Workshop «Smart Grid e Normativa tecnica»

Milano, 30 Ottobre 2013

Obiettivi e metodi di STARGRID

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STARGRID

STARGRID: STandards Analysis supporting smart eneRgy GRID development

- Coordination & Support Action
- Progetto FP7, ICT-2011.6.1 Smart Energy Grids
- Durata: 2 anni da Ottobre 2012 a Settembre 2014
- 5 partners

Fraunhofer IWES · RSE Ricerca Sistema Energetico · tecnalia Inspiring Business · ASRO · DERlab

OBIETTIVO PRINCIPALE: Analisi e valutazione critica dei processi di normazione relativi alla Smart Grid, a livello Europeo e internazionale, incluse le iniziative industriali , e valutazione del loro impatto sugli attori del mercato dell’energia, con particolare riferimento all’industria

METODO di LAVORO

Mappatura delle attività di Normazione sulle Smart Grid (WP2)

- Fuoco su EU, USA, East Asia
- Attività degli Organismi di normazione (IEC, CLC, ETSI, NIST, IEEE...)
- e iniziative industriali (ENTSO-E; OpenADR, SEP, E@H, EEBus, OGEMA, ...)

Definizione di criteri di valutazione delle norme, basati sui requisiti degli attori (WP3)

- da pubblicazioni quali position papers, input da workshops e inchieste per mezzo di questionari

Analisi di singoli documenti (WP3)

- Lavori esistenti (norme, draft, doc di indirizzo, regolamenti…) e input dagli attori

Raccolta e analisi delle opinioni degli attori industriali al riguardo delle norme esistenti e delle iniziative in corso (WP4)

- Attraverso workshop, questionari, interviste…

Elaborazione di raccomandazioni a politici, organismi di normazione e industria su buone pratiche, gaps, nuovi sviluppi, priorità, ecc. (WP 5)

Argomenti principali di indagine

A) DER Integration and Grid Control
B) Demand Response Management
C) Smart Metering
D) EV Integration

www.stargrid.eu

WHAT'S NEW: EVENTS OF INTEREST

This page contains information on upcoming events, meetings, workshops and other standardization activities. All Smart Grid stakeholders are welcome to consult this page and keep up with the news.

Name	Location	Time
ICT 2013 – Create, Connect, Grow More than 4000 researchers, innovators, entrepreneurs, industry representatives, young people and politicians will get together in Vilnius. The event will focus on Horizon 2020 - the EU's Framework Programme for Research and Innovation for 2014-2020.	Vilnius, Lithuania	6-8 November, 2013
M2M Workshop 2013 The 4th ETSI M2M Workshop will facing wide-scale M2M deploymer communications is the foundation of smart devices, smart appliance buildings and smart cities.		
CIGRE: SC D2 2013 Colloquium		
ETSI Workshop 2013 ETSI is running a Technology Eva End QoS Assessment for VoLTE w and Interoperability (CTI). This ev different methodologies for End t		

Standardization organizations

Information on standardisation processes, outcomes and decisions of importance are now presented (as of October 2013) in order to keep up to date the information flow to the visitors of STARGRID web-page:

STANDARDS	STATUS UPDATE
IEC TC8	Voting results can be found here for the following: 8/1326/NP Guidelines for the General Planning and Design of the Micro-Grid 8/1327/NP Technical requirements for Operation and Control of Micro-Grid

tricity metering
24: Static meters for
October 2013

R METER READING,
cal data exchange;
codes

Smart Grid Initiatives

Many initiatives promote the use of particular standards focus on Smart Grid related topics. Below is a non-extensive list of some important actors. Important updates are also listed so you can stay up to date with the latest activities! Detailed information on the initiatives can be found in STARGRID publications.

If you find that a particular organization is missing, please contact us.

Projects	WHAT IS NEW? STATUS UPDATES
ENTSO-E – European Network of Transmission System Operators for Electricity	ENTSO-E Launches Dedicated Network Codes Website Brussels, 24 October 2013 ENTSO-E has unveiled a dedicated website aimed at providing stakeholders and others with up-to-date information on the nine network codes that it is currently developing, and any future codes. Find more information here.

D2.1-Mappatura delle iniziative di normazione

STANDARDIZATION ORGANIZATION	
Acronym	Name
NIST SGIP 2.0	National Institute of Standards and Technology. Smart Grid Interoperability Panel 2.0.
Status	☑ Active ☐ Inactive ☐ Disbanded ☐ Planned ☐ Other
Establishment date	2012/12 (The SGIP transitioned to a member-led, industry-based organization, incorporated as “SGIP 2.0, Inc.”). 2013/01: SGIP 2.0 Operational
Ending date	--
Website	http://sgip2.net/SitePages/Home.aspx http://sgip.org/

Contacts	Name	Email	Telephone
Convenor	John McDonald		
Secretary	George Bjelovuk		
Others			

Scope – Focus – Description of activities

The SGIP organization has been replaced by “SGIP 2.0 organization to an industry-financed legal entity that retains

Scope:

1. The SGIP supports NIST in its fulfilment of its res Independence and Security Act of 2007 (“EISA”).

Focus:

1. To provide the technical guidance and coordinatic development for Smart Grid interoperability.
2. To identify and specify the necessary testing and certific the underlying rationale, to assess the achievement Standards.
3. To oversee the performance of these activities to maintai
4. To proactively inform and educate smart grid industry st benefits attributable to interoperability (greater emphasi

STANDARDIZATION ORGANIZATION DOCUMENT			
STARGRID ID	(to be filled by the Editor)	Relevance	M
Standardization organization to which the document is related	ANSI & CEA (Consumer Electronics Association)		
Document title	ANSI/CEA-2045 Modular Communication Interface Specification for Energy Management		
Document reference and/or version	--	Date	2013/02/01
Document type	Standard	Available in STARGRID (Y/N)	N
Domain or system category	Customer		
Priority Topic or Use Case	Demand Response		

Specifies a port for smart appliances that enables the use of communication y, the appliance ks, based on

nals (OpenADR

IEC TC 8/CLC TC 8

a) Title of TC: System aspects for electrical energy supply

b) Scope

The TC 8 scope is to prepare and coordinate, in co-operation with other TC/SCs, the development of international standards and other deliverables with emphasis on overall system aspects of electricity supply systems and acceptable balance between cost and quality for the users of electrical energy. Electricity supply system encompasses transmission and distribution networks and connected user installations (generators and loads) with their network interfaces.

The following list contains a couple of examples on system related aspects and elements belonging to the overall process of electricity supply. The purpose of this non-exhaustive list is to illustrate, in which fields expertise is required within TC 8, in order to enable the committee to properly fulfil its given task. It is not meant to be a list of items to be standardized.

Descrizione delle Norme internazionali

IEEE standard and title	Description	IEEE Committee / Working Group	Applications	Solutions provided by IEEE publications and used for ETSI/IEC/ISO publications
1377-2012 - Utility Industry Metering Communication Protocol Application Layer (End Device Data Tables)	Common structures are provided in this standard for encoding data in communication between End Devices (meters, home appliances, IEEE 1703 Nodes) and Utility enterprise collection and control systems using binary codes and Extensible Markup Language (XML) content. The Advanced Metering Infrastructure (AMI) and SmartGrid requirements are addressed as identified by the Office of Electricity Delivery and Energy Reliability of the U.S. Department of Energy and by the Smart Metering Initiative of the Ontario Ministry of Energy (Canada) and of Measurement Canada. Sets of tables are exposed that are grouped together into sections that pertain to a particular feature-set and related function such as Time-of-use, Load Profile, Security, Power Quality, and more. Each standard Table Set (Data Model) can be expanded or restricted by the Manufacturer of the IEEE 1377 Device or home appliance using XML/TDL descriptive registered syntax (XML-based Table Definition Language) and enterprise data-value management using EDL (Exchange Data Language) in a manner that is machine readable. Published jointly with NEMA and Measurement Canada, Ta	SASB/SCC31 / Working Group: EndDevic - End Device/ Telemetry Interface Unit Subcommittee		
1547.1-2005 - Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems	This standard specifies the type, production, and commissioning tests that shall be performed to demonstrate that the interconnection functions and equipment of the distributed resources (DR) conform to IEEE Std 1547	SASB/SCC21 - SCC21 - Fuel Cells, Photovoltaics, Dispersed Generation, and Energy Storage	Basic principles of DER&interconnecti on rules	
1547-2003 - Interconnecting Distributed Resources with Electric Power Systems	This standard is the first in the 1547 series of interconnection standards and is a benchmark milestone demonstrating the open consensus process for standards development. Traditionally, utility electric power systems (EPS--grid or utility grid) were not designed to accommodate active generation and storage at the distribution level. As a result, there are major issues and obstacles to an orderly transition to using and integrating distributed power resources with the grid. The lack of uniform national interconnection standards and tests for interconnection operation and certification, as well as the lack of uniform national building, electrical, and safety codes, are understood. IEEE Std 1547 and its development demonstrate a model for ongoing success in establishing additional interconnection agreements, rules, and standards, on a national, regional, and state level. IEEE Std 1547 has the potential to be used in federal legislation and rule making and state public utilities commission (PUC) deliberations, and by over 3000 utilities in formulating technical requirements for interconnection agreements for distributed generators powering the electric grid. This stand	SASB/SCC21 - SCC21 - Fuel Cells, Photovoltaics, Dispersed Generation, and Energy Storage	Basic principles of DER&interconnecti on rules	Solutions given in IEEE 1547 are used by IEC TC 8 for preparing IEC/IEEE/PAS 63547:2011"Inte rconnecting distributed resources with electric power systems"
1675-2008 - Broadband Over Powerline Hardware	Testing and verification standards for the commonly used hardware, primarily couplers, and enclosures, for broadband over power line (BPL) installations, and installation methods to enable compliance with applicable codes and standards are provided in this standard.	PE/PSC - Power System Communications / Working Group: BPL_WG - Broadband over Power Line Working Group		
1686-2007 - Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities	The functions and features to be provided in substation intelligent electronic devices (IEDs) to accommodate critical infrastructure protection programs are defined in this standard. Security regarding the access, operation, configuration, firmware revision, and data retrieval from an IED is addressed in this standard. Communications for the purpose of power system protection (teleprotection) is not addressed. Encryption for the secure transmission of data both within and external to the substation, including supervisory control and data acquisition, is not part of this standard as this is addressed in other efforts.	PE/SUB - Substations External Link / Working Group:WGC1 - Substations Working Group C1	Cyber security	

D2.2-Mappatura delle iniziative industriali…

INDUSTRY INITIATIVE	
Acronym	Name
E@H	Energy@Home Association
Type	Industry Initiative
Status	☑ Active ☐ Inactive ☐ Finished ☐ Planned ☐ Other
Establishment date	2012
Ending date	--
Website	http://www.energy-home.it

Members

Founding members Electrolux, Enel, Indesit Company and Telecom Italia

Scope – Focus – Description of activities

Scope

The Energy@home Association has the mission of developing and promoting technologies and serv
energy efficiency in smart homes, based upon the interaction between user devices and the energy
infrastructure. It is a non-profit Association founded on July 2012 as a follow-up of a collaboration p
among the four founding companies started in 2009.

Activities

As a main achievement, Energy@home released a set of technical specifications and an interoperab
fully-integrated system comprising smart broadband gateway, smart meter, smart plugs, smart don
appliances and a user interface application. The specifications are based on the ZigBee Home Autor
profile, and the E@H association contributes their results back to this profile. A field trial has been s
in 50 private premises in Italy.

STARGRID ID		Relevance	H
Initiative to which the document is related	E@H		
Document title	E@H specification		
Document reference and/or version	v0.95	Date	2012
Document type	Specification	Available in STARGRID (Y/N)	Y (see comments)
Domain or system category	Customer		
Priority Topic or Use Case	Demand Response		
Brief content description	The technical specification.		
Comments	http://www.energy-home.it/SitePages/Activities/Download.aspx-?RootFolder=Documents/Technical%20Specifications		

…inclusi progetti EU rilevanti

INDUSTRY INITIATIVE	
Acronym	Name
FINSENY - FINESCE	Future Internet for Smart Energy
Type	FP7 Project
Status	☑ Active ☐ Inactive ☐ Finished ☐ Planned ☐ Other
Establishment date	April 2011 (FINSENY) April 2013 (FINESCE)
Ending date	March 2013 (FINSENY)
Website	http://www.fi-ppp-finseny.eu/ http://www.finesce.eu/ http://www.fi-ppp.eu/projects/
Members	
Coordination: Nokia Siemens and Siemens (technical). List of members: http://www.fi-ppp-finseny.eu/consortium/	

UN DATA BASE PUBBLICO IN PREPARAZIONE

Altri Deliverables in preparazione

STARGRID EU

SEVENTH FRAMEWORK PROGRAMME

STARGRID

FP7 - 318782

D4.1 – INDUSTRY ECOSYSTEM REPORT

Version	V1.0	Status	Final
Work Package	WP4	Preparation Date	2013-08-01
Due Date	M10	Submission Date	2013-08-02
Main Author(s)	Christoph Nölle (IWES) Stephan Engel (IWES) Giorgio Franchioni (RSE) Ioulia Papaioannou (DERlab) Sini Numminen (DERlab) J. Emilio Rodríguez (Tecnalia) Speranta Stomff (ASRO)		
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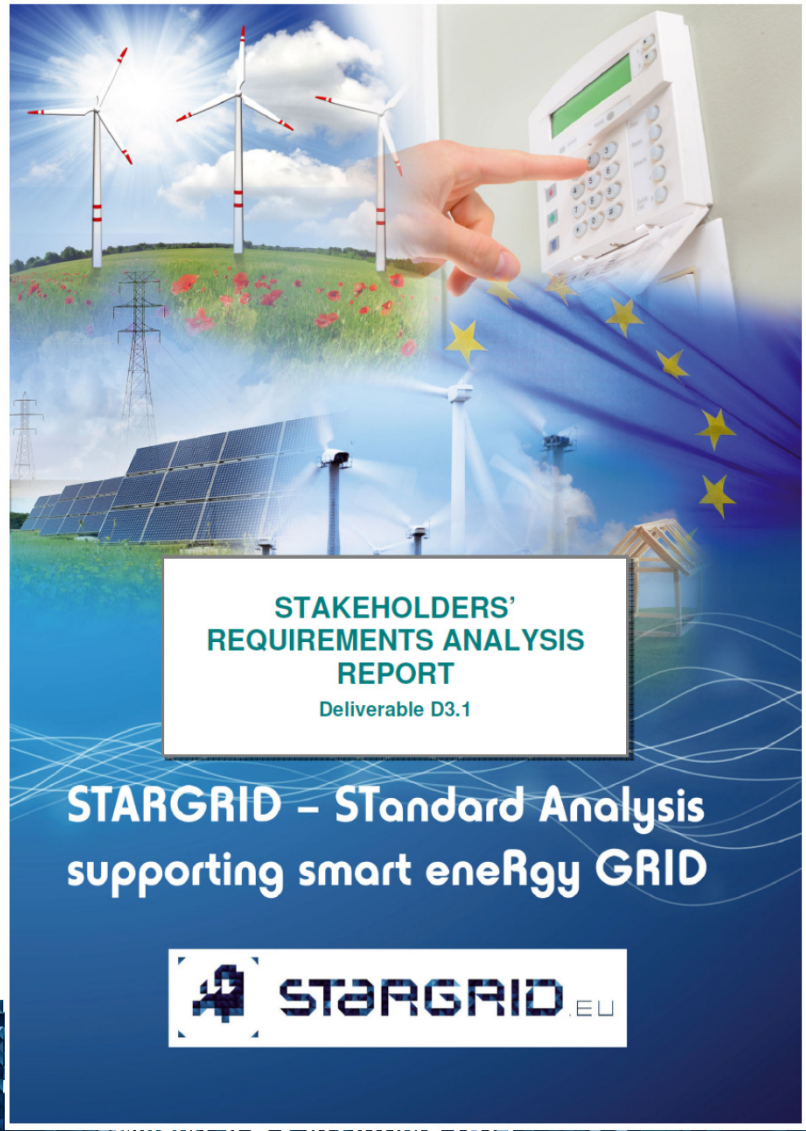
Dissemination Level	PP	Nature	R
Keywords	Industry, Stakeholders, Interviews		



Questionario di STARGRID: Obiettivi

• Riscontrare la **consapevolezza dell'industria** sulle iniziative di normazione in corso e sulla Normativa esistente riguardante la Smart Grid
• valutare la **rilevanza e l’impatto** dei lavori di normazione sulla base dei benefici attesi dall’industria
• fornire **feedback a comitati di normazione** sull'uso effettivo delle Norme elaborate
•identificare i **requisiti di normalizzazione degli attori coinvolti e le lacune normative** nelle tre problematiche critiche della Smart Grid: Integrazione delle DER e controllo della rete; Demand-Response Management e Smart Metering
•identificare **buone pratiche e soluzioni tecnologiche e non-tecnologiche** che dovrebbero essere considerate dalla normativa

Questionario di STARGRID: Struttura

Il questionario è costituito da **cinque fogli**:
Foglio delle **“Informazioni aziendali”:** contiene domande sull’azienda rappresentata dall’intervistato (5 min)

Foglio della **«Normativa essenziale delle Smart Grid»**: contiene domande sulla rilevanza di una serie di norme IEC relative alle Smart Grid. (5-10 min)

Fogli “**Integrazione delle DER e controllo della Rete**”; “**Demand Response e Gestione dell’energia dell’Utente**”; “**Smart Metering**”: contengono domande specifiche rispettivamente sule tre principali aree di interesse del progetto STARGRID. Si può scegliere di rispondere solo agli argomenti che sono rilevanti per l’intervistato.

Ogni foglio è costituito da tre sezioni: **requisiti degli attori; consapevolezza sulla Normativa; carenze e requisiti.** (10-15 minuti per ciascun foglio)

Questionario di STARGRID: Compilazione e Scadenza

Parte 2: Carenze e requisiti

Indicare il livello di accordo rispetto alle seguenti affermazioni e l’importanza per la vostra organizzazione o settore aziendale del problema associato. È possibile aggiungere ulteriori elementi.	Livello di accordo (1 = totale disaccordo, 5 = completo accordo)					Rilevanza (I = irrilevante, V = molto importante)					Commenti
	1	2	3	4	5	I	II	III	IV	V	
La Smart Grid richiede più alti livelli di automazione della rete di distribuzione, per garantire una maggiore efficienza di funzionamento, sicurezza, controllo e qualità. Rilevatori di guasto possono migliorare il funzionamento e ridurre i tempi di interruzione del servizio											

Questa indagine è condotta dal Team del progetto STARGRID. Si prega di fornire il feedback al più tardi il **15 novembre 2013** a:

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Workshops – Fairs - Interviews

Brussels – May 2013

Bucharest – September 2013

Milano – October 2013

Bilbao – February 2014

Kassel – April 2013

mcTER

HANNOVER MESSE

Grazie della collaborazione