Contact: info@applus.com

BESS Engineering

BESS engineering services aim to ensure the reliability of stand-alone and hybrid battery energy storage systems throughout their lifecycle, from design to operation, thereby minimizing risks for BESS project owners. The lifespan of a BESS typically ranges from 10 to 20 years, and regular monitoring, optimized utilization, and temperature control are key to maximizing it. By providing support throughout the planning, construction, commissioning, and operation phases, our BESS engineering services maximize system efficiency, improve durability, and ensure safe and cost-effective energy storage solutions , enabling efficient integration of renewable energy into the power grid.

THE Applus+ SOLUTION

Enertis Applus+ has a team of highly qualified BESS engineers and a track record of 100 GWh of BESS projects worldwide, covering all phases of the development of standalone and hybrid BESS projects, ensuring optimized performance, reliability, and compliance. Our extensive suite of services covers:

- **Site adequacy and capacity verification** to evaluate site conditions to confirm suitability for BESS installations
- **Initial site layout** creation to streamline project design
- **BESS modeling assessments** for various ISO markets simulating performance under various market conditions
- **Technical/economic feasibility analysis** of standalone and hybrid BESS projects using the advanced Simubatt+ Enertis tool
- **Engineering design**, with conceptual and basic engineering design for BESS project development, as well as detailed engineering during pre-construction/construction;
- **Grid integration** design and permitting support

- **Owner's Engineering**, acting as the owner's technical representative overseeing design, construction and operational processes
- **Technical Advisory for the definition of the BESS contract**, including support for the preparation of Request For Proposal (RFP) documentation and BESS technical specifications, as well as BESS supplier solution analysis
- **BESS Capacity and Performance Testing** to validate that BESS systems comply with technical specifications and owner's requirements
- **Inspection of BESS containers** upon on-site arrival
- **Construction monitoring** and contractual milestones verification
- **Review and management of commissioning and documentation** between EPC, equipment suppliers and owner
- **Technical analysis** and troubleshooting to analyze equipment performance trends and resolve any issues to ensure alignment with equipment agreements or Long-Term Service Agreements
- **Periodic performance** review and strategies for capacity upgrades or augmentation

Key customer benefits

- Enertis Applus+ activities are fully independent of BESS manufacturers, enabling us to provide unbiased, client-focused support to BESS project owners and developers for design, procurement, construction, and operation.
- We provide flexible on-site and back-office support to meet critical milestones in BESS project development.
- BESS project owners ensure the feasibility and optimal design of BESS projects, verify that the equipment meets their requirements to minimize the risk of warranty claims or counterclaims, and ensure compliance with international standards and local grid codes

Alongside our BESS engineering services, we offer energy storage quality assurance and quality control (QA/QC) services at the early stages of a BESS project, covering pre-contract, pre-manufacturing, and manufacturing phases. By detecting and resolving potential component defects early, our QA/QC services help minimize project risks and ensure compliance with quality standards.