SMART GRID INTERNATIONAL RESEARCH FACILITY NETWORK

ISGAN – Annex 5

ISGAN (International Smart Grid Action Network) is an initiative of the Clean Energy Ministerial and 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

Enhance the Validation of Smart Grids

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

SIRFN coordinate 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 functionalities, 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.

Focus Areas

SIRFN maintains a flexible portfolio based on its participants' interests. It is currently focused on collaborative work in four key areas:

Test Protocols for DER

- Develop interoperability test protocols for DERs
- Evaluation of DER devices and test protocols
- Adoption of certification protocols by int-/national standards organization

Microgrids

- Evaluation of microgrid requirements (on/off-grid)
- Definition of microgrid functionalities (on-grid)
- Development of testing procedure for microgrid testing

Power System Testing

- Interdependencies identification in power system control
- Testing approach for holistic system testing
- Define requirements for real systems testing

Advanced Lab. Testing

- Enhanced lab testing & testing methods (HIL)
- - Supporting holistic testing / manufacturing
  - Creating standardized testing procedures
  - Establishing novel research areas for real-time / HIL application

SIRFN participants will consider additional topics as opportunities arise.

SIRFN Objectives for Leverage Smart Grid Facilities

- Create and share knowledge-base of smart grid testing facilities, test beds, and important demonstration projects including the essential capabilities that can add value to their work and external stakeholder
- Support robust information sharing, including non-proprietary research results, best practices and methods as well as targeted technical assistance, with the intent to support enhanced research and test-bed facility development and operations and improve overall international testing capacity.
- Expand smart grids testing and evaluation capabilities by identifying important gaps in testing and evaluation processes, methods, capabilities, and access.

Global Network of Experts

ISGAN-SIRFN Participants

Facts and Figures

Intern. Collaboration of

- 20 active members
- 15 Countries
- America, Asia, Australia, Europe

Collaborated Networks of SIRFN

DERlab	EERA	SUNSPEC ALLIANCE	IEEE
•Leading Association of >30 int. research laboratories •DER testing and development •Service consulting for DG	•Largest Energy Research Association on Europe •30 Countries, >250 Institutions •17 active Programmes (Smart Grids)	•Alliance of >100 solar and storage DG industry partner •Industrial Smart Grid standards	•IEEE P2004 •IEEE TF RTS •IEEE 1547 •IEEE 2030

Contact Details

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