
Smart Grid Interoperability Standards: Governance Perspective

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Smart Grid Context

- “Supreme engineering achievement of the 20th century” – *National Academy of Engineering*
- Complex
 - 3200 utilities, 100s of suppliers, \$1 trillion assets, 140 million customers
 - 14% of system owned/operated by federal government, 86% private sector or municipal
- Aging
 - Modernization is a key priority globally
 - Many new technologies and operating paradigms being introduced
 - Requires collaboration among many industries that have not traditionally worked together
 - Architecture and standards are critical

Authority

The Energy Independence and Security Act gives NIST *“primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems...”*



- Congress directed that the framework be “flexible, uniform, and technology neutral”
- Input and cooperation by private sector and other federal and state agencies
- Use of these standards is a criteria for federal Smart Grid Investment Grants
- Input to federal and state regulators

Stakeholders

1	Appliance and consumer electronics providers	12	Power equipment manufacturers and vendors
2	Commercial and industrial equipment manufacturers and automation vendors	13	Professional societies, users groups, and industry consortia
3	Consumers – Residential, commercial, and industrial	14	R&D organizations and academia
4	Electric transportation industry Stakeholders	15	Relevant Government Agencies
5	Electric utility companies – Investor Owned Utilities (IOU)	16	Renewable Power Producers
6	Electric utility companies - Municipal (MUNI)	17	Retail Service Providers
7	Electric utility companies - Rural Electric Association (REA)	18	Standard and specification development organizations (SDOs)
8	Electricity and financial market traders (includes aggregators)	19	State and local regulators
9	Independent power producers	20	Testing and Certification Vendors
10	Information and communication technologies (ICT) Infrastructure and Service Providers	21	Transmission Operators and Independent System Operators
11	Information technology (IT) application developers and integrators	22	Venture Capital



Smart Grid Interoperability Panel

- Public-private partnership created in Nov. 2009
- Currently government-funded; eventual transition to private
- Nearly 670 member organizations
- Open, public process, consensus-based, international participation
- Coordinates standards developed by Standards Development Organizations (SDOs)
 - Identifies Requirements
 - Prioritizes standards development programs
 - Works with over 20 SDOs including IEC, ISO, ITU, IEEE, ...
- Web-based participation



[SGIP Twiki:](#)

[http://collaborate.nist.gov/twiki-
sggrid/bin/view/SmartGrid/SGIP](http://collaborate.nist.gov/twiki-
sggrid/bin/view/SmartGrid/SGIP)

SGIP Membership

as of 03.15.11

- **Total # of Member Organizations: 664**

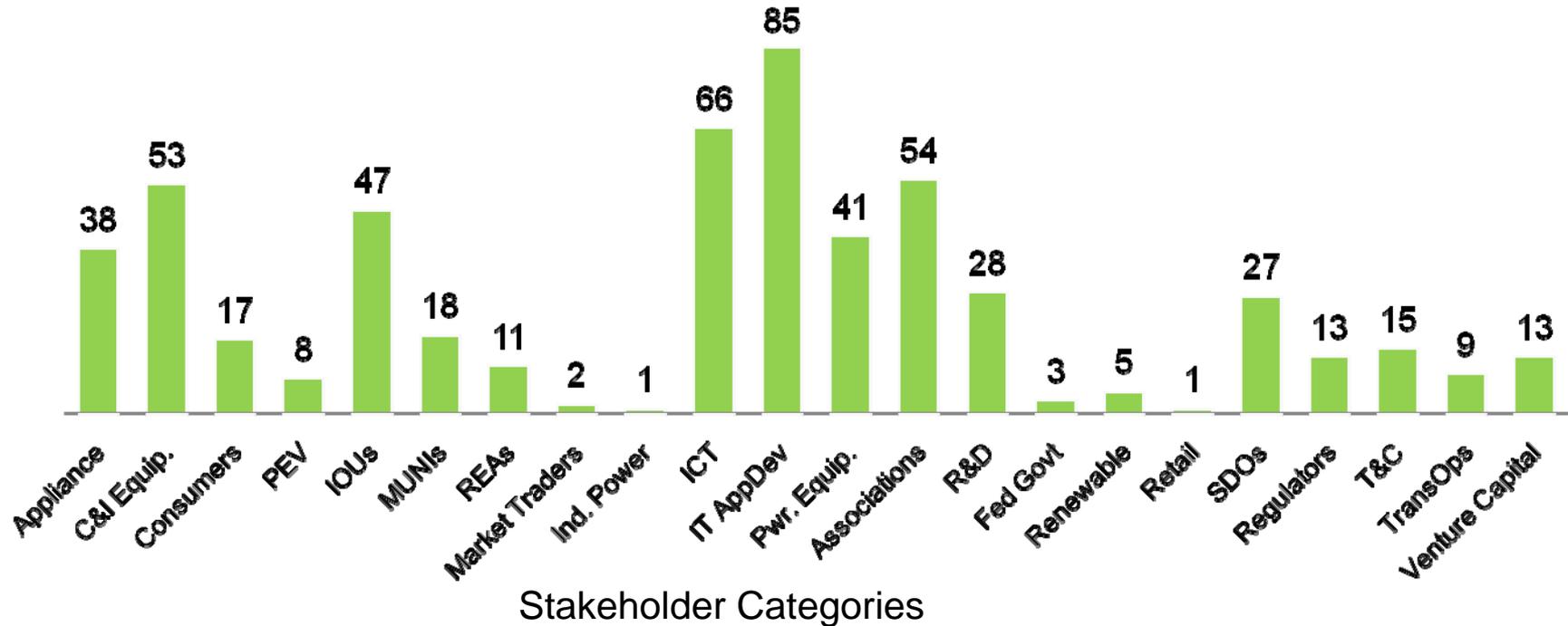
- # of Participating Member Organizations: 555
- # of Observing Member Organizations: 109
- # of Organizations who joined in Q1 2011: 19

- **Total # of Individual Members*: 1,708**

of Organizations by Country

- USA: 592
- Europe: 21
- Asia: 16
- Oceania: 4
- North America (non-US): 29
- South America: 1
- Africa: 1

of Participating Member Organizations by Declared Stakeholder Category



* Omits non-active Signatory Authorities.

SGIP Organization

