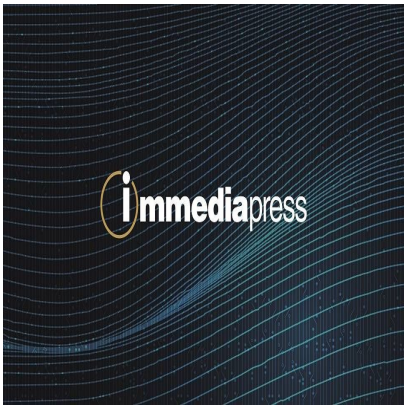

CATL Debuts Worldâ??s First Field-Validated Sodium-Ion BESS, Bringing Sodium Storage to Commercial Reality

Descrizione

COMUNICATO STAMPA â?? CONTENUTO PROMOZIONALE

MUNICH, June 23, 2026 /PRNewswire/ â?? On June 22, 2026, CATL officially unveiled the TENER Sodium Energy Storage System, the worldâ??s first real-world validated sodium-ion energy storage solution in Munich, Germany. The solution has reached full commercial maturity across technology, production capacity, and supply chain readiness. Cumulative shipments are expected to reach 1 GWh by the end of 2026, with global deliveries to begin in June 2027.

â??CATL is committed to promoting energy independence around the world while delivering long term value for our customers. To achieve this we have made it our mission to develop a new battery chemistry based upon abundant resources available across all continents, one that can support the energy needs of all eight billion people, while offering longer cycle life and enhanced safetyâ?• said William Wu, Director of CATLâ??s Energy Storage Technology Center, at the launch event. â?• We believe that sodium and lithium together will form the twin foundations of the future energy storage system.â?•

TENER Sodium: Certainty for an Uncertain Future

As the share of renewable energy continues to rise and AI-driven power demand surges, energy storage is moving from a supporting role to critical infrastructure for the global energy system. However, conventional energy storage has relied heavily on lithium-based systems, whose concentrated supply and volatile prices pose growing supply chain risks. Sodiumâ??over 1,000 times more abundant than lithium and widely distributedâ??offers better extreme-temperature performance, safety, and cost potential, making a technology transition in energy storage inevitable.

â??The energy storage industry has moved beyond a race for scale. Today, success is increasingly defined by the ability to create long-term value,â?• said Amanda Xu, CTO ESS and President of ESS Europe CATL, in her keynote speech. â??The principle we most firmly believe in is that readiness creates certainty.â?•

And this is precisely the mission of TENER Sodium.

Powered by CATLâ??s latest sodium-ion technology, TENER Sodium delivers more than 30 MWh of rated capacity on a fully modular architecture. This architecture delivers three direct benefits for customers:

Simpler project deployment, with each single module weighing about 42 tonnes and only 34 units required for a 1 GWh site.

Greater configuration flexibility, with energy and power blocks decoupled to support flexible storage durations of 1, 2, 4, 6, and 8 hours, tailored to specific project requirements.

Lower maintenance cost, as faulty modules can be quickly isolated and replaced independently, simultaneously improving station-level system availability while reducing customer OPEX and maximizing asset utilization.

Beyond modular convenience, CATL has purpose-built a station-level platform specifically for sodium-ion systems.

1.Voltage regulation: To address the wide voltage range of sodium-ion batteries, CATL has developed a dedicated bidirectional (Bi-DC) voltage regulation system for its sodium solution. The system enables automatic voltage boosting in the low-voltage range, allowing the PCS to consistently deliver optimal output across the full range. This improves overall system round trip efficiency (RTE) by nearly 2%. For a 1 GWh energy storage station, this means millions of additional kilowatt-hours of power generation each year. The system is compatible with all major PCS products worldwide and provides stronger grid support capability.

2. BMS system: CATL has designed a BMS system for sodium-ion energy storage systems to leverage sodium chemistryâ??s continuously sloping voltage curve, enabling more accurate SOC estimation. Furthermore, the overcharge SOC tolerance of sodium-ion batteries has been increased by 20% compared with lithium-ion batteries. This gives the BMS an additional 20% safety margin for operation, allowing greater flexibility.

3. Ultra-low auxiliary energy consumption: The unique top-discharge airflow design eliminates thermal-island effects at the source, reducing system heat generation by nearly 30% compared to conventional solutions. Combined with a highly efficient liquid-cooling system, auxiliary power consumption has been reduced from the industry average of 2% to 1%. For large-scale, long-duration energy storage projects, this improvement can save millions of euros in operating costs.

4. Low-noise design: TENER Sodium operates at only 65 decibels â?? 10 decibels lower than conventional systems. This helps address local community concerns commonly encountered across the industry, allowing for energy storage stations to be built closer to load centers, saving substantial transmission and distribution costs.

In addition, the TENER Sodium system is compatible with LFP systems and shares the same physical footprint. The same platform can accommodate either sodium-ion or lithium-ion batteries without changing enclosures, redesigning projects, or repeating certification processes. This flexibility to switch seamlessly between sodium-ion and lithium-ion technologies provides customers with a practical

solution for managing lithium price volatility. Looking ahead, the TENER Sodium system also reserves an upgrade path to 2000V high-voltage architectures, enabling it to adapt to evolving technology routes.

A Decade in the Making: Supply Chain and Manufacturing Now Fully Commercial-Grade

TENER Sodiumâ??s comprehensive advantages in safety, returns, and reliability did not emerge overnight. CATL has been engaged in sodium-ion battery R&D since 2016, investing nearly â?¬1.2 billion over the past decade. With more than 300 R&D professionals involved, it has accumulated more than 1,600 patent families and over 200 globally granted patents, overcome more than 100 technical challenges, and fully established the end-to-end manufacturing process from materials to cells.

Sodium-ion technology has evolved from a laboratory project to an energy storage material system with scalable capability. At present, CATL has built up manufacturing capability to deliver tens of thousands of tonnes of anode and cathode materials. Production costs for the NFPP are expected to decline further as the technology matures.

CATL is working with system integrators to build a complete closed loop ecosystem for sodium-ion energy storage, covering cell R&D, system delivery, product testing, and commercial deployment. In terms of production capacity, CATL has invested RMB 5 billion to expand sodium-ion production lines at its Fuding base, adding 40 GWh of annual capacity. The Jining base in Shandong has planned 160 GWh of sodium-ion production capacity. CATLâ??s mass-production lines are fully commissioned and operational, ready to support large-scale deployment.

The comprehensive maturity of technology, products, supply chain, and manufacturing capability has significantly accelerated the commercialization of sodium-ion energy storage. In China, CATL will officially begin delivering its first sodium-ion energy storage systems to customers this September, with cumulative shipments expected to reach 1 GWh by the end of 2026. International deliveries are scheduled to begin in June 2027.

In April 2026, CATL and HyperStrong signed the worldâ??s largest sodium-ion commercial contract â?? a three-year, 60 GWh energy storage order â?? marking the official entry of sodium-ion energy storage into the GWh-scale deployment era.

Next-Generation Energy Storage: Building Certainty for the Future Grid

From pioneering LFP as the mainstream chemistry for energy storage, to defining the first-generation dedicated energy storage cells of 280Ah and 314Ah and the second-generation 587Ah cell, and now to launching its first real-world validated sodium-ion energy storage system, every standard transition by CATL has moved the industry one step forward.

The launch of the CATL TENER Sodium Energy Storage System marks a new stage in which lithium and sodium together form the twin foundation of next-generation energy storage infrastructure, supporting the energy transition for decades to come. As TENER Sodium makes its global debut and moves steadily toward mass delivery, CATL and its global partners are working together to turn the strategic vision into tangible reality â?? a more stable, cost-effective, and sustainable foundation for the worldâ??s energy future.

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