



Sungrow Launches Grid-Forming Utility ESS for Europe's Energy Transition

Descrizione

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MADRID, Jan. 29, 2026 /PRNewswire/ ?? Sungrow, the global leading PV inverter and energy storage system provider, has launched PowerTitan 3.0, its next-generation liquid-cooled energy storage system for utility-scale applications in Europe. As Europe accelerates its energy transition, PowerTitan 3.0 addresses key regional challenges??low PPA prices, tightening grid codes, and rising expectations on safety and lifecycle returns??unlocking value across multiple scenarios and delivering EUR 16 million in additional returns for a 1 GWh project*, higher safety and reliability for energy storage stakeholders.

SiC PCS and 600Ah+ Stacked Battery Cells: Higher Efficiency and Safety

The PowerTitan 3.0 supports the 2-8 hour duration. A single 20-foot container integrates 1.78 MW PCS with 7.14 MWh batteries, enabling a 4-hour configuration where one block reaches 7.2 MW/28.5 MWh, well-suited for large-scale European projects.

Featuring the industry's first large-scale application of a fully liquid-cooled Silicon Carbide Power Conversion System (SiC PCS), the system delivers a power capacity of 450 kVA per unit, achieving a maximum efficiency of 99.3% and a system RTE of 92%.

To support ever-larger plant capacities, PowerTitan 3.0 adopts Sungrow's innovative stacked cells (684 Ah, 661 Ah, and 640 Ah). Unlike traditional wound cells, the stacked design eliminates corner stress, reduces internal resistance, and significantly lowers risks such as lithium plating, internal short circuits, and thermal runaway.

Sungrow further optimizes safety by positioning exhaust vents and electrode tabs at opposite ends of the cell. It can ensure that the battery remains in good condition even if vents are open.

Besides, its Battery Management 2.0 delivers over 95% accuracy in lithium plating diagnosis and more than 99% precision in thermal risk warnings, enabling proactive risk prevention throughout the system lifecycle.

With an energy density of 483 kWh/m² and a compact 15 cm back-to-back layout, a 1 GWh plant fits within 6,951 m², reducing construction costs by over 20% compared with peer solutions.

1 GWh Project Can Be Deployed in 12 Days

With its built-in PCS design, PowerTitan 3.0 is pre-installed and pre-commissioned at the factory, completing self-configuration and self-checks within one hour. This enables a 1 GWh project to be deployed in just 12 days.

O&M efficiency is improved by 92%, with early warnings for over 30 fault types and over 99% accuracy in root-cause localization??minimizing the need for expert site visits. The PowerDoctor O&M tool further enhances operations by generating plant health reports and providing guided repair instructions, making maintenance proactive and efficient.

Plant-Level SOC balancing, 8% More Discharge

PowerTitan 3.0 assigns one PCS per rack, eliminating SOC imbalance between racks. With an SOC estimation error of less than 3% and automated calibration across rack and block levels, the system enables up to 8% more discharged energy over its lifecycle??directly translating into higher revenues in Europe??s performance-driven markets.

Resilient to Harsh and Diverse Operating Conditions

Facing extreme environments without performance compromise, the system operates without derating at temperatures as low as ??40°C, making it suitable for Nordic and Alpine regions. With IP55 protection and C5 anti-corrosion rating, it is also well adapted to Europe??s coastal and high-humidity areas.

Besides, Sungrow has also set new global safety benchmarks with record-breaking large-scale burn tests on its PowerTitan series, proving zero fire propagation under extreme conditions.

Grid-Forming Capability Across Solar, Wind, and Storage ScenariosEnergy storage plays a critical role in managing increasing renewable generation variability while providing essential support for grid stability and reliability. PowerTitan 3.0 integrates Sungrow??s advanced stem-cell grid-forming technology, enabling grid-forming operation across solar, wind, and energy storage applications. This capability has been validated in landmark projects, including the 7.8 GWh project in Saudi Arabia, which is the world??s largest grid-forming energy storage plant. PowerTitan 3.0 delivers 20-millisecond reactive power response, microsecond-level voltage construction, and GW-scale black-start capability, reinforcing the grid resilience.

The PowerTitan series has already seen strong adoption across Europe, with flagship projects including the 800 MWh Vilvoorde BESS in Belgium (ENGIE), the 331 MWh Bramley BESS in the United Kingdom, the 100 MWh Kalanti BESS in Finland, and the 230 MWh Stendal BESS in Germany (Nofar Energy). With a strong and growing local presence in Europe, Sungrow is committed to working closely with customers to deploy reliable, bankable, high-performance energy storage solutions that deliver long-term value across a wide range of applications, including renewable hybrid systems, standalone storage, data centers, and complex microgrids.

*Based on a baseline PPA price of EUR 34/MWh, a 20-year lifetime with one charge-discharge cycle per day, generating revenue solely from electricity sales.

About Sungrow

Sungrow, a global leader in renewable energy technology, has pioneered sustainable power solutions for over 29 years. As of June 2025, Sungrow has installed 870 GW of power electronic converters worldwide. The Company is recognized as the world's most bankable PV inverter and energy storage company (BloombergNEF). Its innovations power clean energy projects across the globe, supported by a network of 520 service outlets guaranteeing excellent customer experience. At Sungrow, we're committed to bridging to a sustainable future through cutting-edge technology and unparalleled service. For more information, please visit: www.sungrowpower.com/en.

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