

FLUENCE®

A Siemens and AES Company



Fluence Services

A trusted partner for the full lifecycle maintenance and optimization of your energy storage asset

Managing Storage Complexity

Proper energy storage system maintenance is complex. Maximizing the lifetime value of your asset requires comprehensive skill sets across multiple technologies to ensure optimal performance, secure operating revenue, stabilize operating costs, and mitigate risks.

Industry Leading Expertise

Fluence delivers unparalleled insights and services built on 16+ years of energy sector knowledge, fleet operations, and deep data analytics. Our team follows through on our commitments and is focused on building strong, long-term partnerships with our customers. We find creative solutions to preserve your asset value and meet the unique commercial and operational requirements of energy storage projects.

FLUENCE SERVICES
BY THE NUMBERS*



7.3+

GW ASSETS UNDER
MANAGEMENT



>97%

AVAILABILITY ACROSS
FLEET OF GEN6 PRODUCTS



3+

MILLION FLEETWIDE
OPERATING HOURS

* Under management and contracted as of June 30, 2024



Delivery Services

Fluence offers full turnkey implementation services for our energy storage products



Engineering

Project support including ground studies, plant and site layouts, electrical drawings, engineering studies, network diagrams, and manufacturing reports.



Delivery

Delivery of core storage system equipment including Cubes, inverter blocks, distributed controls, cabling, switchgear, transformers, metering, and more.



Installation

Full storage product and balance of plant installation including project and subcontractor management, customer handovers, and operator training.



Commissioning

Comprehensive configuration and startup services ensure all Fluence storage equipment, controls, software and applications are functioning as designed.

Long Experience Deploying Grid- scale Solutions

From deploying the first grid-scale Lithium-ion project as part of AES back in 2008, the team that founded and grew Fluence has been focused on deploying energy storage projects at grid scale, whether whether standalone, co-located with existing generation, or sited at transmission and distribution substations. Fluence has experience implementing dozens of transmission interconnected projects globally, ranging from 69kV to 500kV.

Across its history, Fluence's team has successfully deployed a wide variety of projects including:

- The first commercial lithium-ion battery system in the world, providing grid stability services (incl. inertial response) in Chile's remote Atacama Desert, back in 2009;
- The world's largest energy storage systems six times over - the latest being a 300 MW/1200 MWh project in northern California;
- The first grid-scale energy storage assets in 17 countries, ranging from the Dominican Republic to the Netherlands, from the Philippines to India;
- The first utility-scale hybrid wind + energy storage facility using lithium-ion batteries in 2011; and
- Two of the first battery-based "storage peakers" in California totaling 37.5 MW/150 MWh, an emergency procurement in 2017 in response to a sudden loss of natural gas storage capacity - delivered to San Diego Gas & Electric in only eight months, from contracting to commissioning.

2009
AES Gener
LOS ANDES
20 MW/10 MWH
BATTERY
CO-LOCATED WITH
COAL PLANT



ATACAMA DESERT, CHILE

2016
San Diego Gas & Electric
30 MW/120 MWH
STORAGE PEAKER - AT
URBAN SUBSTATION



CALIFORNIA, USA

2018
AES & Mitsubishi
10 MW/10 MWH
FCAS/PEAK POWER



INDIA

2019
SMC
FLEET OF 18 PROJECTS
TOTALING 570 MW



PHILIPPINES

2020
**Statkraft
Kilathmoy**
11 MW/11 MWH
DS3 CO-LOCATED
WITH WIND FARM



IRELAND

2022
AES Luna
100 MW/400 MWh
CAPACITY PEAK
POWER



CALIFORNIA, USA

Operational Services



PERFORMANCE GUARANTEES

Safeguard asset revenue potential over project life with degradation, capacity, and availability guarantees



SPARE PARTS

Support system availability by storing operating spare parts onsite or subscribe to parts in regional warehouses



EQUIPMENT WARRANTIES

Limit your exposure to unforeseen O&M costs of your system and receive extensive claims support



OPTIMIZATION SERVICES

Maintain equipment and optimal operating conditions with various maintenance and remote support services



PROFESSIONAL SERVICES

Receive comprehensive training delivered by experienced service representatives online or in-person

Guarantees



ENERGY CAPACITY

Discharge energy (MWh) calculated based on proposed usage profile and battery degradation curves

- > Mitigates risk and reduces potential revenue shortfall due to a loss of energy capacity over a system lifetime



DISCHARGE POWER

Guarantees system power at a certain level for a designated amount of time (step-down or constant power)

- > Supports high-power applications, such as peaking capacity, with system performance assurance against market obligations



ROUND-TRIP EFFICIENCY

Measures energy in vs. energy out, providing certainty that the system achieves a certain level of efficiency

- > Supports predictable operating expenses and protects against shortfalls in revenue from increased energy consumption



TECHNICAL AVAILABILITY

Calculated as an annual average across the entire installed system, tracked continuously throughout the year

- > Provides assurance that equipment will be available to run a minimum number of hours each year for revenue prediction

Parts & Warranties



SPARE PARTS

Fluence Spares Direct leverages regional warehousing and delivery logistics near our growing fleet of storage systems. Fluence handles all inventory management and parts warehousing on behalf of the customer. Alternatively, Fluence can provide a full operating spares list to be held onsite and managed by the customer.

- > Reduces upfront capital expenditures on bulk spare parts and storage facilities. Reduces the risk of spare parts depreciation and obsolescence while maintaining your availability guarantees.



EQUIPMENT WARRANTIES

Standard equipment warranties are included in the Fluence product supply scope for all projects, including shipping and labor to service the warranty. On top of standard equipment warranty, Fluence can offer flexible, comprehensive extended warranties over the term of the service agreement.

- > Ensures predictable operational expenses over the life of your asset through active management of long-term equipment supply, hardware obsolescence, technology interoperability, and more.



Optimization Services



Fluence provides proactive monitoring and maintenance services, troubleshooting expertise, and fast response and repair times to maintain high system availability, enabling customers to minimize downtime and maximize revenues.



PREVENTATIVE MAINTENANCE

Maintaining equipment and optimal operating conditions with scheduled, systematic inspection, detection, and proactive corrections. Preventative maintenance activities are carried out by personnel trained to identify failures either before they occur or before they develop into major defects.



REACTIVE MAINTENANCE

Ensure systems return to full availability as quickly as possible via unscheduled work required to identify and resolve component or system failures. Reactive maintenance activities are provided by Fluence under a service agreement and enable technical availability guarantees.

Optimization Services



24/7 SYSTEM SUPPORT

Fluence employs a global network of technical experts and specialized maintenance contractors to provide full 24/7 coverage for on-call response to any system issue.

A 100 MW energy storage system is comprised of over 2 million battery cells, 30-50 power conversion systems and transformers; hundreds of environmental control and safety monitoring systems; and a comprehensive IT network. All of these components operate 24/7 and are unique sources of potential failure.

Our support network will quickly diagnose issues remotely and dispatch the appropriate technicians to site as needed, providing rapid issue resolution for your system.



PERFORMANCE REPORTING

Fluence provides automated reporting tools and customized analyses based on industry standard and customer defined key performance indicators (KPIs).

Prior to a system becoming operational, our performance analysis team leverages years of operating expertise to work with you to identify relevant KPIs and develop reporting templates to be delivered on a regular basis.

Our dedicated performance analysis team removes the overhead time associated with your team performing data analysis and reporting on their own, so they can focus on what they do best.

DELIVERING PROJECT PEACE OF MIND WITH FLUENCE 24/7 SUPPORT

At 6:53PM, the Fluence 24/7 team received alerts that all core breakers had tripped at a customer site. At 6:57PM, they notified the customer that our regional Field Service Engineer was remotely investigating the cause. At 7:05PM, our FSE notified the customer they found the cause and that they had dispatched local technicians to the site to visually verify and reset the breakers. At 7:53PM, the technicians verified the cause and had returned the system to full operation.

Professional Services



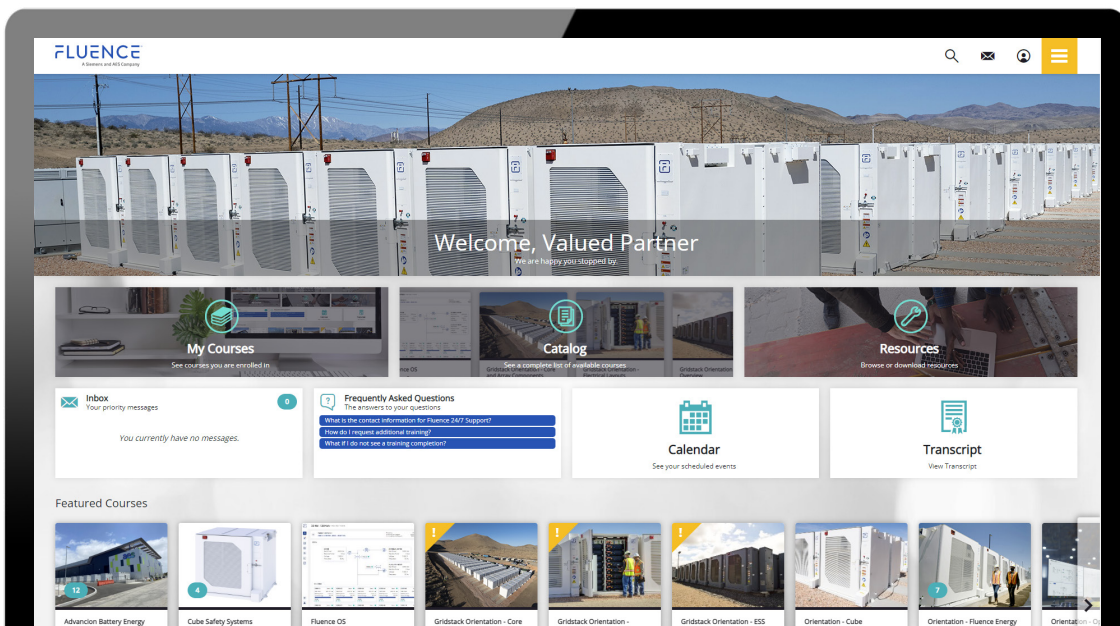
FLUENCE ACADEMY

Fluence Academy enables customers to manage operations and maintenance training more effectively, at their own convenience and pace. The platform delivers a suite of learning packages designed to address the needs of various stakeholders, including first responders and O&M technicians.

BUILDING O&M KNOWLEDGE WITH FLUENCE ACADEMY

As a nascent industry with GW of new assets coming online each year, the battery-based energy storage landscape is rapidly evolving. Understanding how to manage and maintain energy storage systems and technologies is critical for the utilities, developers, and power producers building large fleets of assets.

Fluence Academy supplements O&M documentation and on-site instruction with a self-serve, on-demand learning platform. Designed with the end-user in mind, Fluence Academy can be accessed by your team on-demand, anytime, from any device.



SINEBRYCHOFF BREWERY

Kerava, Finland

20 MW/20 MWh

FLUENCE SOLUTION

15-year service agreement in which Fluence performs all preventative and reactive maintenance and provides 24/7 monitoring of the site. This also includes performance guarantees for time-based availability, round-trip efficiency, and energy capacity.

CUSTOMER BENEFIT

Beyond enabling the brewery to achieve carbon neutrality in 2021 (9 years ahead of schedule!), our solution gives Sinebrychoff confidence in alleviating the long-term technical risk of operating a battery storage site and helps safeguard the properties peak energy use



AES ALAMITOS

California, United States

100 MW/400 MWh

FLUENCE SOLUTION

20-year service agreement safeguards asset revenue potential over project life with capacity management, all preventative and reactive maintenance, and 24/7 remote monitoring of the site.

CUSTOMER BENEFIT

The AES Alamos facility is contracted under a 20-year power purchase agreement (PPA) with Southern California Edison, replacing an existing natural gas peaker. Fluence's solution provides the peace-of-mind that the project will be able to satisfy customer demand over its 20-year lifetime





Fluence (Nasdaq: FLNC) is a global market leader in energy storage products and services, and optimization software for renewables and storage. Fluence provides an ecosystem of offerings to drive the clean energy transition, including modular, scalable energy storage products, comprehensive service offerings, and the Fluence IQ Platform, which delivers AI-enabled SaaS products for managing and optimizing renewables and storage from any provider. The company is transforming the way we power our world by helping customers create more resilient and sustainable electric grids.

fluenceenergy.com

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