

Lodz University of Technology

Laboratory of Distributed Generation serves for testing the integration of distributed generation with the distribution power networks. The laboratory network is built based on the model of the distribution MV/LV network with a nominal power of 70 kVA. The laboratory consist of: energy storage devices (Vycon flywheel and SMA lead-acid battery systems), stationary and sun-tracking PV panels, two wind generators, PEM fuel cell system, gas microturbine system and loads.

Additionally, the Laboratory of Distributed Energy Resources is equipped with: Real Time Digital Simulator (RTDS), the four-leg DSTATCOM compensator, multifunctional 3-phase AC/DC source with power recovery module up to 60kVA, active power filter, power quality analyzers Fluke 1760.



Photograph: Switching panel of the micro grid testing facility (DER laboratory at TU Lodz).



Photograph: Microturbine system Capstone C30 (DER laboratory at TU Lodz)



Photograph: Real Time Digital Simulator - RTDS (DER laboratory at TU Lodz)



Photograph: Multifunctional 3-phase AC/DC source with power recovery module up to 60kVA (DER laboratory at TU Lodz)



Photograph: Vycon Flywheel 350 kW and Socomec UPS 160 kVA system with battery stand (DER laboratory at TU Lodz)



Photograph: Proton exchange membrane (PEM) fuel cell Ballard Nexa (DER laboratory at TU Lodz)



Photograph: Sun tracking system and wind generators (DER laboratory at TU Lodz)



Photograph: Power quality analyzers Fluke 1760 (DER laboratory at TU Lodz)