

Smart Grid International Research Facility Network

ISGAN – Annex 5

ISGAN (International Smart Grid Action Network) is an initiative of the Clean Energy Ministerial and is an IEA Technology Collaboration Program. The vision of ISGAN is to accelerate progress on key aspects of smart grid policy, technology, and related standards through voluntary participation by governments.

SIRFN Description

The Smart Grids International Research Facility Network (SIRFN) is a network of smart grid testing facilities in countries participating in the ISGAN.

SIRFN coordinates joint testing-related activities relevant to “smart” electricity grids. SIRFN's collaborative testing and evaluation capabilities are meant to be leveraged by the international community to enable improved design, implementation, and testing of smart grids and their functionality, including the reliable integration of clean energy technologies.

SIRFN's Focus Areas bring together technical experts to consider the current state, identify issues for test facilities to collaborate on resolving, identify potential SIRFN users, and recommend and implement SIRFN activities to overcome obstacles.

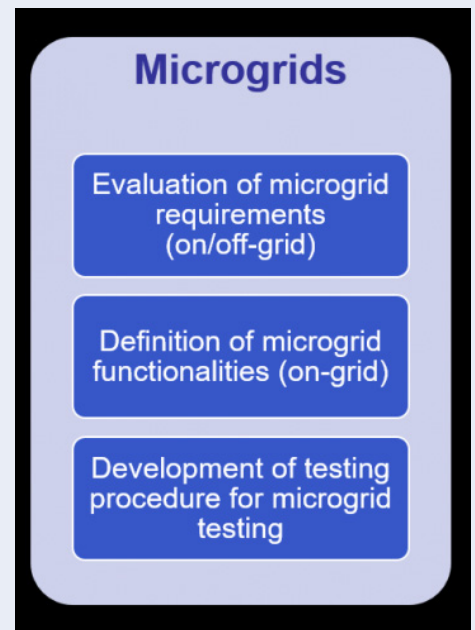
SIRFN – Technical Task 3: Microgrid Testing

Microgrid are usually defined as localized sections of the grid which have the ability to operate either in an islanded or grid connected mode. Microgrids can be of interest in a range of applications, including the provision of power in remote locations, or the provision of a secure supply for critical entities in the case of grid failure. Recently interest has been growing in the organisation of the power system as a multi microgrid system in order to improve resilience and flexibility. Because of their diversity in terms of composition and functionality, Microgrids provide unique challenges for testing.

The SIRFN-Microgrid task brings together a range of international laboratories with an interest in the testing of components and functionalities associated with Microgrids. In the scope of this technical task inverter dominated or inverter only microgrids as well as grid forming inverter dominated are of particular interest.

Activities of the “Microgrid Testing” Task

- Network of test laboratories with experience and capabilities for the testing of Microgrids.
- Sharing experiences in testing related to Microgrids
- Reviewing and Advancing the State of the Art with respect to Microgrid testing
- Identification, execution and recommendation of new innovative Microgrid requirements/functions
- Proposing, testing and evaluation methods for on-grid and off-grid operation
- Development of test procedures



Current Work Programme

The current work programme for the task has a focus on:

- Definition of Microgrids functionalities for both ongrid and offgrid operation with consideration of standards and potential gaps.
- Definition of KPIs for the testing of different functionalities
- Definition of benchmark testing networks
- Definition of specific test cases and associated test plans.
- Round robin testing according to the proposed test plan.



**A view of an ISGAN member test facility:
The Microgrid test laboratory at Technalia, Spain.**

Contact Details



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