



J S C A
Japan Smart Community Alliance

Smart Community Projects

September 14, 2017

Mr. Kazuo YOKOTA

Director General

Smart Community Department

New Energy and Industrial Technology
Development Organization (NEDO)

Secretariat of

Japan Smart Community Alliance (JSCA)



- Introduction (NEDO, JSCA and GSGF)
- About NEDO
 - NEDO's Smart Community Demonstration Projects
 - NEDO's Joint Crediting Mechanism (JMC) Demonstration Projects
- About JSCA
 - JSCA's Activity (International, GSGF)
 - JSCA's Activity (Standardization)

Introduction (Institutions)

Public Framework



Private Framework



Standardization Framework





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● **About NEDO**

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● **About JSCA**

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Japan's largest public R&D funding agency

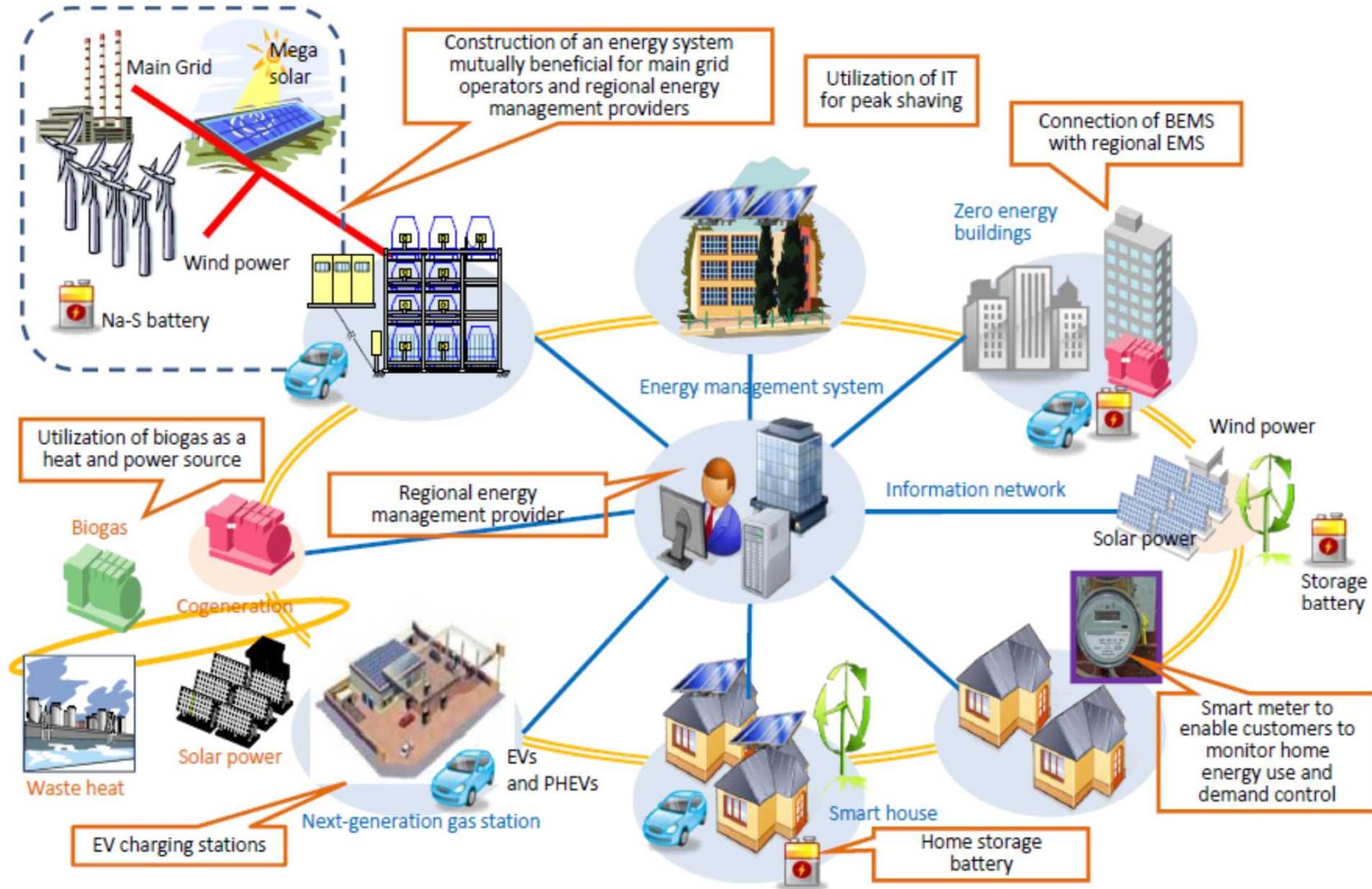
Coordination with
Policymaking Authorities

Combining Efforts of
Industry and Academia



- ❑ Year Established : 1980
- ❑ Chairman : Mr. Kazuo Furukawa
- ❑ Employees : **About 900**
- ❑ Budget : US\$ 1.5 Billion

Smart Community



Demonstration projects in the World



Speyer(Germany) Nds (Germany)



Poland

Slovenia

California(Battery)California (EV)
(U.S.) (US)



Manchester (UK)



Lisbon (Portugal)



Oshawa(Canada)



New Mexico (US)



Malaga (Spain)



Hawaii (US)



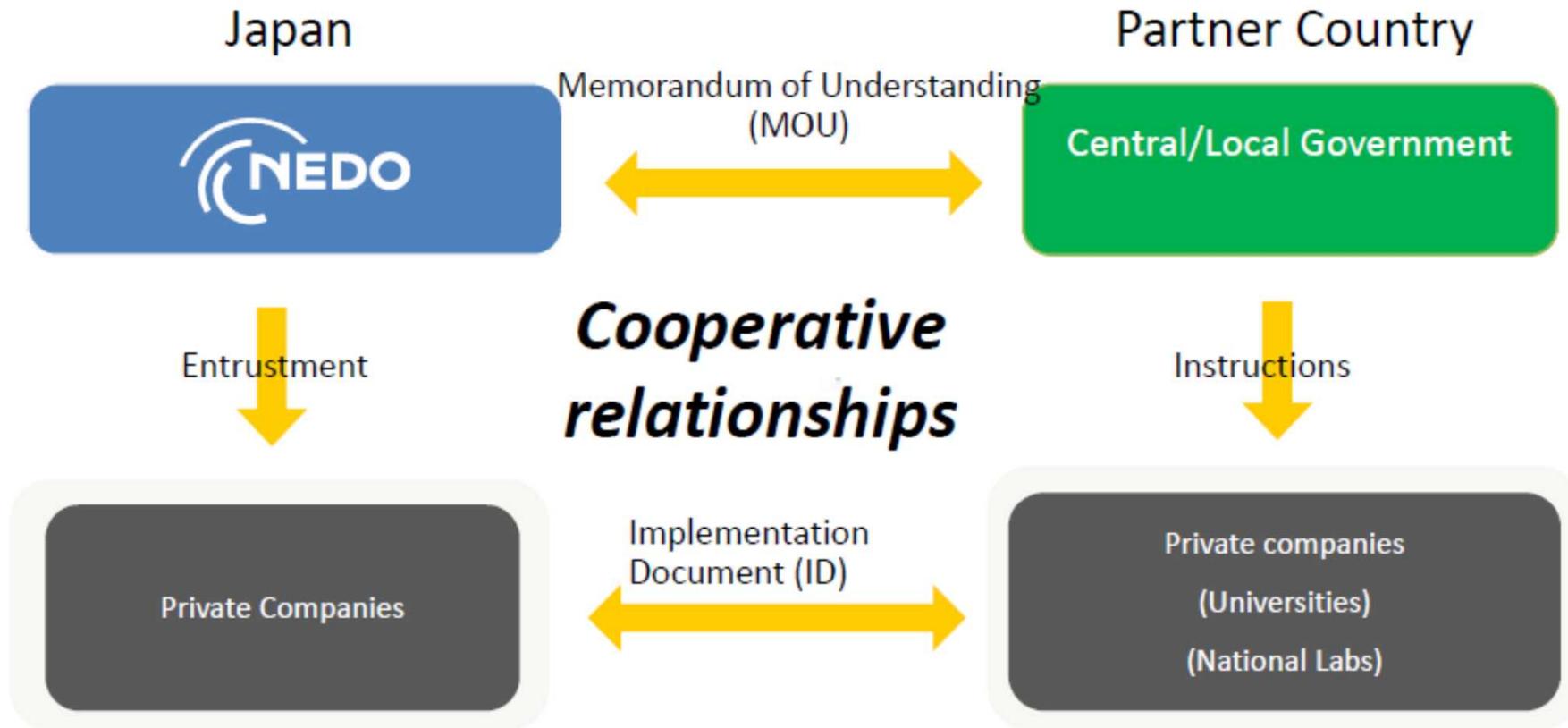
Lyon (France)



Panipat(India) Putrajaya(Malaysia) Java (Indonesia)



Framework



Demonstration Project in Indonesia I

◆ Purpose

Establishment of “Smart and Ecological industrial park model”

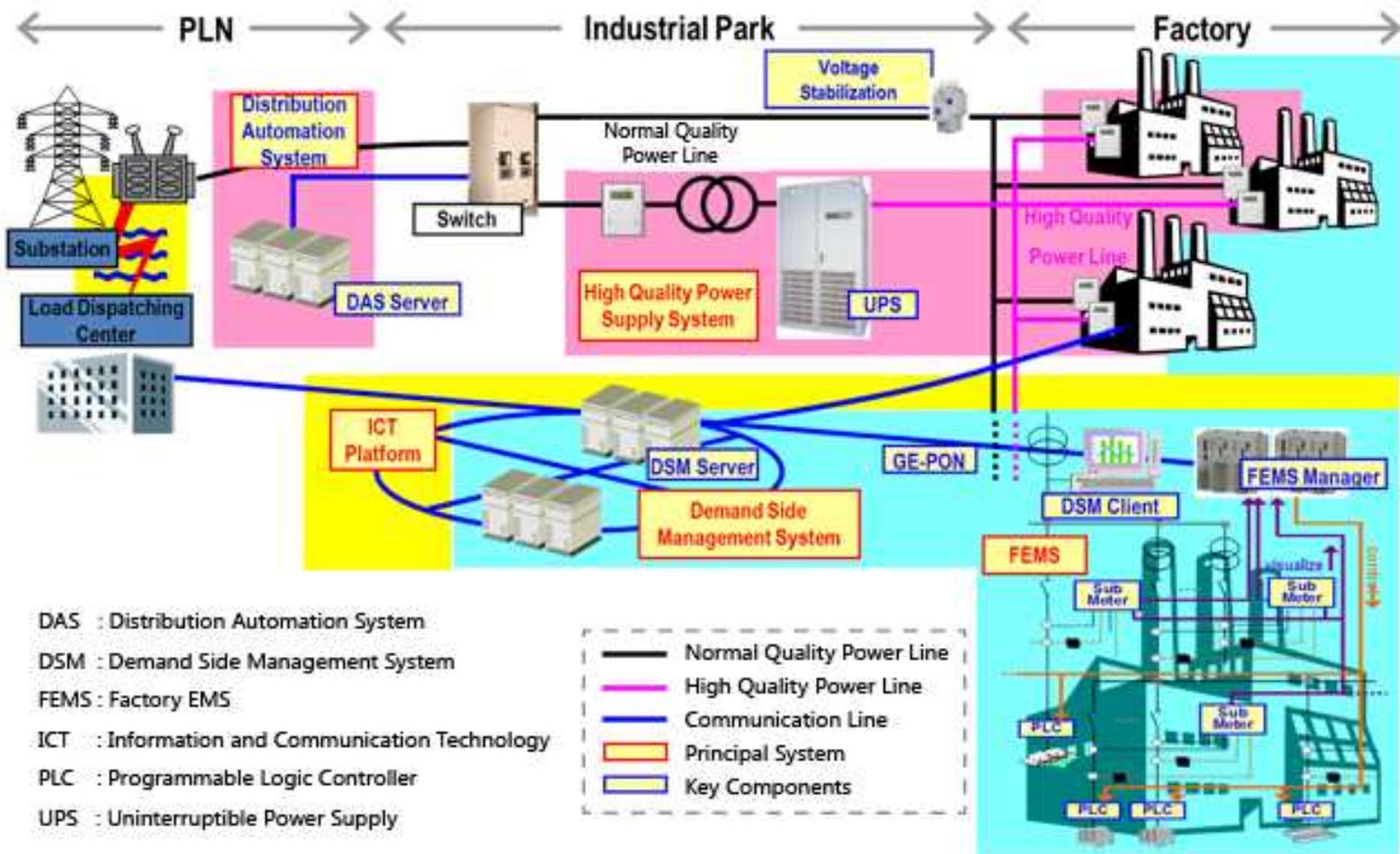
1. High quality power supply without interruptions and voltage variation
2. Energy saving through the introduction of Demand Side Management System



Contribution to balance

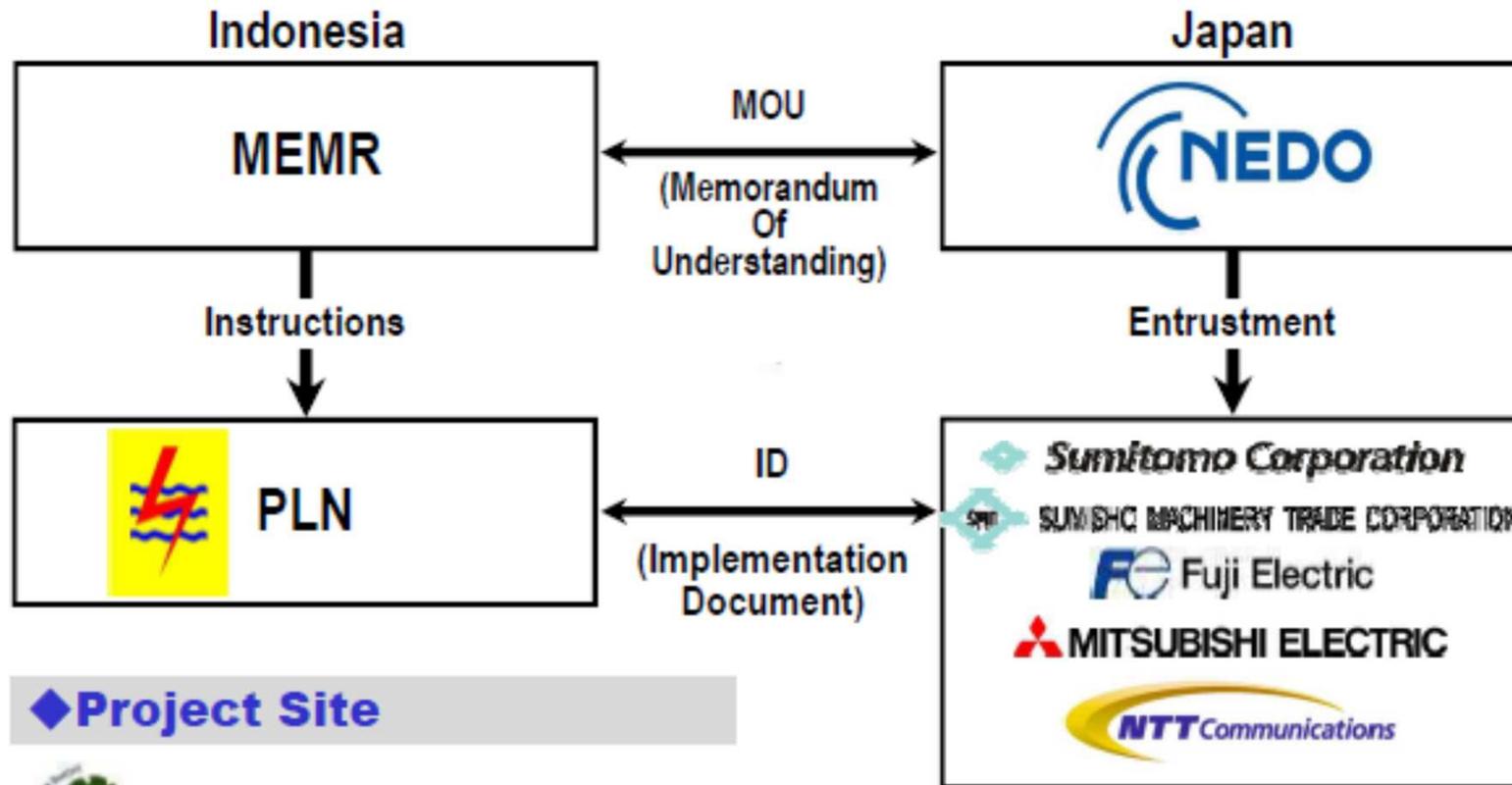
“high growth rate of economic development” with “energy conservation”

Demonstration Project in Indonesia II



- DAS : Distribution Automation System
- DSM : Demand Side Management System
- FEMS : Factory EMS
- ICT : Information and Communication Technology
- PLC : Programmable Logic Controller
- UPS : Uninterruptible Power Supply

Demonstration Project in Indonesia III

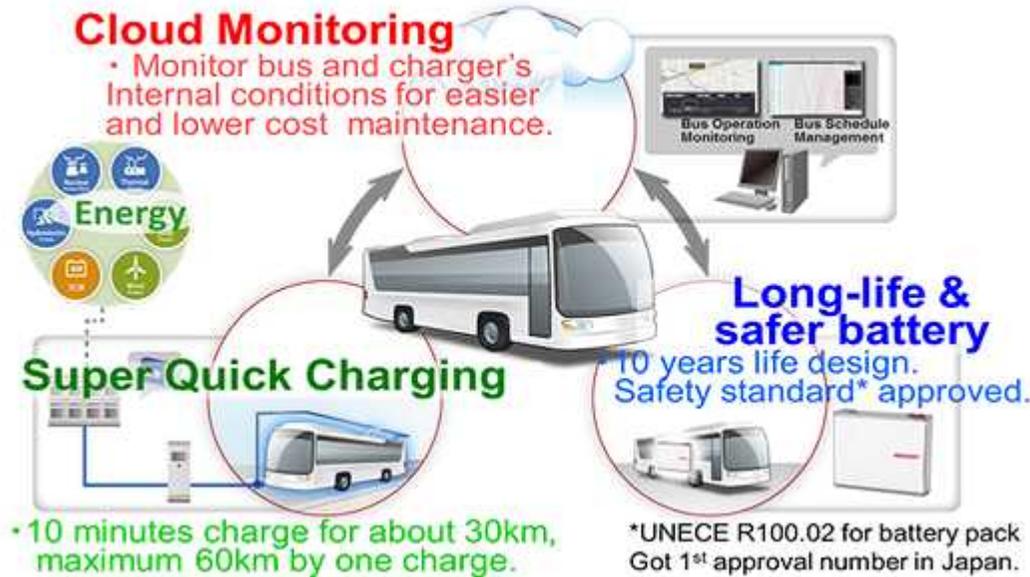


◆ Project Site



Suryacipta City of Industry

Demonstration Project in Malaysia



<Participants>

NEDO, Toshiba Infrastructure Systems & Solutions Corporation, PUES Corporation, HASETEC Corporation, and Oriental Consultants Global Co., Ltd.,

<Contents>

• Large EV bus system driving 30 km with ten-minute charge

<aim>

• to realize a smart urban transportation system, and to deploy it across a wide area.

JCM Demonstration Projects

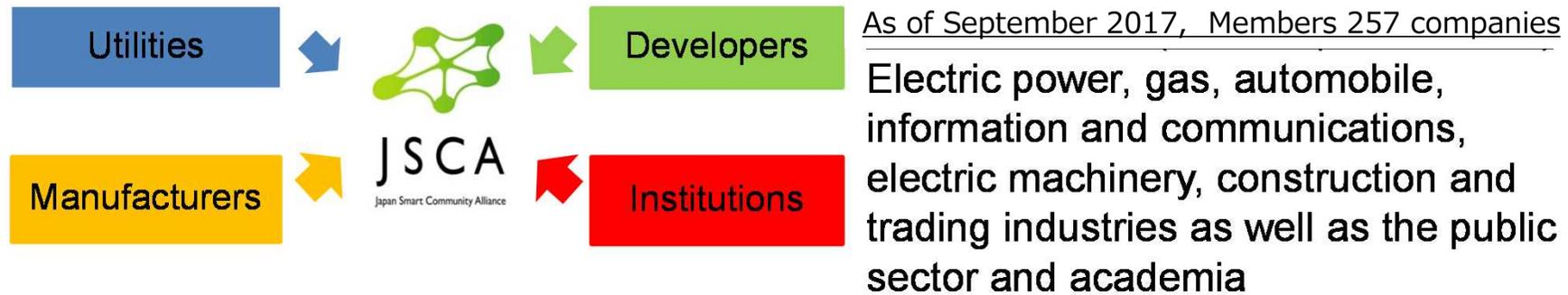
Country	Project Title
Indonesia	Energy Saving By Optimum Operation At Oil Refinery In Indonesia
Indonesia	Utility Facility Operation Optimization Technology In Indonesia
Indonesia	Application of Tribrid System to Base Transceiver Stations in Indonesia
Mongolia	The Demonstration and Verification Project for a High Efficiency and Low Loss Power Transmission and Distribution System in Mongolia
Vietnam	Promotion of "Green Hospitals" by improving efficiency/environment in national hospitals in Vietnam
Vietnam	Low Carbon Hotel-a New Energy Management System for Vietnam (V-BEMS) In Vietnam
Vietnam	Energy Saving and Work Efficiency Improvement by Introducing a New Chip-on-Board LED System in Vietnam
Laos	Lao PDR Energy Efficient Datacenter (LEED)

- The Joint Crediting Mechanism (JCM) facilitates diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributes to sustainable development of developing countries.
- The JCM contributes to the ultimate objective of the UNFCCC (United Nations Framework Convention on Climate Change) by facilitating global actions for GHG emission reductions or removals, complementing the CDM (Clean Development Mechanism).



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 - JSCA's Activity (Standardization)

About JSCA



What is JSCA?

<http://www.smart-japan.org/english>

JSCA is public-private organization supported by government, Ministry of Economy, Trade and Industry (METI) and New Energy and Industrial Technology Development Organization (NEDO).

What is JSCA's mission?

○JSCA's mission is to aggressively promote business development into energy sector by utilizing our cutting-age technologies.

○And also JSCA contribute to the growth of industry and society all over the world.

Who are main members?

Chairman; Mitsubishi Electric **Board;** Hitachi, Itochu, Kansai Electric Power, NTT, Panasonic, Shimizu, Tokyo Gas, Toshiba, TOYOTA

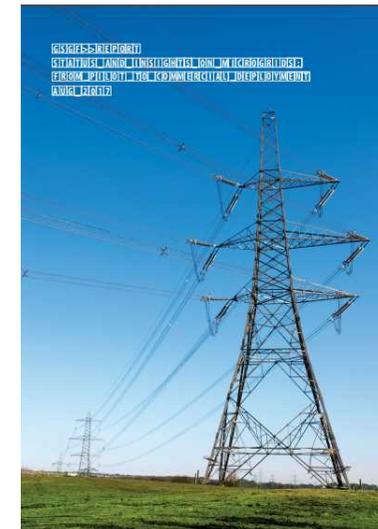
Secretariat; NEDO

Global Smart Grid Federation I



Purpose of Activities

- Facilitate the collaboration of national and international Smart Grid organizations to conduct and foster research in the application of Smart Grid technologies
- Support implementation of Smart Grid technologies by establishing itself as the global center of competency
- Foster international exchange of ideas and best practices on energy issues
- Facilitate dialogue and cooperation between the public and private sectors in countries around the world



Global Smart Grid Federation II



International Standardization WG

<Activities>

- Several Study Groups
 - Smart Grid Security
 - Smart Energy Architecture
 - Energy conversion between power and hydrogen etc.
- Participation for ISO TC268/SC1 as a member
 - Contribution for ISO TC268/SC1/WG1 PRF37153
- Dissemination Activities
 - Seminar, Workshop, Forum etc.
 - Collaboration with NEDO's demonstration projects

Outline of ISO/TC 268/SC 1 (1/2)



Background

- A technical solution to the social issue is often referred to as "Smart". However, there was no definition agreed globally on at present.
- To make commonness and the indicated criterion to evaluate the smartness of the city infrastructure, ISO/TC 268/SC 1 is established.

Scope

- Standardization in the field of smart community infrastructures, including basic concepts to define and describe smartness of community infrastructures as scalable and integrable systems, harmonized metrics for benchmarking, usage of the metrics for application to the diverse types of communities, and specifications for measurement, reporting and verification, ensuring avoidance of overlaps and contradictions with ISO/TC 268 deliverables.

Outline of ISO/TC 268/SC 1 (2/2)



Organizational chart

Organization	Name	Published Standards
ISO/TC/268	Sustainable cities and Communities	8 documents in total
SC1	Smart Community Infrastructures	The following 4 documents
SC 1/WG 1	Infrastructure Metrics	ISO/TR 37150:2014 ISO/TS 37151:2015 <i>ISO/PRF 37153 (coming soon)</i>
SC 1/WG 2	Integration and interaction framework for smart community infrastructures	ISO/TR 7152:2016
SC 1/WG 3	Best practice guidelines for transportation	ISO 37154:2017
SC 1/WG 4	Data exchange and sharing for smart community infrastructures	
SC 1/TG 1	Roadmap	
SC 1/TG 2	Smart Community Infrastructure - Pilot Testing	

Outline of ISO/PRF 37153 (1/2)



Scope

- The basis, requirements and guidance for a maturity model for the assessment of technical performance, process and interoperability of community infrastructure(s) as well as its contribution to the community, and guidance for future improvements.

- Applicable to:
 - a) all types of community infrastructures, including but not limited to energy, water, transportation, waste and ICT;
 - b) single types of community infrastructure and/or multiple types of community infrastructures; and
 - c) all types of communities, regardless of geographical locations, size, economic structure, stage of economic development, and to all applicable stages of infrastructure life cycle (e.g. planning/design, construction, operation, decommission)

Outline of ISO/PRF 37153 (2/2)

Methodology

1. Preparation: How to make Achievement Criteria Table (ACT)

ACT: a table populated with pre-defined requirements for characteristics to be achieved at the levels, which consists of sets of characteristics and their maturity levels derived from CIMM

CIMM: maturity model applied to (a) community infrastructure(s), which provides common maturity level definitions to assess the community infrastructure(s)

2. Usage: How to assess and improve the target infrastructure(s) using ACT

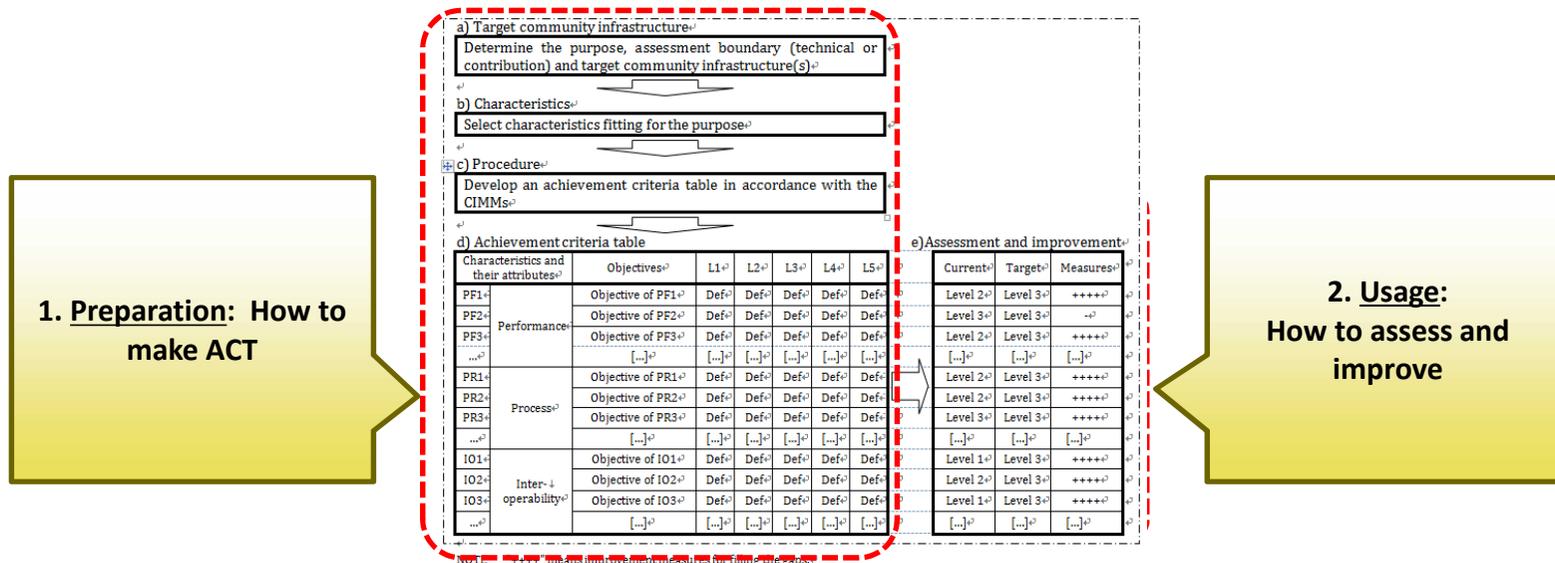
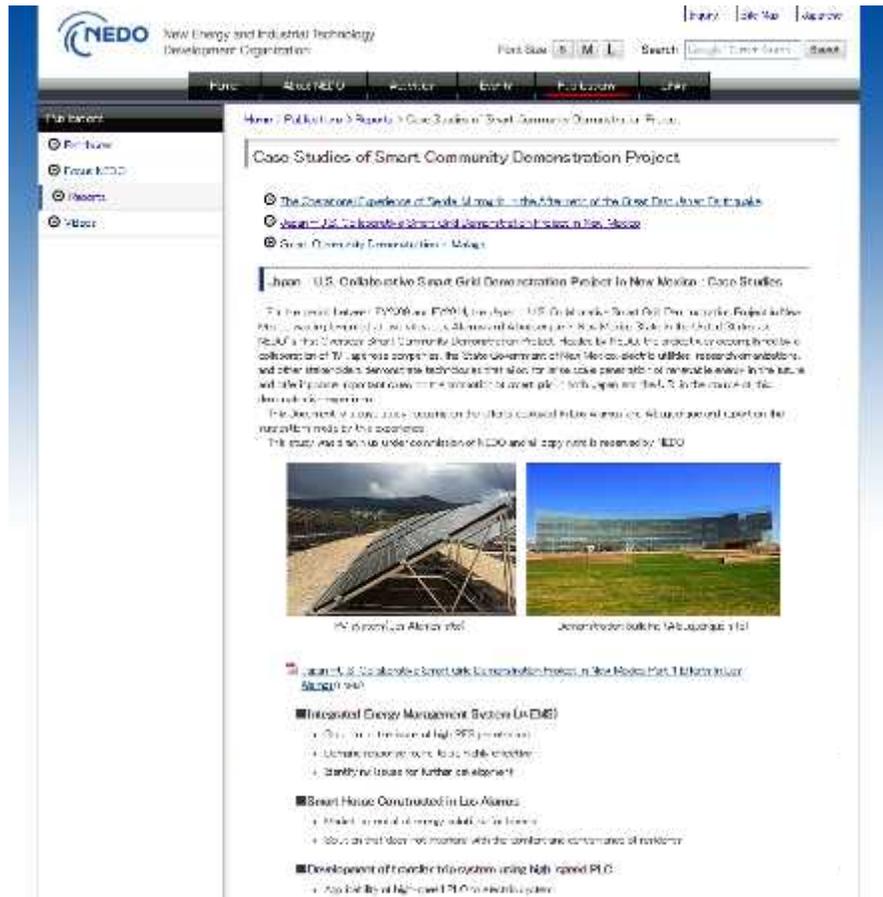


Figure 2 — Overview of the methodology^o

Overview of the methodology

For more details about NEDO Smart Community project



Case Study of completed projects

http://www.nedo.go.jp/english/reports_20130222.html

- New Mexico (U.S.) Project
- Malaga (Spain) Project
- Hawaii (U.S.) Project
- Lyon (France) Project * coming soon

Media releases

- Oshawa Ontario Residential PV system Demonstration(2015-2017)
http://www.nedo.go.jp/english/news/AA5en_100025.html
- Lyon Smart City Project (2011-2017)
http://www.nedo.go.jp/english/whatsnew_20111226_index.html
- Heat Pump Demand Response Project in Manchester (2014-2017)
<http://www.nedo.go.jp/content/100788809.pdf>
- HEMS Managing System Demonstration Project in Speyer (2015-2017)
<http://www.nedo.go.jp/content/100788808.pdf>

Website

<http://www.nedo.go.jp/english/index.html>

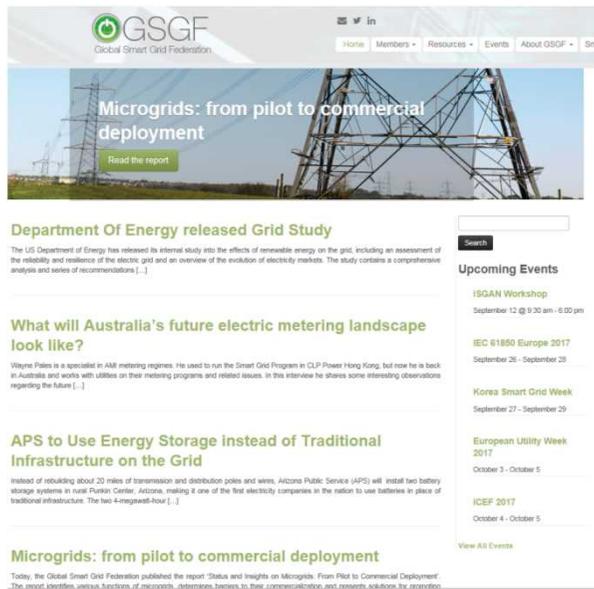
For more details about JSCA and GSGF



Japan Smart Community Alliance

<https://www.smart-japan.org/english/index.html>

- Members
<https://www.smart-japan.org/english/memberslist/index.html>
- Working Groups
<https://www.smart-japan.org/english/activity/wg/index.html>



Global Smart Grid Federation

Working Groups

<http://www.globalsmartgridfederation.org/about-gsgf/working-groups/>

- Microgrids Working Group
- Flexibility Working Group
- Cyber Security Working Group

Newsletter

<http://www.globalsmartgridfederation.org/about-gsgf/newsletter/>

Terima kasih



JSCA
Japan Smart Community Alliance

Thank you very much for your attention!