

PRESS RELEASE

Interoperability: A must for the development of smart grids

The Global Smart Grid Federation takes a worldwide view of interoperability, lifting it out of the technical domain and into a real-life strategic context

Today, GSGF published a report on smart grid interoperability. It assesses the existing smart grid situation on a global scale and identifies key interoperability challenges that must be addressed. GSGF considers this a first step in a complex process aiming to lift interoperability from the purely technical to the strategic level while involving top management and decision makers in critical discussions.

Smart grids are a cost-efficient way to arrive at the sustainable, competitive and secure future economy we are seeking. In the shifting energy paradigm - from a centralized to a more dispersed and less predictable electricity system with the customer in focus - active distribution grid operation is an inevitable requirement. This will be progressively facilitated by growing amounts of data and new technologies that allow network operators to monitor and coordinate energy flows as well as facilitate new services. This presents new and significant challenges for technologies, systems and organizations that must function effectively. Without interoperability, these crucial new products and services will not be able to operate in a multi-vendor, multi-standard, local manufacturing and multi-operator environment.

Standards

Work on smart grid interoperability and standards is ongoing in many parts of the world and mapping exercises have identified more than 500 different smart grid standards. Further harmonization is needed, and there are many hurdles to overcome. For example, standardization is particularly time consuming, there are interoperability issues between equipment from different manufacturers despite compliance with standards, and there is a need for “upgradability”, i.e. adapting standards as technologies develop.

Market regulation, roles and responsibilities

In the electricity market, different players’ roles and responsibilities, as well as market regulation, are often unclear and differ greatly from country to country. An upgrade of the rules is required across the board to reflect the development of new services critical to efficient grid operation, such as demand response, flexibility, and curtailment of distributed renewable energy resources. It is important to note that standards and market regulation can be used to the same ends, and that there is therefore a risk of overlap.

Cyber and system security

Massive and ever-developing use of information and communication technologies increases system complexity and makes data easier to access. Correspondingly, cyber and system security threats are more and more prevalent. In order to keep infrastructures secure, systems need to be designed using secure and resilient architectures (so-called “Security by design”). Interoperability can, with well specified interfaces and functionalities, contribute to fundamental security.

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Global Smart Grid Federation

The Global Smart Grid Federation (GSGF) is a global stakeholder organization committed to creating smarter, cleaner electrical systems around the world. GSGF is comprised of national smart grid organizations from fifteen countries and the European Union. GSGF brings together the intellectual capital of smart grid stakeholder organizations from around the world to:

- facilitate the collaboration of national and international Smart Grid nongovernmental organizations and governmental organizations from around the world to conduct and foster research in the application of Smart Grid technologies;
- support rapid implementation of Smart Grid technologies by establishing itself as the global center for competency on Smart Grid technologies and policy issues;
- foster the international exchange of ideas and best practices on energy issues, including reliability, efficiency, security, and climate change;
- create avenues for dialogue and cooperation between the public and private sectors in countries around the world on issues relating to the deployment of Smart Grid technologies.

These and other activities help member organizations initiate changes to their countries' electric systems to enhance security, increase flexibility, reduce emissions, and maintain affordability, reliability, and accessibility.

More information

- [Download the full report](#) (low-res .pdf 311KB)
 - For a printed copy of the report, contact [Lee Coogan](#)
- GSGF: www.globalsmartgridfederation.org
- The working groups: www.globalsmartgridfederation.org/about-gsgf/working-groups/
- The members: www.globalsmartgridfederation.org/members/

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