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MEDIT Kick-Off Meeting, Test Center for Grid Integration and Storage Technologies in Aachen, Germany.



MEDIT – IT SECURITY FOR ENERGY GRID STAKEHOLDERS

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Electricity supply is facing major challenges due to the “Energiewende” and the associated digitalisation. Therefore, specially adapted IT security technologies are required. The aim of the BMWi project “MEDIT – Methods for energy grid actors for prevention, detection and reaction against failures and attacks on the informational technology” is to develop methods for different energy grid stakeholder for the detection, prevention and reaction to IT attacks and IT failures.

The change in power generation from centralized to decentralized structures leads to increased use of information and communication technology (ICT) at the distribution grid level as well. Thus, new challenges arise especially in the field of IT security. Failures or interventions at the ICT level can have a direct and serious impact on a secure and reliable power grid operation. The increased integration of decentralised generation units and new consumers into the electricity grid is causing an increasing number of interactions between the participating energy grid stakeholders and distribution system operators. For example, virtual power plant operators aggregate

and control generation plants, storage and loads in the sense of a common electricity market and at the same time provide the system services required for grid operation. In addition, the increased use of intelligent energy meters means that end customers in both the private and commercial sectors are playing an increasingly active role in the energy market.

To investigate the interactions between ICT and energy systems and to develop special IT security technologies, a cyber-physical development environment for energy grids and ICT networks is to be set up in the MEDIT project. The “Test Center for Grid Integration and Storage Technologies” at RWTH Aachen University will be extended in the field of communication and control technology (grid operator, virtual power plant operator, energy meter operator) for this purpose. On this basis, novel methods and technologies for ICT monitoring, application-related attack detection and reactive measures for specific security incidents will be developed, validated and realistically tested with regard to their use by various energy grid stakeholders.