role in the evolving critical-minerals ecosystem.

<https://newsroom.posco.com/en/posco-holdings-signs-mou-with-australian-nuclear-science-and-technology-organisation-ansto-for-critical-minerals-technology-cooperation/>

7. European Metals Secures Major Czech Funding for Cinovec Lithium Project

European Metals Holdings has received a landmark €360 million grant from the Czech government to advance the Cinovec lithium project, significantly reducing development risk and accelerating timelines. The support is one of the largest critical-minerals funding commitments ever made in the EU and underscores Europe's urgent push to secure domestic lithium supply for its battery and EV industries. Cinovec is Europe's largest hard-rock lithium resource and also contains substantial tin, positioning it as a cornerstone of the region's strategic raw-materials ecosystem. The project has been recognised under the EU Critical Raw Materials Act and designated a "Strategic Deposit," helping streamline permitting and regulatory approvals. This strong political and financial backing highlights Europe's broader shift toward supply-chain independence in critical minerals as demand surges across clean-energy sectors.

<https://www.investi.com.au/api/announcements/emh/044ef5ea-638.pdf>

8. Century Lithium Marks Key Progress at Angel Island Project

Century Lithium has announced major progress at its 100%-owned Angel Island lithium project in Nevada, completing all baseline environmental studies and moving toward finalizing its Plan of Operations — a crucial step before federal permitting begins. The company has also relocated its Demonstration Plant to a new 20-acre site at Tonopah Airport, consolidating operations and enhancing future testing and production capacity. Angel Island remains one of the largest sediment-hosted lithium resources in the U.S., and Century Lithium is advancing a proprietary chloride-leach and direct-lithium-extraction process to produce battery-grade lithium carbonate. An updated Feasibility Study is underway to optimize mine design, reduce costs, and align infrastructure with planned grid-connection upgrades. If successfully developed, the project could become a major domestic source of lithium for U.S. battery, EV, and energy-storage markets.

<https://www.centurylithium.com/news/century-lithium-reports-latest-developments-at-angel-island-lithium-project-nevada>

EV and Batteries

9. VinGroup Plans Major EV and Clean-Energy Investments in Telangana

Vietnam's VinGroup is exploring a large-scale entry into Telangana with plans for an electric-vehicle manufacturing plant and advanced battery-storage facilities. The conglomerate is also evaluating investments in renewable energy projects such as solar

and wind to support its clean-energy expansion in India. In parallel, VinGroup has expressed interest in contributing to the development of the upcoming Bharath Future City, signaling a broad commitment to the state's innovation and infrastructure ecosystem. The initiative aligns with Telangana's strong push toward sustainable mobility and green energy. If finalized, the investment could significantly boost local EV manufacturing capacity, generate jobs, and accelerate India's transition to electric transportation. Stakeholders expect further engagement between VinGroup and state leadership in the coming months.

<https://telematicswire.net/vingroup-eyes-big-ev-battery-clean-energy-push-in-telangana/>

10. BYD's Ultra-Affordable EVs Could Get Even Cheaper in Europe

BYD may soon bring an even smaller and cheaper electric car to Europe — potentially undercutting its own low-cost BYD Dolphin Surf. The proposed model, the BYD Racco, is a compact “kei-car” designed initially for Japan, measuring just 3.4 m long and packing a 20 kWh battery for roughly 180 km driving range. If launched in Europe, Racco could hit the market at around €15,000–€20,000, setting a new low-cost benchmark and putting pressure on incumbent budget EVs like Dacia Spring. With its small size, low battery cost (using LFP technology), and budget price point, Racco could redefine what “entry-level EV” means in European cities — especially for urban drivers and first-time EV buyers. For BYD, the move signals a push to widen its footprint in Europe's mass-market EV segment, potentially attracting customers previously hesitant about price or electric mobility.

<https://electrek.co/2025/11/19/byd-smaller-cheaper-ev-europe/>

11. Exide Targets FY26 Launch for Lithium-Ion Batteries for Two-Wheelers

Exide Industries plans to begin producing lithium-ion cells by the end of FY26, with its first products aimed at India's rapidly growing electric two-wheeler market. The company will start with NCM-based cylindrical cells for e-scooters and bikes, followed by a prismatic LFP line intended for stationary energy-storage applications. Exide has already invested nearly ₹4,000 crore into its lithium-ion subsidiary, signalling strong long-term commitment. Initial plant utilisation is expected to reach around 60%, ramping up to 80–90% as production scales, at which point margins should align with its traditional lead-acid business. The firm is in advanced discussions with major two-wheeler manufacturers, with two likely to be early customers. Alongside EV batteries, Exide views energy storage as a second key growth pillar, positioning the company to play a major role in India's emerging battery ecosystem.

<https://telematicswire.net/exide-industries-sets-fy26-end-target-for-lithium-ion-battery-for-two-wheelers/>

12. LG Energy Solution to Mass-Produce LFP Batteries for ESS in Korea

LG Energy Solution will begin mass production of lithium-iron-phosphate (LFP) batteries for energy-storage systems in South Korea by 2027, with construction of new production lines at its Ochang plant starting in late 2025. The initial phase targets around 1 GWh of annual output, with plans to expand capacity as demand accelerates. The move underscores the rapid industry shift toward LFP technology, which offers lower costs, enhanced thermal safety, and longer cycle life compared with nickel-based chemistries—making it increasingly preferred for stationary storage. By localising production, LG aims to strengthen Korea's battery supply chain, reduce import reliance, and support domestic suppliers. With global demand for grid-scale storage surging alongside renewable-energy expansion, this initiative positions LG Energy Solution to play a leading role in both Korean and international ESS markets.

<https://koreajoongangdaily.joins.com/news/2025-11-17/business/industry/LG-Energy-to-massproduce-LFP-batteries-for-ESS-in-Korea/2456196>

13. HyperStrong and CATL Seal 10-Year Partnership with 200 GWh Supply Deal

HyperStrong and CATL have entered a decade-long strategic partnership that includes a massive commitment for HyperStrong to procure at least 200 GWh of battery cells between 2026 and 2028. The agreement sets a rolling three-year planning mechanism through 2035, allowing both companies to update supply and cooperation targets annually. Beyond battery procurement, the partnership will expand into joint investments, coordinated sourcing of key components, and shared project-development platforms aimed at improving efficiency across the energy-storage value chain. For HyperStrong, the deal provides a secure foundation to scale its global energy-storage deployments and build a broader clean-energy ecosystem. For

CATL, it represents a major long-term order pipeline outside the EV sector, reinforcing its growing focus on grid-scale and stationary storage. The scale of the agreement signals rising confidence in the long-term growth trajectory of the global ESS market.

<https://www.hyperstrong.com/en/news/company-news/77>

14. SK On Restructures China Battery Ventures Through Major Stake Swap

SK On has agreed to swap ownership stakes with its Chinese partner EVE Energy, resulting in each company taking full control of one of their two joint-venture battery plants. Under the deal, SK On will become the sole owner of its Jiangsu-based SKOJ facility, which has around 27 GWh of annual capacity, while EVE Energy will take full ownership of the Huizhou-based EUE plant. A cash adjustment will accompany the swap to reflect valuation differences between the two assets. The move is part of SK On's broader portfolio-rebalancing strategy aimed at improving operational control, speeding up decision-making, and aligning long-term production plans with market demand. By separating the ventures into fully owned units, both companies expect greater efficiency and clearer strategic direction for their respective facilities.

<https://koreajoongangdaily.joins.com/news/2025-11-20/business/industry/SK-On-Chinese-partner-to-swap-stakes-in-battery-JVs/2459447>

15. Gotion Begins Delivering Unified Battery Cells to Volkswagen

Gotion High-Tech has started mass production of Volkswagen's new "unified cells," with the first shipments already completed. The supply agreement, which runs from 2026 to 2032, covers LFP and other chemistries built in a standardized cell format compatible across multiple VW vehicle platforms. This unified approach allows Volkswagen to simplify battery design, cut manufacturing costs, and integrate different chemistries without changing pack architecture. Production is underway at Gotion's Hefei plant, which has an annual capacity of around 20 GWh. In addition to supplying cells, Gotion has introduced a full battery-pack system based on this unified platform, signalling ambitions to deliver larger-system solutions for VW's EV lineup. The milestone marks a major step forward in Volkswagen's strategy to scale affordable, next-generation electric vehicles.

<https://www.electrive.com/2025/11/21/gotion-high-tech-is-now-mass-producing-vw-standard-cells/>

16. CATL Breaks Ground on €4.1B Spanish Battery Gigafactory

CATL has started construction on a €4.1 billion LFP battery plant in Figueruelas, Spain, which will become the country's largest EV-battery facility once operational. The plant is scheduled to begin production in late 2026 with an annual capacity of up to 50 GWh — enough to supply roughly one million electric vehicles a year. Construction will initially rely on around 2,000 specialised workers from China, after which CATL plans to train and employ about 3,000 local workers, ultimately supporting up to 4,000 jobs. The project benefits from more than €300 million in EU funding, reflecting Europe's push to localise battery production and strengthen supply-chain security. Spain's competitive labour and energy costs helped clinch the location, positioning the country as an emerging battery-manufacturing hub. The gigafactory marks another major step in Europe's accelerating EV transition and highlights the importance of skilled workforce development for advanced manufacturing.

<https://www.catl.com/en/news/6614.html>

17. Altilium Secures UK Funding to Produce EV Batteries from Recycled Materials

Altilium has received government backing from the UK's Department for Energy Security and Net Zero and Innovate UK to scale commercial production of electric-vehicle battery cells made using recycled anode and cathode materials. The project will deploy the company's proprietary EcoAnode and EcoCathode technologies, following successful trials producing automotive-grade pouch cells from recycled battery waste. By recovering over 95% of key metals such as lithium, nickel and cobalt, the initiative aims to cut battery carbon footprints and reduce reliance on virgin raw materials. The programme supports the UK's push to strengthen domestic critical-minerals capability, improve resource efficiency and accelerate the transition to net-zero transport. If fully realised, it could help establish a resilient homegrown supply chain for sustainable EV-battery production.

<https://altilium.tech/2025/11/10/altilium-awarded-funding-from-desnz-and-innovate-uk/>

18. Hyundai & Kia Invest ₩1.2 Trillion in New Battery R&D Campus

Hyundai and Kia will invest ₩1.2 trillion (about USD 816 million) to build a large-scale “Future Mobility Battery Campus” in Anseong, Korea — their first dedicated research and development hub focused entirely on batteries. Spanning 111,000 m², the facility is set for completion by the end of 2026 and will consolidate the entire battery development process, from materials research and cell design to pack integration and vehicle-level validation. The campus will feature advanced testing environments that replicate real-world conditions to accelerate improvements in performance, safety, and durability for electric and extended-range vehicles. AI-driven verification tools and digital testbeds will support high-precision quality control and faster development cycles. By internalising critical battery technologies, Hyundai and Kia aim to reduce reliance on suppliers and strengthen competitiveness in electrification. The campus may eventually extend its scope to robotics and next-generation mobility systems.

<https://www.hyundai.com/worldwide/en/newsroom/detail/hyundai-motor-group-drives-next-generation-battery-innovation-with-future-mobility-battery-campus-0000001078>

Salt and Electrolyte

19. Sylvatex Unveils Precursor-Free LFP Process That Halves Costs and Boosts U.S. Supply Security

Sylvatex has validated a new precursor-free method for producing LFP cathode material that cuts capital expenditure by more than 50% and reduces overall production costs by roughly 35% compared with traditional processes. The technique also lowers energy consumption by about 25% while eliminating water use and sulfate waste, significantly improving sustainability. Because it does not rely on Chinese precursors, the process strengthens U.S. supply-chain independence for EVs, grid storage, AI infrastructure and defence applications. It uses widely available feedstocks and standard industrial equipment, enabling rapid, scalable deployment and full compliance with U.S. “foreign-entity-of-concern” rules. Independent engineering and economic assessments confirm the method’s technical and financial advantages. If adopted at scale, this innovation could materially reduce battery costs and accelerate domestic clean-energy manufacturing.

<https://www.globenewswire.com/news-release/2025/11/18/3190040/0/en/Sylvatex-Validates-Precursor-Free-Process-That-Halves-CapEx-and-Secures-U-S-Supply-Chains.html>

20. Anthro Energy Wins \$5.5M Grant to Build Advanced Battery Production in California

Anthro Energy has secured a \$5.5 million grant from the California Energy Commission’s PowerForward program to establish domestic production of advanced electrolytes and lithium-ion battery cells in Alameda. The initiative aims to scale manufacturing of the company’s proprietary Proteus electrolyte and produce more than 10 MWh of battery cells annually by 2026, supporting zero-emission vehicles, consumer electronics, energy storage and defence applications. By localising production, the project strengthens U.S. supply-chain resilience and reduces dependence on imported battery materials and components. The new facility is also expected to create skilled jobs and contribute to California’s clean-energy and economic-development goals. Beyond EVs, the technology has potential to support multiple high-growth sectors, reinforcing the state’s position as a hub for next-generation battery innovation.

<https://www.streetinsider.com/Press+Releases/California+Energy+Commission+Awards+Anthro+Energy+%245.5+Million+PowerForward+Grant+to+Establish+Advanced+Electrolyte+and+Battery+Cell+Production+in+California/25652414.html>

LFP-ESS and Start ups

21. China’s Battery Output Set to Hit 1.5 TWh in 2025

China’s battery industry is expected to exceed 1,500 GWh of total lithium-ion output in 2025, driven by surging demand for both electric vehicles and grid-scale energy storage. Storage-battery production alone is forecast to more than double to over

550 GWh, while power-battery output may reach nearly 1,000 GWh. This marks a sharp rise from 2024, when storage batteries accounted for 260 GWh and power batteries 826 GWh. Growth is fueled by rapid expansion of wind and solar installations, intensifying the need for large-scale storage systems. Major producers are scaling aggressively: CATL is projected to exceed 600 GWh, BYD nearly 300 GWh, and EVE Energy above 100 GWh. New mega-projects from companies such as HiTHIUM and Envision are also under construction. Analysts say storage batteries could soon rival EV batteries in scale, reshaping China's battery-market landscape.

<https://en.jiemian.com/article/13658315.html>

22. LG Energy Solution Expands LFP ESS Capacity with New 1 GWh Line in Korea

LG Energy Solution has announced plans to begin constructing a lithium iron phosphate (LFP) battery production line for energy-storage systems at its Ochang Energy Plant by the end of 2025, with full operations targeted for 2027. The new line will start at 1 GWh of annual capacity, with room for expansion as market demand grows, and is expected to strengthen cooperation with domestic Korean suppliers while boosting local employment. The project's launch aligns with Korea Power Exchange's second-round ESS procurement, positioning LG strategically for the 540 MWh system rollout scheduled for completion in 2027. Globally, LG is also expanding ESS capacity: its joint venture with Stellantis in Canada is converting a major battery line to LFP production for North American storage markets. Financially, LG posted strong Q3 2025 results, with operating profit rising 22% quarter-on-quarter and order backlog reaching 120 GWh. The combined domestic and international moves reinforce LG Energy Solution's growing dominance in the fast-accelerating global ESS sector.

<https://www.energytrend.com/news/20251120-50440.html>

23. NeoVolta Raises \$13M for 2 GWh Energy-Storage Manufacturing Expansion in Georgia

NeoVolta has raised \$13 million in new financing to advance its U.S. battery-manufacturing expansion, including a planned 2 GWh energy-storage production facility in Georgia. The funding round, led by Infinite Grid Capital, will support working capital and initial build-out costs as the company moves toward launching operations in 2026. The new plant will target utility-scale and commercial-industrial storage markets, marking a significant expansion beyond NeoVolta's residential-focused product line. By developing domestic manufacturing capacity, the company aims to tap into accelerating national demand for grid-scale energy storage and benefit from U.S. clean-energy incentives. The investment strengthens NeoVolta's liquidity position and prepares it to scale production rapidly as market opportunities grow.

<https://neovolta.com/blog/agreementsbyinfinitegridcapital/>

24. CRS Report Warns of U.S. Battery Progress Held Back by Import Dependence

A new Congressional Research Service report finds that U.S. lithium-ion battery manufacturing has expanded rapidly since 2020, driven by electric-vehicle growth, renewable-energy deployment, and rising grid-storage needs. While downstream manufacturing—such as pack assembly—has grown domestically, the United States remains heavily dependent on imports for upstream components including cathode and anode materials, separators, and processed minerals. Imports of finished batteries have surged, rising from just 17% of total U.S. battery supply in 2009 to more than 80% by 2024. China continues to dominate the global supply chain with control of 70–90% of key production stages, posing long-term resilience and national-security risks. Although recent U.S. industrial-policy measures aim to strengthen domestic production, structural gaps persist. The report highlights the strategic need for deeper onshoring of materials and cell manufacturing to ensure supply security and support the country's clean-energy transition.

<https://www.everycrsreport.com/reports/R48538.html>

25. Ganfeng Lithium and EDF Join Forces for 160 MWh UK Energy-Storage Project

The Chinese lithium giant Ganfeng Lithium and European energy firm EDF have struck a partnership to build and operate a new energy-storage system in the UK, named the Kintore project. The facility is designed to deliver 50 MW / 160 MWh storage capacity, with commercial operations targeted to start in 2026. Ganfeng will handle construction and supply of the battery

hardware, while EDF will manage market trading, asset optimisation and day-to-day operation — using its “Powershift” platform to deliver real-time grid services. The collaboration marks Ganfeng’s first major foray into the UK energy-storage sector and aims to bolster stability and flexibility on the UK power grid, especially as renewables expand. For EDF, the project expands its footprint in battery-based grid services and complements its broader clean-energy strategy. Observers see the deal as a sign of growing international cooperation to meet rising demand for grid-scale storage.

<https://www.energyglobal.com/energy-storage/26112025/ganfeng-lithium-and-edf-enter-partnership-for-energy-storage-project/>

26. Vianode Signs LOI to Supply Synthetic Graphite for Grid-Scale Battery Storage

Vianode has signed a Letter of Intent with C4V to supply advanced synthetic anode graphite for battery energy storage systems, with deliveries beginning in the second half of 2026 and continuing through 2032. The agreement supports C4V and its gigafactory joint ventures by providing a stable, non-Asia-dependent source of critical battery materials. This marks Vianode’s first major expansion into the grid-storage segment, building on its existing focus on electric-vehicle batteries. Initial graphite supply will come from Vianode’s Norwegian facility, followed by larger volumes from its upcoming Ontario plant. Vianode’s synthetic graphite can reduce carbon emissions by up to 90% compared with conventional materials while delivering performance suited for long-life storage and fast-charging applications. For C4V, the partnership complements its cobalt- and nickel-free cathode technology and supports the development of a cleaner, more secure North American battery supply chain.

<https://news.cision.com/vianode/r/vianode-sign-loi-for-advanced-battery-materials-supply-to-battery-energy-storage-systems--bess-c4271974>

Technology and Regulatory

27. LG Chem Wins 3.76 Trillion Won U.S. Cathode-Material Supply Deal

LG Chem has secured a major multi-year contract worth 3.76 trillion won (about USD 2.6 billion) to supply cathode materials to U.S. electric-vehicle manufacturers from late 2025 through mid-2029. The agreement covers up to 150,000 tonnes of cathode materials annually from the company’s facilities in South Korea, China, and its new Tennessee plant coming online in 2026. This marks LG Chem’s third major external supply deal, reflecting its strategy to diversify beyond supplying its affiliated battery unit. The contract represents roughly 8% of the company’s 2024 revenue, providing a significant boost amid softer global EV demand. While the buyer remains undisclosed, industry sources suggest a major U.S.–Japan joint venture could be involved. The deal strengthens North America’s battery supply chain and positions LG Chem to meet long-term demand as the region accelerates EV production.

<https://www.thelec.net/news/articleView.html?idxno=5488>

Solidion Technology Awarded U.S. DOE Grant to Advance Sustainable Graphite Production

Solidion Technology has received a grant from the U.S. Department of Energy to scale a next-generation electrochemical process that converts biomass-derived carbon into high-performance battery-grade graphite. The project, developed in partnership with Oak Ridge National Laboratory, builds on Solidion’s award-winning molten-salt graphitization technology. The funding supports efforts to strengthen U.S. supply-chain independence by reducing reliance on imported graphite, one of the most critical materials in lithium-ion batteries. Solidion’s broader portfolio includes silicon anodes, graphene-enhanced materials and advanced battery chemistries, and the grant is expected to accelerate commercialization across multiple applications. If successful, the process could significantly cut the carbon footprint and cost of graphite production while bolstering domestic battery manufacturing capacity.

<https://www.prnewswire.com/in/news-releases/solidion-technology-awarded-grant-from-the-us-department-of-energy-302622978.html>

28. Pure Lithium Secures Saudi Patent for Fully Integrated Lithium-Metal Battery Technology

Pure Lithium has received a foundational patent in Saudi Arabia for its vertically integrated “Brine to Battery” process, which spans lithium extraction from brines through anode production to full lithium-metal battery assembly. The technology eliminates the need for traditional battery materials such as graphite, nickel, cobalt and manganese, enabling lighter, more energy-dense and potentially lower-cost batteries. Saudi Arabia is considered a strategic match due to its lithium-rich brines and complementary vanadium resources, which support next-generation battery chemistries. The patent strengthens Pure Lithium’s rapidly growing global IP portfolio, which now includes more than 100 patents and applications worldwide. By co-locating extraction, processing and manufacturing, the model opens the door to fully domestic, closed-loop battery hubs that reduce supply-chain dependency. If commercialized at scale, the approach could meaningfully accelerate the global transition toward lithium-metal batteries.

<https://www.businesswire.com/news/home/20251125681146/en/Pure-Lithium-Receives-Saudi-Patent-for-Vertically-Integrated-Lithium-Metal-Battery-Technology>

29. LG Chem Unveils Electrolyte Breakthrough Boosting Solid-State Battery Performance by 50%

LG Chem has announced a major breakthrough in all-solid-state battery technology with a new electrolyte-engineering method that significantly boosts performance. By using a spray-recrystallization process to precisely control solid-electrolyte particle size, the company achieved a more uniform, tightly packed structure that improves ionic conductivity and reduces internal voids. Test cells using this electrolyte demonstrated around a 15% increase in overall capacity and up to a 50% improvement in high-rate discharge performance compared to conventional solid electrolytes. Because solid-state batteries eliminate flammable liquid electrolytes, the innovation also enhances safety by improving thermal and fire stability. LG Chem says this marks progress toward overcoming a core commercialization barrier and plans to accelerate development of sulfide-based solid-state materials. If scaled, the technology could enable safer, faster-charging, higher-energy batteries for EVs and energy-storage systems.

<https://www.koreaherald.com/article/10623218>

30. Sinopec and LG Chem Partner to Develop Next-Generation Sodium-Ion Battery Materials

Sinopec and LG Chem have signed a joint development agreement to co-develop cathode and anode materials for sodium-ion batteries, targeting both grid-scale energy storage and low-speed electric vehicles. The partnership aims to accelerate commercialization of sodium-ion technology, which uses abundant, low-cost sodium instead of lithium—reducing supply-chain pressure and overall production costs. Sodium-ion batteries offer several advantages, including improved safety, faster charging and stronger low-temperature performance. The agreement also includes plans to build a stable supply chain and explore expanded cooperation in clean-energy and advanced-materials sectors. Industry forecasts suggest China’s sodium-ion market could surge from about 10 GWh in 2025 to nearly 300 GWh by 2034. By combining Sinopec’s large-scale chemical capabilities with LG Chem’s battery-materials expertise, the collaboration positions both companies to accelerate sodium-ion adoption and diversify global battery chemistry.

<https://www.koreaherald.com/article/10608555>

31. Gore Opens Shanghai Battery Lab to Accelerate Next-Gen Materials Innovation

W. L. Gore & Associates has opened a new Battery Lab in Shanghai to accelerate the development of advanced materials for electric vehicles, energy storage systems and consumer electronics. The facility focuses on critical battery-cell and pack components such as membranes, venting systems, moisture-management solutions, thermal-runaway mitigation and pressure-equalization technologies — all aimed at improving safety, reliability and performance. The lab enables faster prototyping and

direct collaboration with OEMs, shortening the path from concept to commercial products. Gore also plans to use the site to advance emerging technologies like dry-electrode processing and next-generation cell-formation techniques. With decades of experience in automotive and electronics materials, the company aims to tackle persistent industry challenges around durability, integration and safety. The new Shanghai hub strengthens Gore's global R&D network and supports rapidly growing demand for high-performance battery materials.

<https://www.koreaherald.com/article/10623418>

32. New Polymer Electrolyte Boosts Solid-State Lithium Battery Safety and Lifespan

Researchers at UNIST have developed a novel polymer-film electrolyte for solid-state lithium batteries that significantly improves both performance and safety. The innovation uses a fluorinated polymer (PVDF-TrFE-CFE) shaped into a thin film and stretched uniaxially to align polymer chains, creating continuous pathways for lithium-ion transport. This design increases ion diffusion speed nearly fivefold and raises ionic conductivity by about 72% compared to unstretched films. In battery tests, the new electrolyte led to much better cycle stability — after 200 charge-discharge cycles the cells retained roughly 78% of their capacity, versus 55% for conventional polymer electrolytes. The solid nature of the electrolyte also eliminates the fire and explosion risks associated with liquid electrolytes, improving safety. Because the process is compatible with standard polymer-electrolyte manufacturing methods, it holds promise for scaling up and accelerating commercialization of safer, longer-lasting all-solid-state batteries for EVs and energy-storage systems.

<https://techxplore.com/news/2025-11-polymer-electrolyte-safer-longer-solid.html>

33. Armor Battery Films Introduces High-Performance En'Safe® Current Collectors for EV Batteries

Armor Battery Films has launched two new En'Safe® current collectors, NG4 and NG5, designed to significantly enhance the performance of LFP and LMFP batteries used in electric vehicles. Built for high thermal stability, the collectors maintain strong performance even at temperatures up to 60°C — a critical requirement for automotive applications. The new technology boosts electrode adhesion by at least 250% and increases electrical conductivity by more than 50%, enabling higher power output and better overall cell efficiency. When paired with Armor's coating primer, the collectors can reduce or even eliminate the need for carbon black, improving energy density and lowering material costs. The products address long-standing LFP limitations related to conductivity and electrode bonding, opening the door to higher-performing, thicker or faster-charging cell designs. With these tailored solutions, Armor aims to support more competitive, cost-effective mass production of next-generation EV batteries.

<https://battery-tech.net/battery-markets-news/armor-battery-films-has-expanded-its-product-portfolio-with-new-ensafe-current-collectors-for-lfp-batteries/>