



UQ Energy Test Lab

A part of new \$5 million pilot program to help businesses connect the physical world with the burgeoning digital realm.

The UQ Energy TestLab established UQ as a “living laboratory” in keeping with UQ’s objective of being a world leader in carbon neutrality and energy efficiency.

UQ TestLab provides UQ researchers with a new and powerful platform for innovative research in power systems analytics and security and demand side management strongly supported by Siemens Energy related software tools. This flagship capability attracts local and international students interested in engineering, energy economics, security, data science, and sustainability.



Research

The research focus of the Industry 4.0 UQ Energy TestLab spans power and energy systems, microgrid, energy management, and cyber security.

The TestLab has facilities and capabilities for conducting research in power and energy system analytics, micro-grid control, energy management, artificial intelligence and critical infrastructure cyber security automation.

Teaching

The Lab is equipped with power system hardware and software provided by world-leading manufacturers, Siemens and Lucas Nülle, which form the perfect platform for teaching.

It offers a unique experience for students, as they're able to combine theory from lectures with practical skills developed in this real life learning environment.

Facilities

Cyber security test facilities

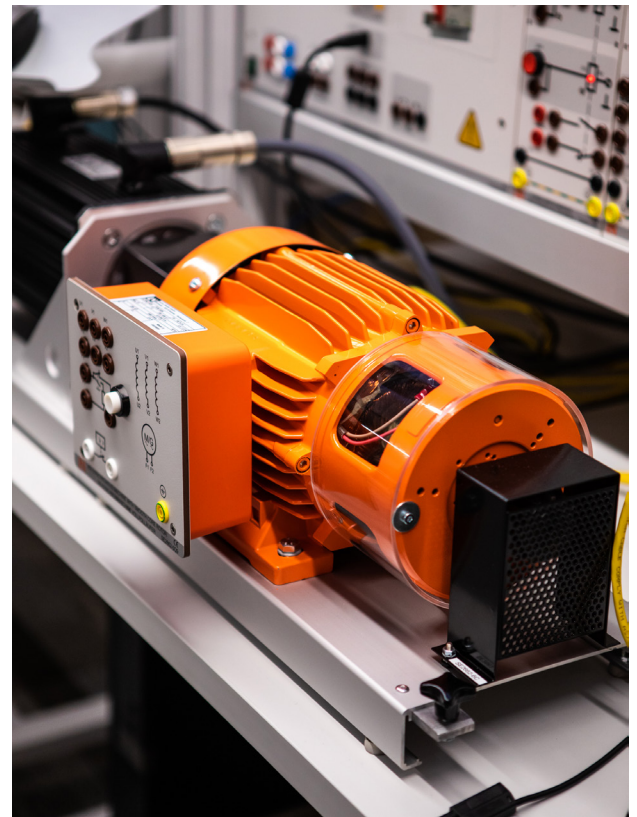
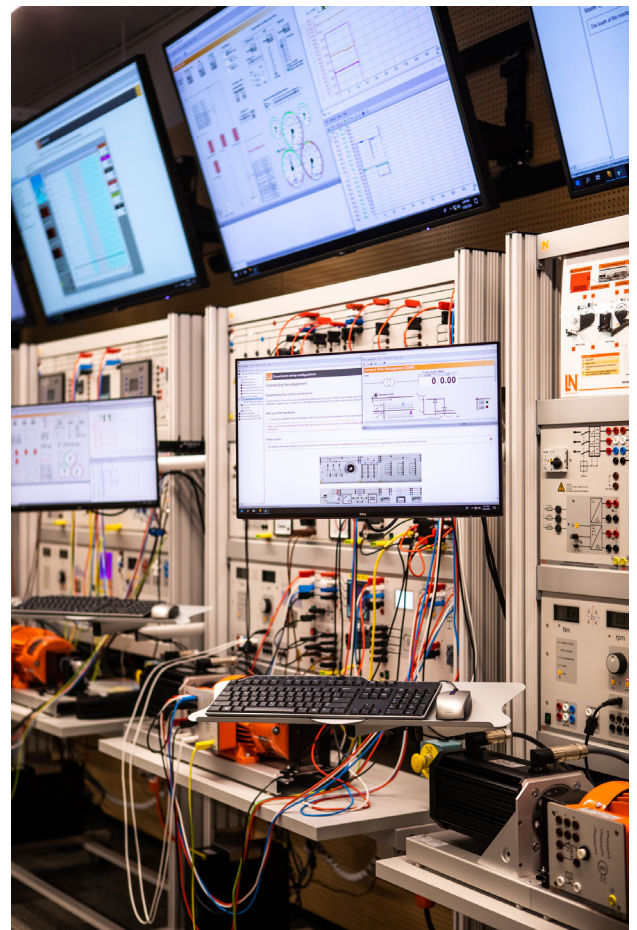
- PLCs: Siemens, Schneider, & Rockwell
- Human machine interfaces
- Historians
- Ruggedcom switches and firewalls

Siemens Equipment

- PSS®E
- PSS SINCAL
- Navigator Software
- DIGSI 5
- SICAM Toolbox II
- SICAM SCC HMI
- SIPROTEC 5
- SICAM A8000 Microgrid Controller

Lucas Nülle Machines

- Synchronous machine
- Wind power plant
- PV emulator and inverter
- Transmission systems
- Battery energy storage
- Energy Meter
- SCADA systems



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