



## RESEARCH FACILITIES

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The Department hosts the Eskom-funded RTPSS Centre and the Energy Systems for Smart Cities Research Group. The key research facilities available at Durban University of Technology and other shared proxy facilities at Partner-Universities include:

- **Real Time Power System Simulation Centre, RTPSS Laboratory** – which is an advanced multi-rack ultra-powerful real-time digital simulator for protection engineering studies, design, analysis and relay testing.
- **HVDC Laboratory** – which focuses on High Voltage Direct Current (DC) engineering, design, analysis and testing. (UKZN)
- **HVAC Laboratory** – which focuses on High Voltage Alternating Current (AC) engineering, design, analysis and testing. (UKZN)
- **SMART Grid Research Laboratory** – A state-of-the-art modern facility for training/research development (modelling, simulation and real-time analysis) of Smart Technologies and the integration of various RE technologies into the Grid. (MUT/UKZN)
- **Vibration Research and Testing Centre (VRTC)** – which focusses on overhead transmission lines, mechanics of conductors, insulators, line supports and vibration analysis. (UKZN)

The following are two proposed new facilities:

- **OPAL-RT, Micro-Grid Laboratory** – This proposed new facility will focus on applications of micro-grids in LV distribution networks, including design, analysis and testing.
  - **Voltage Source Converter High Voltage Direct Current (VSC-HVDC) System Laboratory** – This is a proposed new facility which focuses on application of high power electronics in power systems and grid integration of renewable energy.
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