Hybrid Battery Storage for Microgrids

Battery storage plays an important role in microgrids, improving grid reliability and resilience while facilitating effective operation of critical and frequency-sensitive loads. Battery storage is critical both for daily operation of a microgrid, as well as providing for grid redundancy in extreme events.

Competitive advantage

A complete test bed and procedures for assessing battery storage performance under different grid events to:

- Improve the reliability and resilience of grid supply using coordinated microgrid battery storage
- Improve continuous supply for electricity demands and demand side management
- Provide reliable and economical reserve

Impact

- More reliable and efficient microgrid performance

Successful applications

- Development of a hybrid portable mobile microgrid station system
- Microgrid planning tools and capability for urban and remote area
- Hybrid portable mobile microgrid station for Australian Defence Force—a project focussed on hybrid battery storage systems for mobile and reliable power supplies for remote operation activities

Capabilities and facilities

- Energy and power research group with industrial standard software
- Hardware-in-the-loop testing bed for energy storage systems with programmable grid simulations on real time digital simulators (RTDSs)

Our partners

- Remote energy users including farmers, mining sites and army forward bases

More Information

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