Novel Analysis and Control of Microgrids

Using expertise in analysis and control to develop and implement novel solutions to manage demand, detect faults and regulate frequency in microgrids.

Competitive advantage

Expertise in modelling, analysis, fault detection, fault classification and control of microgrids, including peak demand management, demand response and fault ride through operations

Novel approaches to:

- detection and classification of disturbances in islanded -microgrids
- fault location
- regulating frequency through demand response

Development of improved load-shedding techniques

Impact

- Greater appliance level data analysis and control
- Facilitating the integration of electric vehicles
- Enabling power demand management
- Implementation of novel controllers under unbalanced voltage conditions

Successful applications

- Reliable microgrids for remote communities with a communication-based control architecture
- Analysis and control of doubly-fed induction generators (DFIG) in microgrids
- Micro-generation test facility for the assessment of power quality and hybrid system control capabilities and facilities

Capabilities and facilities

- Single-phase microgrid test facility
- Three-phase microgrid
- Software tools for analysis

More Information

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