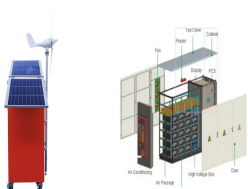
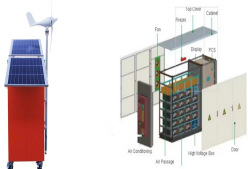


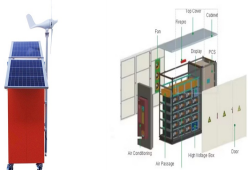
# ENERGY STORAGE INTEGRATORS AUDIT OF SUPPLIERS



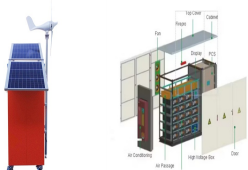
What does a battery energy storage system integrator do? Image: RWE. The battery energy storage system (BESS) industry is changing rapidly as the market grows. At the heart of what is becoming a crowded and competitive market is the role of the system integrator: putting together the components and technologies that bring BESS projects to life.



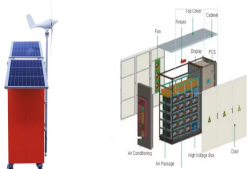
What does a system integrator do? System integrators, defined as companies involved in system assembly, design and commissioning of energy storage projects are increasingly adding software expertise to their core competency set.



Who are the leading system integrators? rgy, NEC Energy Solutions, and Fluence have historically been the leading system integrators. In the future, the system integrator landscape will further diversify, primarily driven by energy storage inverter manufacturers expanding their presence, targeting solar-plus-storage applications and existing pl

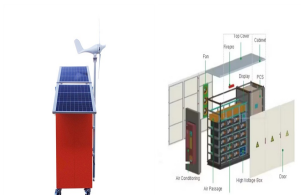


What is the energy storage system? The energy storage system includes 1x5 MWx2 h LiB, 1x2 MWx2 h VRFB. And the wind power of 99 MW had been put into operation in August 2012. The system is connected with the 35 kV bus. Through intelligent control, the system stores and releases power according to the coordinating with wind power.

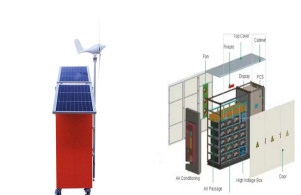


Did Naas technology join Yongtai energy & hyperstrong? Last month, it was reported that NaaS Technology Inc., the first US-listed electric vehicle charging service company in China, had joined forces with HyperStrong and Yongtai Energy, another energy storage equipment integrator, to supply around 380 charging stations with energy storage equipment.

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Is energy storage a precondition for large-scale integration and consumption? So to speak, energy storage is the precondition of large-scale integration and consumption of RES. However, China's energy storage industry is at the exploration stage and far from commercialization. This restricts the development of RES to certain extent. For this reason, this paper will concentrate on China's energy storage industry.



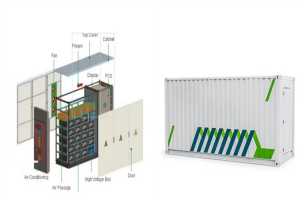
While existing system integrators are striving to increase market share, the fast-growing energy storage market has also attracted many new entrants to this space. "A common feature behind the leading BESS a?|



IHI Terrasun staff working on the Gemini solar-plus-storage project in Nevada, US. Image: IHI Terrasun "One of the key trends that readers should closely monitor is the advancements in safety within storage a?|



ESS Inc is a US-based energy storage company established in 2011 by a team of material science and renewable energy specialists. It took them 8 years to commercialize their first energy storage solution (from laboratory to a?|



GE is known for its involvement in various energy storage projects, particularly when it comes to grid-scale battery storage solutions. It continues to be at the forefront of developing and deploying advanced energy storage a?|

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First, it summarizes the developing status of energy storage industry in China. Then, this paper analyzes the existing problems of China's energy storage industry from the a?)



Intelligent Power and Energy. As a battery energy storage system (BESS) systems integrator and EPC solutions provider, we combine the latest global Tier 1 battery and inverter technology to engineer a comprehensive a?)



New data published by S& P Global has revealed the five largest battery energy storage system (BESS) integrators in the world. Together, the top five have installed more than a quarter of the energy storage currently in a?)



In the context of the global energy transition, the US energy storage industry is rising rapidly and has become a core element to promote the development of renewable energy. In the US energy storage market, some a?)



Globally, Tesla Energy, NEC Energy Solutions, and Fluence have historically been the leading system integrators. In the future, the system integrator landscape will further diversify, primarily driven by energy storage a?)

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"Annual energy storage installations in China grew by 400% in 2022, and will more than double again in 2023 to reach 18 GW. This is supporting the growth of many local system integrators." "In fact, we found eight Chinese a?|



Trina Storage, a business unit of Trina Solar, has been ranked among the global top five storage providers and integrators in the Energy Storage System Cost Survey 2023 report issued by BloombergNEF, on the basis of its a?|



- PRESS RELEASE - Fluence's software capabilities recognized as key driver of market leadership. ARLINGTON, Va. a?? January 27, 2022 a?? Fluence (NASDAQ: FLNC) has been named the top global provider of battery-based a?|



While the same names appear on this year's top five list of global battery energy storage system (BESS) integrators, the order has changed. Anqi Shi, principal analyst, batteries and energy storage, at S& P Global, tells ESS a?|



The market for energy storage system integrators is heating up globally, with regional competitions unfolding distinctively. SunGrow Power Supply, and Rimac Energy, can offer AC block solutions, highlighting a?|

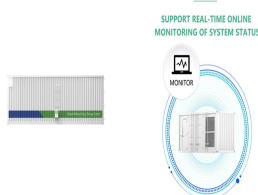
# ENERGY STORAGE INTEGRATORS AUDIT OF SUPPLIERS



Energy storage system integrators connect with a large number of equipment suppliers upstream to efficiently and safely integrate each subsystem into energy storage system products. Delivering and providing follow-up a?|



Fluence, which is a joint venture of AES" energy storage business and Siemens started several years ago, is considered No. 1 in the sector, while Tesla, RES, Powin Energy, a?|



The market share of the global top five BESS integrators shrank to 47% in 2023 from 62% in 2022, with a 24% Year-on-Year (YoY) decline, stated the report. Wood Mackenzie's Kevin Shang, principal research analyst, a?|



According to S& P, the top five system integrators by installed projects as of July 2023 are: Sungrow, a China-headquartered inverter and battery storage provider ; Fluence, a listed pure-play battery storage system a?|



overview. Battery Energy Storage Solutions: our expertise in power conversion, power management and power quality are your key to a successful project Whether you are investing in Bulk Energy (i.e. Power Balancing, Peak a?|

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Interestingly, another sort of vertical integration affecting the market of system integrators is IPPs in energy storage opting to build system integration capabilities in-house. That allows them to bypass system a?|



While existing integrators are striving to expand their market share, the burgeoning energy storage sector has also attracted new entrants." Shang further explained, "Leading BESS integrators typically share the advantage of a?|



Integrators are responsible for the equipment and software that tie the various components of a battery energy storage system together. This includes key equipment like the inverter, which determines the rated power of a?|



The BNEF survey covers the energy storage value chain, including energy storage integrators, battery suppliers, power conversion system providers, etc. Trina Storage's in-house 314Ah battery cell with excellent reliability



In 2022, the total shipments of energy storage system companies in China reached 50GWh, a year-on-year increase of over 200%. In 2022, benefiting from the high prosperity of the global energy storage market, as a major a?|

# ENERGY STORAGE INTEGRATORS AUDIT OF SUPPLIERS

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3. Energy Storage System Integrator Rankings. In 2019, among new operational electrochemical energy storage projects in China, the top 10 energy storage system integrators in terms of installed capacity were Sungrow, a?