

SwarmGrid

Secure operation of energy grids by system services supported by user swarms

Due to the increasing number of dispersed generation (DG) in the distribution grids and because of the decrease in conventional power plants in the future, the underlying voltage levels become more important concerning the transient and stationary system stability. Within SwarmGrid models for normal and fault operation are developed to capture the stationary and transient behaviour of distribution grids with high DG penetration. These models are validated within laboratory tests in the Center for Grid Integration and Storage Technologies. With the help of the models created by the IFHT, market simulations for the provision of system services as well as stability analyses in the transmission grid are performed. This centralised approach is validated against a decentralised user swarm approach. Additionally, the project partners design the communication infrastructure needed and develop the regulatory framework for the necessary data exchange.

Project information



Partners

- Amprion GmbH
- QSC AG
- Rheinische NETZGesellschaft mbH
- ACS/RWTH
- TI/RWTH



Facts

- Acronym: SwarmGrid
- Runtime: Aug. 2015 – Jul. 2018

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