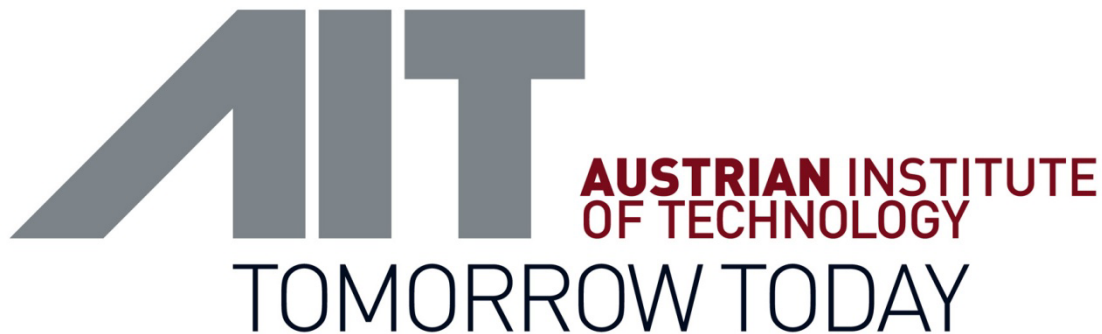


**AIT - Austrian Institute of Technology,**

**Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H.**



#### Description and scope

The AIT Austrian Institute of Technology ([www.ait.ac.at](http://www.ait.ac.at)) is Austria's largest non-university research institute. Comprising five departments, the AIT is a highly specialized research and development partner to industry. Its researchers are focused on the key infrastructure issues of the future: Health & Environment, Safety & Security, Energy, Mobility, as well as Foresight & Policy Development. AIT takes a leading position in the Austrian innovation system and a key role in Europe as the RTO focusing on the key infrastructure topics of the future. As a national and international network node at the interface of science and industry AIT enables innovation through its scientific-technological expertise, market experience, tight customer relationships and high quality research infrastructure. With more than 50 years of experience in laboratory development, research and accredited testing, international research activities are now the basis for an extensive collaboration with industry.

#### Main current research activities

- Inverter and MPP tracking efficiency
- Power Quality & Grid Interaction
- Network monitoring and protection devices
- Grid integration of distributed generation and storage facilities
- Power quality analyses
- Voltage control concepts (active and reactive power control ability)
- Network asymmetry mitigation (combination of load and PV generation)
- Coupled numerical simulation of switching stations
- HV and MV Switchgear and Isolation systems
- Smart planning of existing networks (reconfiguration, optimal upgrade of infrastructures) to maximise the exploitation of additional PV benefits
- Solar radiation and load forecasting for load shifting, optimal charging/discharging of storage systems

#### Research Infrastructure

##### *AIT Distributed Generation Laboratory - DG Lab*

The unique Distributed Generation and PV inverter test laboratory allows close to reality investigations and testing of inverters designed for different markets. The state-of-the-art inverter laboratory is equipped with flexible means for grid and photovoltaic simulation and provides a

realistic testing environment for evaluating the characteristics of the equipment under a wide range of operating conditions up to 30kW nominal power. It offers performance and operational tests as well as testing and conformity assessment of integrated protection equipment.

#### AIT Power Service Center - PSC

The AIT Power Service Center provides a development infrastructure, focusing on the development of small, efficient and cost-effective components. Here, the focus lies on the development of new switching technologies by combination of mechanical and semiconductor switches in hybrid switching systems.

#### Offered Services

- Qualification testing and conformity assessment of PV inverters and protection devices according to diverse national standards and recommendations
- Performance and operational tests of distributed generators under different generation conditions and interconnection topologies.
- Experimental real-time simulation platform for advanced Power Hardware in the loop and Controller hardware in the loop analysis.
- Research and Testing Services for low voltage, medium and high voltage switchgear and controlgear (Circuit breakers, switches, switch-disconnectors, disconnectors, fuses, switch-fuse combinations, protective devices, tap changers), static converters, power and measuring transformers, cables, lines and armatures.

#### Contact details

##### Address

AIT - Austrian Institute of Technology,  
Österreichisches Forschungs- und Prüfzentrum Arsenal  
Giefinggasse 2, 1210 Vienna  
Website [www.ait.ac.at](http://www.ait.ac.at)

##### For Management/Organization Issues

Elisabeth Mrakotsky  
Phone: +43(0) 50550-6620  
Fax: +43(0) 50550-6390  
[elisabeth.mrakotsky@ait.ac.at](mailto:elisabeth.mrakotsky@ait.ac.at)

##### For Technical issues

Christoph Mayr  
Phone: +43(0) 50550-6633  
Fax: +43(0) 50550-6390  
[christoph.mayr@ait.ac.at](mailto:christoph.mayr@ait.ac.at)