

Services offered by ICCS-NTUA Installations

The Microgrid of ICCS-NTUA provides several services such as:

- Testing DG components within the Microgrids operation
- Validation of simulation models of DG components
- Testing ancillary services of DG components

Optimization and control algorithms can be applied in the test site using the Multi Agent System (MAS) technology that enables communication with the DG units as well as with loads in order to study interactions. The test facility permits:

- Testing both local and remote by MAS technology.
- Prediction of photovoltaic generation based on real meteorological data for the MAS
- Testing of DG control and interaction with the system
- Measurements and data analysis of the tests



The RTDS and Triphase Power Electronic converter can offer the following services:

- Simulation of power networks in real-time
- Testing of developed control algorithms (Matlab-Simulink) in a real converter
- Possibilities of Hardware-in-Loop simulation

The Small Wind Turbine test-site offers:

- Power curve measurement of Small Wind Turbines
- Testing of controllers (e.g. DC/DC converter) for Small Wind Turbines



For safety reasons, the users are not expected to operate the systems by themselves. Tests are carried out with the support of highly skilled staff, who also gives support for the preparatory work and the data processing and analysis. The scheduling of the experiments will be done jointly with the users, according to the availability of the distributed energy resources on the planning of one of the experimental platforms.

The access being offered includes:

- preparatory work: installation of the devices, including electrical connections and specific instrumentation, preparation of a test procedure (if necessary) on the basis of the users requests, programming of the experimental conditions.
- realization and follow-up of the experiment,
- support for the data processing and analysis and for test report preparation.