

Description and scope

TECHNICAL UNIVERSITY of Sofia (TUS) is the largest higher Engineering school in Bulgaria with long years of experience in training engineers. The main Faculties related with Energy field are the Faculty of Electronics and Technologies, Faculty of Automatics and Faculty of Electrical Engineering, through their Laboratories and specialists. THE RESEARCH AND DEVELOPMENT SECTOR (**R&DS**) is a unit of the TU Sofia whose tasks are related to the organization, administration and service of the research activities under contract with the National and International research programs.



Main current Researches

Power Electronics solutions for improvement of power factor of networks with DER.
Control algorithms for LV hybrid grid connected to the network and for island operation.
DC networks using PV plants and storage devices.
Electric Vehicles and its interaction with electrical grid.

Research Infrastructure Installation(s)

TEST FACILITY 1 - PEL

It consists of a LV microgrid, Including PV modules, two inverters, storage, controllable DC and AC loads, monitoring with Internet connection. The physical model of wind generator with two asynchronous machines is available.



TEST FACILITY 2 – RESL

It consists of a LV microgrid, Including PV modules, wind generator, inverter, digital meteorological station, solar thermal collector, monitoring system,. The physical models of wind generators with synchronous and asynchronous machines are available.



TEST FACILITY 3 – HVL

It consists of a complex for testing of technical parameters of electrical equipment - HV AC test up to 332 kVrms; HV impulse test up to 750 kVm. Stands for Real time simulation of synchronous generators interconnection to electrical network are available.



TEST FACILITY 4 – RESL

It consists of a stands for real- time control systems simulation. The research is oriented to base on FPGAs& fast computers including DSPs. models. Number of specialised computer equipment for modelling of industrial objects (based on SBC, FPGAs, DSPs and RISC) are available.



Offered Services

The Test Facilities of the four Laboratories provides following main services:

- Testing of network connected to the grid and Island operation in hybrid installation whit controllable loads and storage.
- Simulation models of DER devices and control systems in MATLAB/SIMULING environment - validation utilizing the physical stands.
- Voltage stability analysis of LV and MV networks with distributed generation – modeling and validation.

Contact details

Address: Kliment Ohridski 8, 1000 Sofia, Bulgaria

Website: www.tu-sofia.bg

For Management/Organization Issues

Anastassia Krusteva
Tel. +3592 9652208 (8849627)
Fax +3592 8686719
E-mail: krusteva@tu-sofia.bg



For Technical issues

Mariya Petkova
Tel. +3592 9653321(9544764)
Fax +3592 8686719
E-mail:
mariya_petkova@tu-sofia.bg

