



**UNSW**  
SYDNEY



## Hardware Assessment of Virtual Power Plant Equipment

**Using real-time simulation and testing expertise to assess the potential for maloperation of Virtual Power Plant (VPP) hardware, including inverter disconnections, communication system failures and energy swings between competing VPP operators.**

### Competitive advantage

- Unique database of inverter behaviours and disturbance reactions
- Innovative models verified through experimental assessment
- Leading expertise in hardware-in-the-loop testing and assessment of virtual power plants
- Rapid modelling and simulation capability

### Impact

- De-risk VPP investments and optimise VPP performance
- Proof of concept hardware and software assessment

### Successful outcomes

- Sungrow: control and power hardware-in-the-loop

### Capabilities and facilities

- Access to state-of-the-art experimental facilities including:
- A fleet of current inverter makes and models
- 18-rack RTDS capable of modelling VPP systems
- OPAL-RT real-time simulator for high-resolution simulations

### Our partners

- Sungrow
- A. W. Tyree Foundation

### More Information

Dr Georgios Konstantinou, Dr Branislav Hredzak, Professor John Fletcher

School of Electrical Engineering and Telecommunications

T: +61 (0) 2 9385 6007

E: [john.fletcher@unsw.edu.au](mailto:john.fletcher@unsw.edu.au)

UNSW Knowledge Exchange

[knowledge.exchange@unsw.edu.au](mailto:knowledge.exchange@unsw.edu.au)

[www.capabilities.unsw.edu.au](http://www.capabilities.unsw.edu.au)

+61(2) 9385 5008