JEJU Test Bed

2011. 08

지식경제부
Ministry of Knowledge Economy

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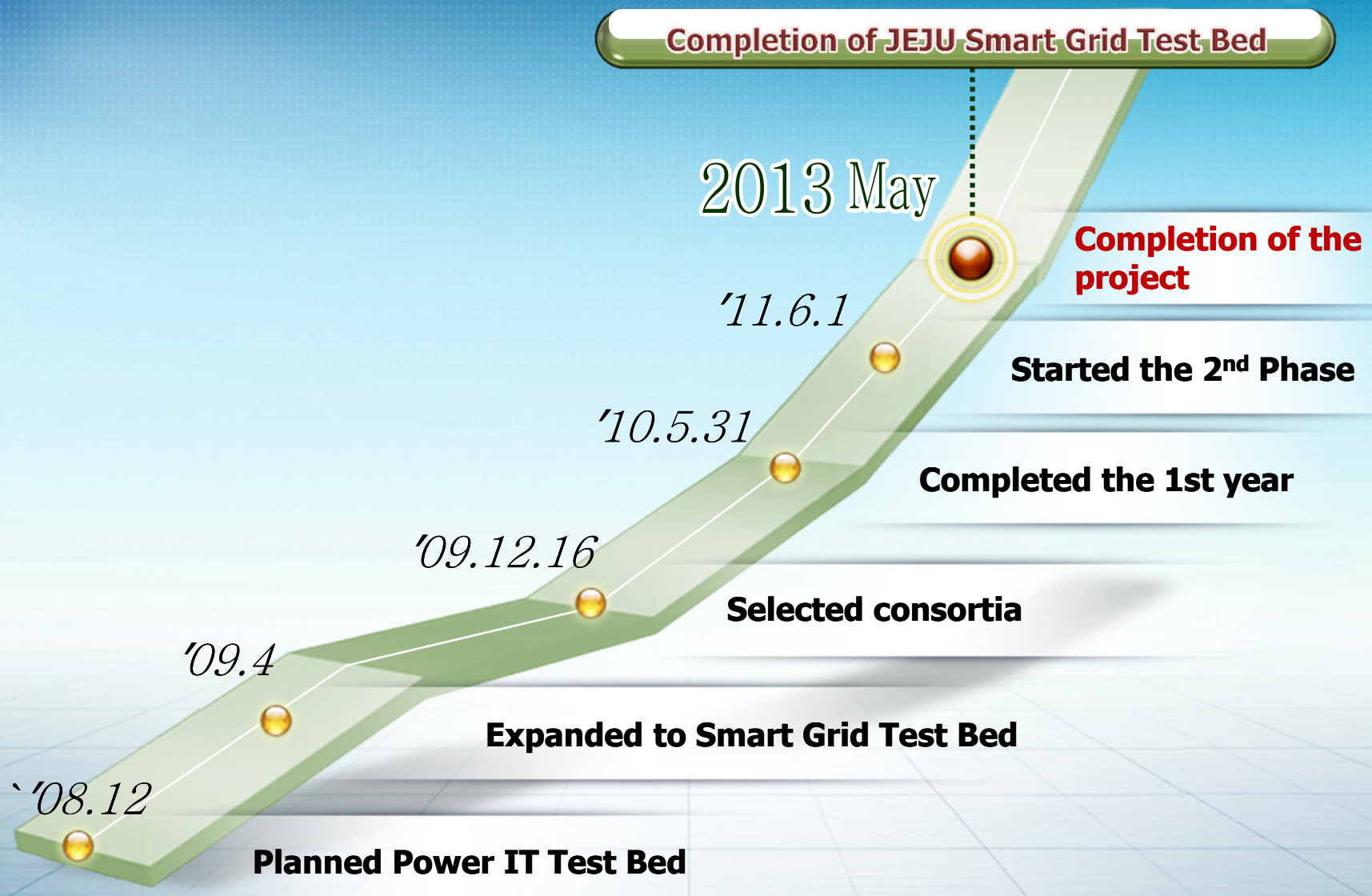
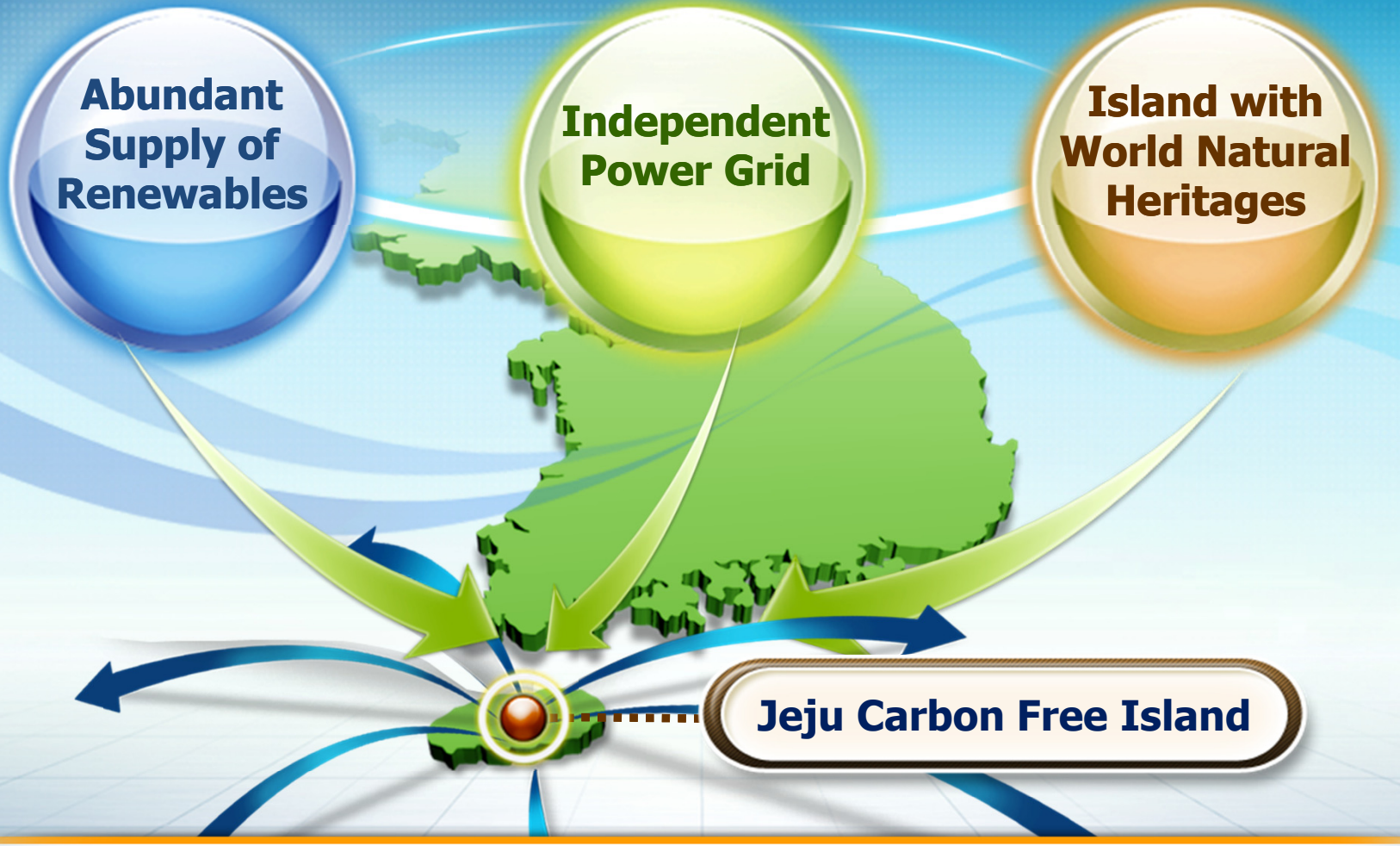
Introduction of JEJU Test Bed

JEJU Test Bed Timeline



Why JEJU?



Incubator for Smart Grid Technologies

Objectives of JEJU Test Bed

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To create business models, and initiate commercialization

Strategies

Assess Business Models

- **Assess smart grid technologies and verify effectiveness of smart grid related service for consumers**

Select from Open Bid

- **Allow companies to openly bid for different areas of demonstration project to create innovated BIZ models**

Induce Competition

- **Induce competition amongst participating consortia in different domains to make effective assessment**

Overview of JEJU Test Bed

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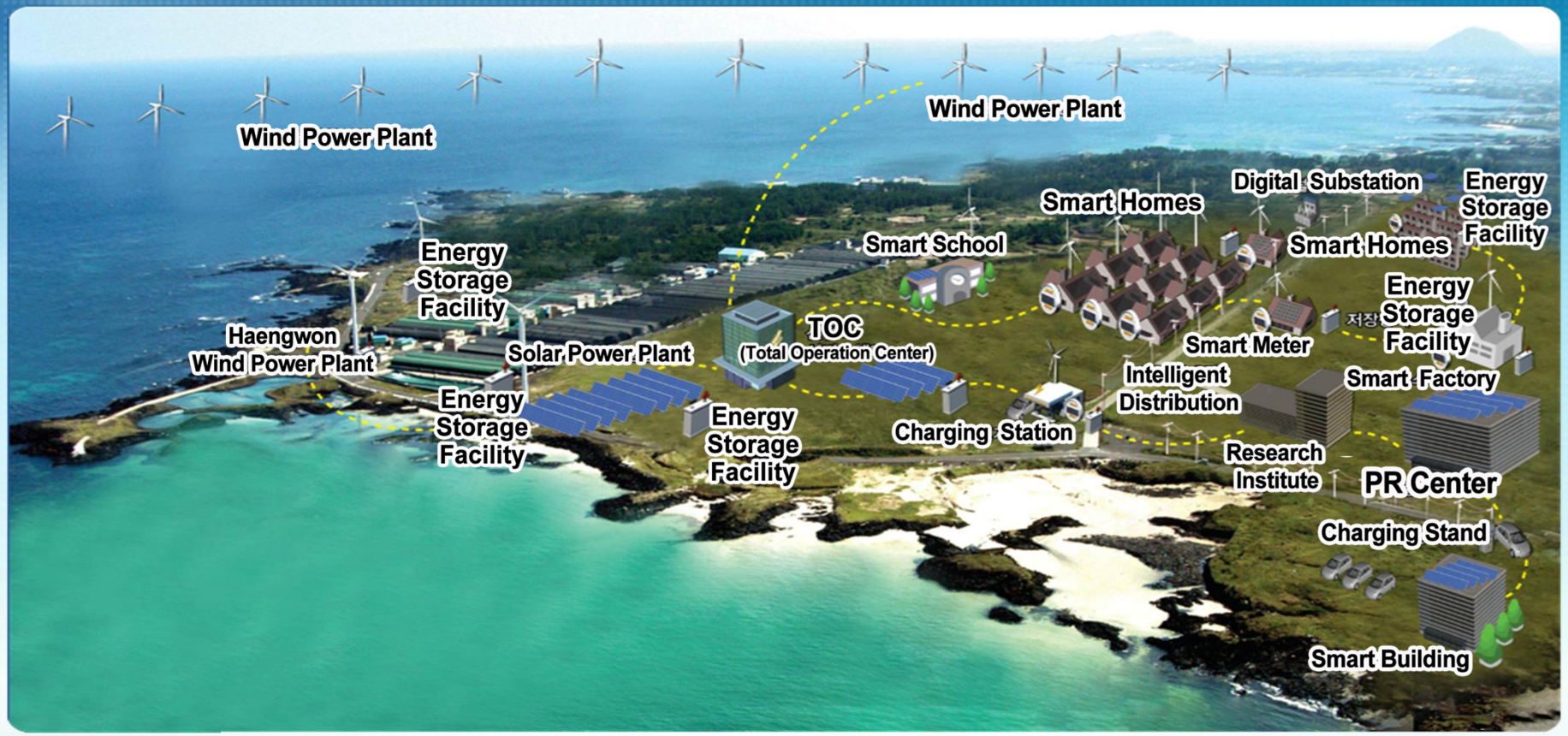
Project Overview

- (Goal) To test smart grid technologies and to create new business models
- (Phase) 『Phase 1: Dec. 2009~ May 2011』 - Installation
  『Phase 2: Jun. 2011 ~ May 2013』 - integration & Operation
- (Investment) TOTAL $240M (Govt. $69M, Private $171M)
- (Location) JEJU, Koo-Jwa Eup (Approx 6,000 households)

Features of JEJU Test Bed



Features:
- Integrated test bed
- Close collaboration between public and private sectors
- Verification of different power market models
- Participants: Korea Electric Power Corporation (KEPCO) plus automakers, telecommunications companies and home appliance manufacturers
  - Includes major companies such as LG, SKT, KT and Samsung
- Open to foreign companies

Consortia for JEJU Test Bed

	Leads	Participants	Investment
Smart Place	SK telecom	Samsung Electronics, Korea Cable TV, Jeju broadcast etc. (29 companies)	Govt. : $ 5 million Private: $ 25 million
	olleh kt	Samsung SDS, Samsung Trade, Rootech etc. (14 companies)	Govt. : $ 4.7 million Private: $ 30 million
	LG Electronics	LG U+, GS pure cell, GS construction etc. (15 companies)	Govt. : $ 4.7 million Private: $ 17.5 million
	KEPCO	Samsung Electronics, Taihan Electric, Nuri Telecom etc. (38 companies)	Govt. : - Private : $ 10 million
Smart Transport	KEPCO	Samsung SDI, Lotte data communication, P&E Solution etc. (22 companies)	Govt. : $ 4.5 million Private:14 million
	SK energy	SK Network, Iljin Electrics, Ientech etc. (13 companies)	Govt.: $ 4.5 million Private: $13 million
	GS Caltex	LG CNS, ABB Korea, NexCon Take etc (7 companies)	Govt. : $ 4 million Private: $ 8 million
Smart Renewable	KEPCO	KOSPO, Hyosung, LSIS etc.(16 companies)	Govt. : $ 4.7 million Private: $15.3 million
	HYUNDAI HEAVY INDUSTRIES CO.,LTD.	Maxcom, Icellkorea etc. (6 companies)	Govt. : $ 4.7 million Private : $ 7 million
	posco ICT	LG Chem, Woojin Industrial System, Daekyung Engineering etc. (6 companies)	Govt. : - Private: $ 9 million

Phase 1 Progress Report

Construction plans

Phase	Areas	Contents
Phase 1 (infrastructure)	**Power Grid • Place • Transportation**	Grid, consumers, Vehicle to Grid connection
Phase 2 (Operation)	**Renewable • Electricity Service**	New electricity service, Renewable to grid connection

Accomplishments

Smart Place

- Constructed operation centers for each consortium
- Installed 550 residential AMIs / 100 PVs
- Installed energy monitoring device

Smart Transport

- Activated EV charging infrastructure
- Deployed EVs
- Constructed infra operating system, Designed security system
- Developed paying method

Smart Renewable

- Constructed renewable generation
- Designed systems to stabilize intermittency
- Ascertained protocols for telecommunication and developed data center model coordinated with total operation center.

Phase 1 Progress Report

Demonstration Public Exhibitions

- **Public consensus is necessary to implement nationwide smart grid**
- **Companies can present and introduce smartgrid prototypes and educate the public**
- **The exhibition will be sustained during and after the demonstration project**

" **Experience**" the State of the Art Technologies and Viable BIZ models

· **Main Exhibition center, "Comprehending"** Korea's Smart Grid Concepts and Jeju Test Bed

· **4 Smart Grid Theme exhibitions, "Experiencing"** Smart and Eco-Friendly Daily Life

Next Phase

System operation and verification

- **Deduce best practices from testing of business models under the 5 domains of demonstration project**
  - Create platform for energy management, and test demand response solution
  - Provide smart metering service, construct facilities for the operation of microgrid

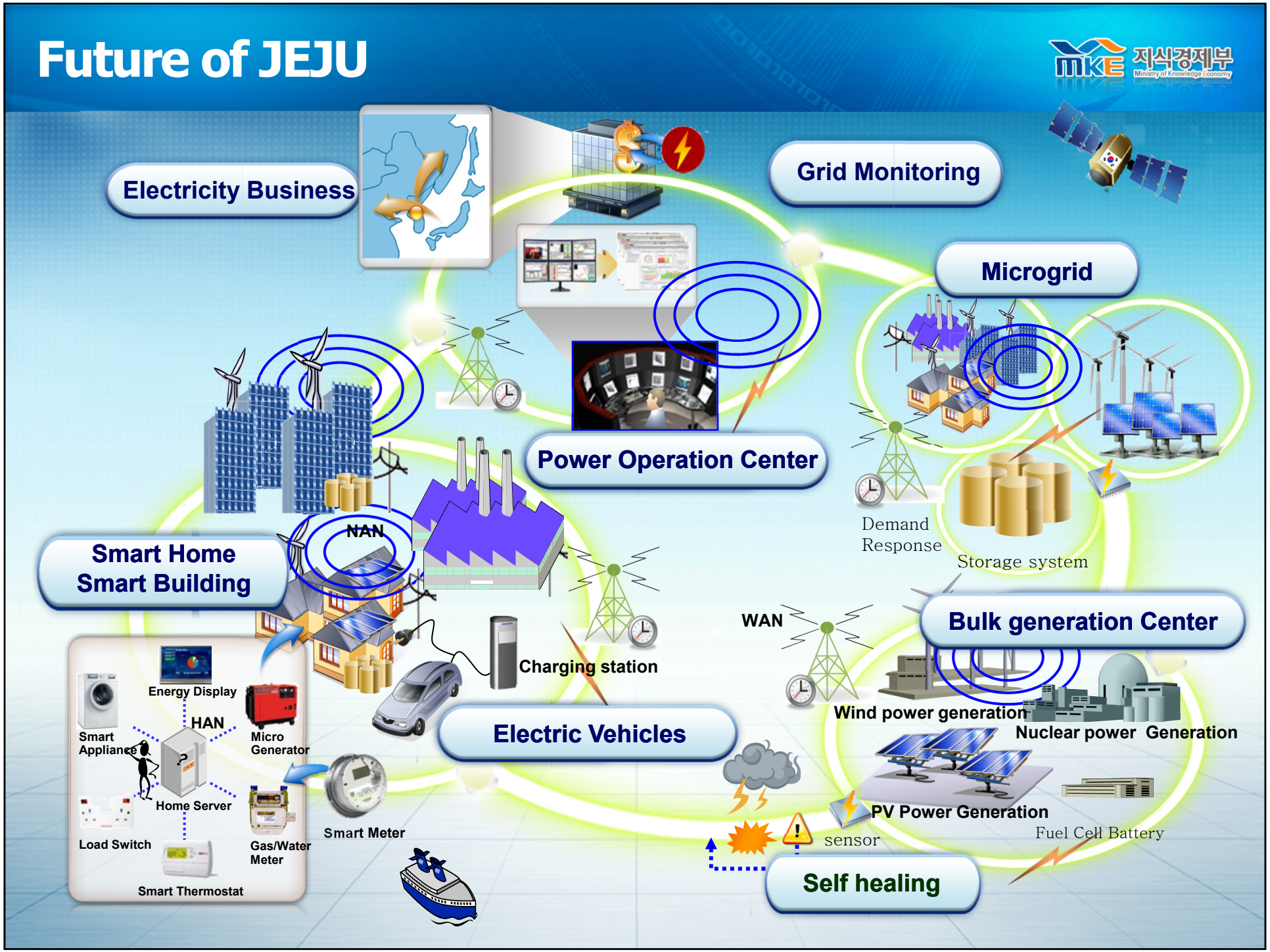
Induce Competition

- **Each consortium will perform in a competitive environment, and the government will provide persistent support to allow creation of new business models**
- **Business outcomes will be incorporated with national standard and deployment plan**

Smart Grid Stimulation Act

- **Master plan will be made every 5 year and action plan will be made every year based on the Smart Grid Stimulation Act**

Future of JEJU




Video File 1


Video File 2


Thank you
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Resume

Name: Dae Kyeong Kim

Date of Birth: Feb. 20, 1958

Educational Background

B.A. Degree in Electrical Engineering on Feb., 1981 at Busan National University

M.S. Degree in Electrical Engineering on Feb., 1983 at Han-Yang University

Ph.D. Course in Corrosion & Protection at UMIST, U.K. during 1999~2003

Business Background

Entered the Hyun-Dai Engineering on Jul., 1984

Entered the Korea Electrotechnology Research Institute (KERI) on Feb., 1987 and work there as the director of the Smart Power Facility Research Center at present

Research Areas

Smart Grid

Electric Vehicle

Intelligent Transmission network

Other Activities

National Standards Coordinator for Smart Grid

Technical Expert of Energy Committee

Chairman of Power IT Project Manager Committee

The person in charge of National Smart Grid Roadmap