
oneM2M Certification & Use cases of Certified Products



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01 Korea's IoT Activity



IoT Strategies in Korean Government(I)

Strategy

2014.5

Promotion of IoT Service
Development·Utilization

Internet of Things Master Plan

2015.12

Increase and Strengthen
IoT Demand and Supply

IoT Proliferation Strategy

2016.12

Intelligent Information Technology
integrated IoT Data·Network using
Infrastructure

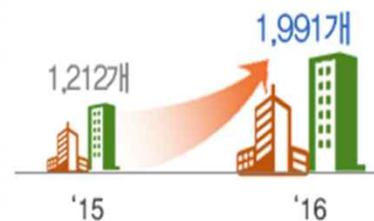
Mid·Long term Plan for
Intelligent Information Society

Achievement

Domestic IoT Market Size



Domestic IoT Companies



IoT Preparedness among G20 Countries



IDC(2016.11.)



IoT Strategies in Koran Government(II)

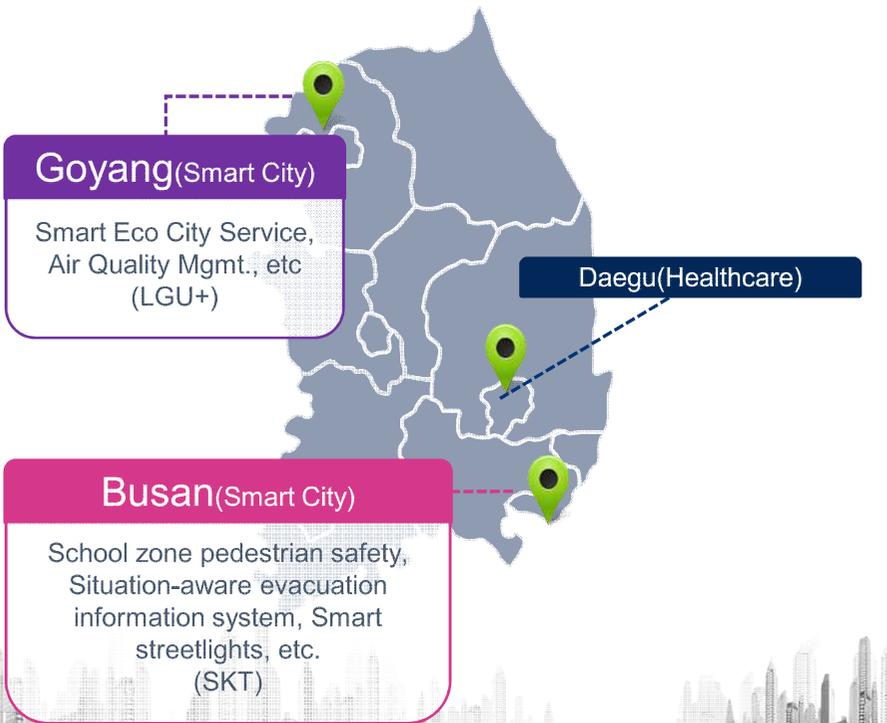
2017 Core Strategy

- IoT Network Expansion Support
- IoT Development and Standardization
- IoT Start-up and Mid-size Company Cultivation
- **IoT Pilot Project Creation**
- Home IoT Promotion Support
- Private-Public Collaboration for IoT Proliferation

IoT Pilot Project Creation(I)

Smart City Pilot Project

Pilot Location: Busan (2015~2017),
Goyang (2016~2017)



Pilot Services

- Busan safe traffic system improvement service
- Goyang environment mgmt. improvement service
- Cross-service demonstration
- Proliferate to foreign cities through GCTC participation

Collaboration among Ministries

- Participated in K-Smart city Export promotion team(MOLIT, MSIP, etc.)
- 'Smart City Service Competition' for gathering ideas from public and private sector(MSIP, MOLIT)
- Plan and cooperate among Ministries for joint R&D projects on implementation of the Smart City National Strategy Project

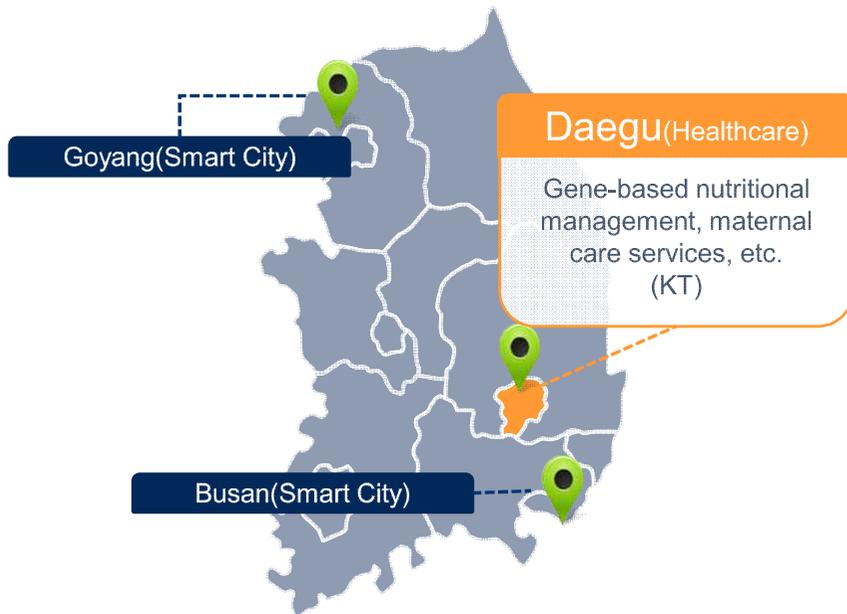
Business Promotion

- 2017 Smart City Innovation Summit Asia
 - Date: 2017.9.13~15
 - Location: Goyang City KINTEX

IoT Pilot Project Creation(II)

Healthcare Pilot Project

Location: Daegu(2015~2017)



Pilot Services

- Fitness center-based personal exercise management optimization
- Advanced healthcare services for pregnant women

SME Support

- Fostering SMEs through Daegu Global Healthcare Center
 - Business consultation for SMEs, prototype production, commercialization support, etc.

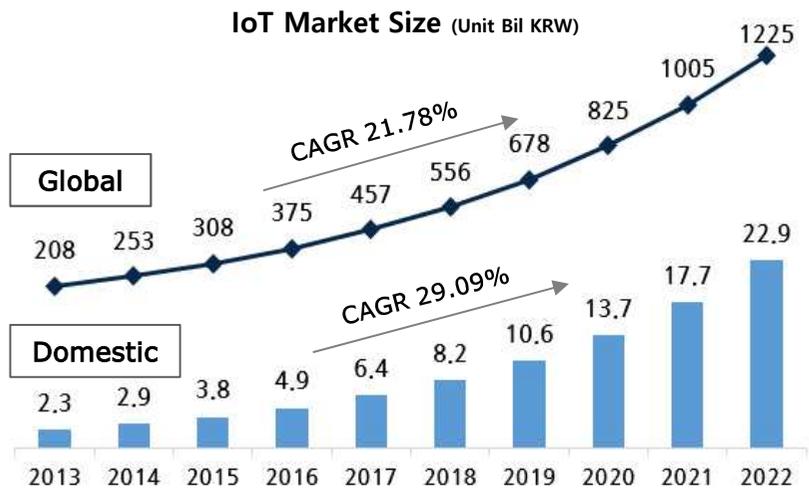
Pilot project for specialized nutrition management services('17~'19)

- Establishment of new service model and pilot plan for nutrition management using existing healthcare platform

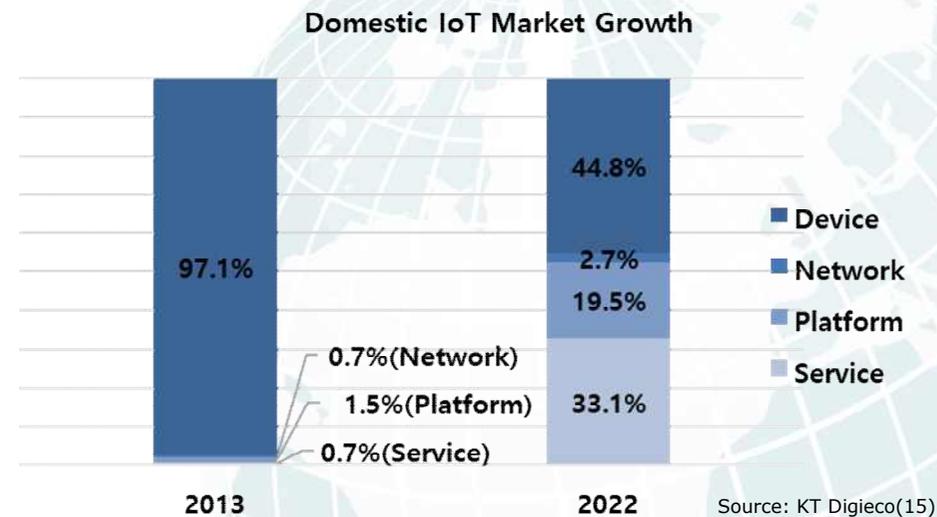


Korean IoT Industry Trend(I)

- Domestic IoT market size growth is similar to that of global IoT market growth
- Device centric → System Solution → Service Industry
 - Importance of 'platform and service' emphasized as device market expands

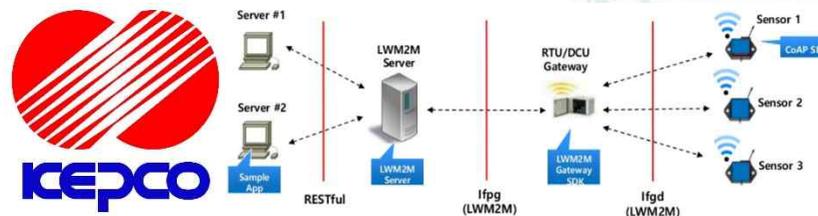


Source: Korea Institute for Industrial Economic & Trade



Korean IoT Industry Trend(II)

- Number of domestic IoT service subscribers: 4.4million
 - SKT(1.7mil), KT(1.1mil), LGU+(1mil), MVNO(0.6mil)
- oneM2M Use Cases by Korean Telecom Service Providers
 - SKT Gper: oneM2M–Lora technology for location tracking of Alzheimer patients and children
 - LGU+ IoT @home: Smart home IoT based on oneM2M platform
 - KEPCO e-IoT platform combined with oneM2M





02 oneM2M Certification



oneM2M Certification Background



- TTA was agreed as the **first oneM2M Certification Body** at the 33rd Steering Committee meeting (Sep. 2016).
- **oneM2M Certification Program** was officially launched on **Feb. 9, 2017**.
 - Provide global confidence of oneM2M standard





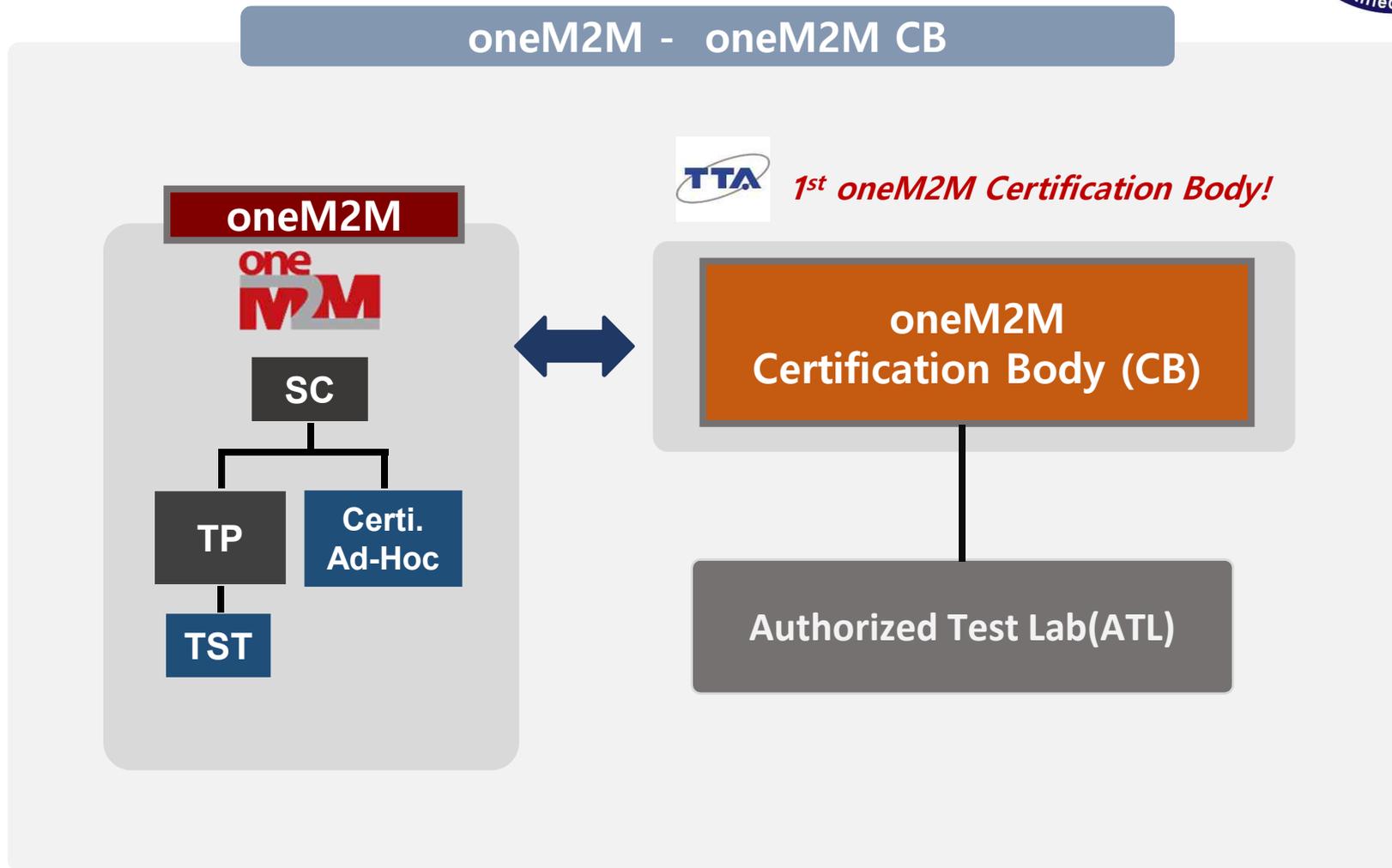
oneM2M Certification Goal



- **oneM2M Certification** is intended to **create an ecosystem of certified products** that **ensures interoperability** among oneM2M certified products
- **oneM2M Certification** is LOGO program, NOT an compulsory program.
 - Representation that oneM2M products and services **meet oneM2M Specification and Test requirements** that ensure interoperability.



oneM2M Certification Organization





oneM2M Certification Logo



- **oneM2M Certification Logo** registration in progress in Korea, China, Europe and U.S.A
 - Expected Date of registration completion
 - Korea: 4Q 2017
 - Europe: 4Q 2017
 - U.S.A.: 1Q 2018
 - China: 1Q 2018

oneM2M Certification Logo





oneM2M Certification Website

www.onem2mcert.com



The screenshot shows the homepage of the oneM2M Certification website. At the top left is the oneM2M Standards logo. The main header reads "one Certification for oneM2M Standard" with navigation links for HOME, LOG IN, and JOIN. A left sidebar contains a menu with items: Introduction, Certification Guide, Facilities, Certified Products, Downloads, and Reference. The main content area features a large oneM2M Standards logo and a paragraph explaining that the certification logo represents products and services meeting oneM2M standard testing requirements for interoperability. Below this is a red "START CERTIFICATION" button. Two featured sections are visible: "CERTIFICATION GUIDE" with an image of a street signpost and a description of the certification program's purpose, and "IoT Standards" with an image of a robot hand touching a button and a description of oneM2M as a global standards initiative for Machine to Machine Communications and the Internet of Things.





Product Type



- oneM2M certification product type consists of **End Product** and **Component**
 - **End Product** is a product that claims to have implemented at least one of oneM2M node types.
 - **Component** is an implementation of one or more of embedded oneM2M node types as software that is used to produce End Product.
- End Product or Component must implement at least one of oneM2M node types.
 - Node type: ADN, ASN, MN, IN



Certification Type



- New product
 - Any product that is certified using oneM2M standard specification for the first time
- Product change

Product Change Type	Description	Testing Scope	New Certification issue
Major	Change impacts all oneM2M functionality and is regarded as a new product	Full Re-testing	O
Partial	Change impacts a portion of oneM2M functionality	Additional testing of new functionality and/or changed functionality	O
Minor	Change does not impact oneM2M functionality (e.g., add another model name)	No testing required	X

- Rebranding
 - Previously certified product that acquired a new name, term, symbol, design, or combination of two or more external change



Testing Scope



- **Interoperability Testing**

- Verification of end-to-end functionality in accordance with oneM2M binding protocols (HTTP, CoAP and MQTT) and serializations (XML and JSON).
 - Interoperability test specification for oneM2M certification based on TS-0013(Interoperability Testing)
- Total Test Cases : 288
- Test Equipment: TTA oneM2M Tester

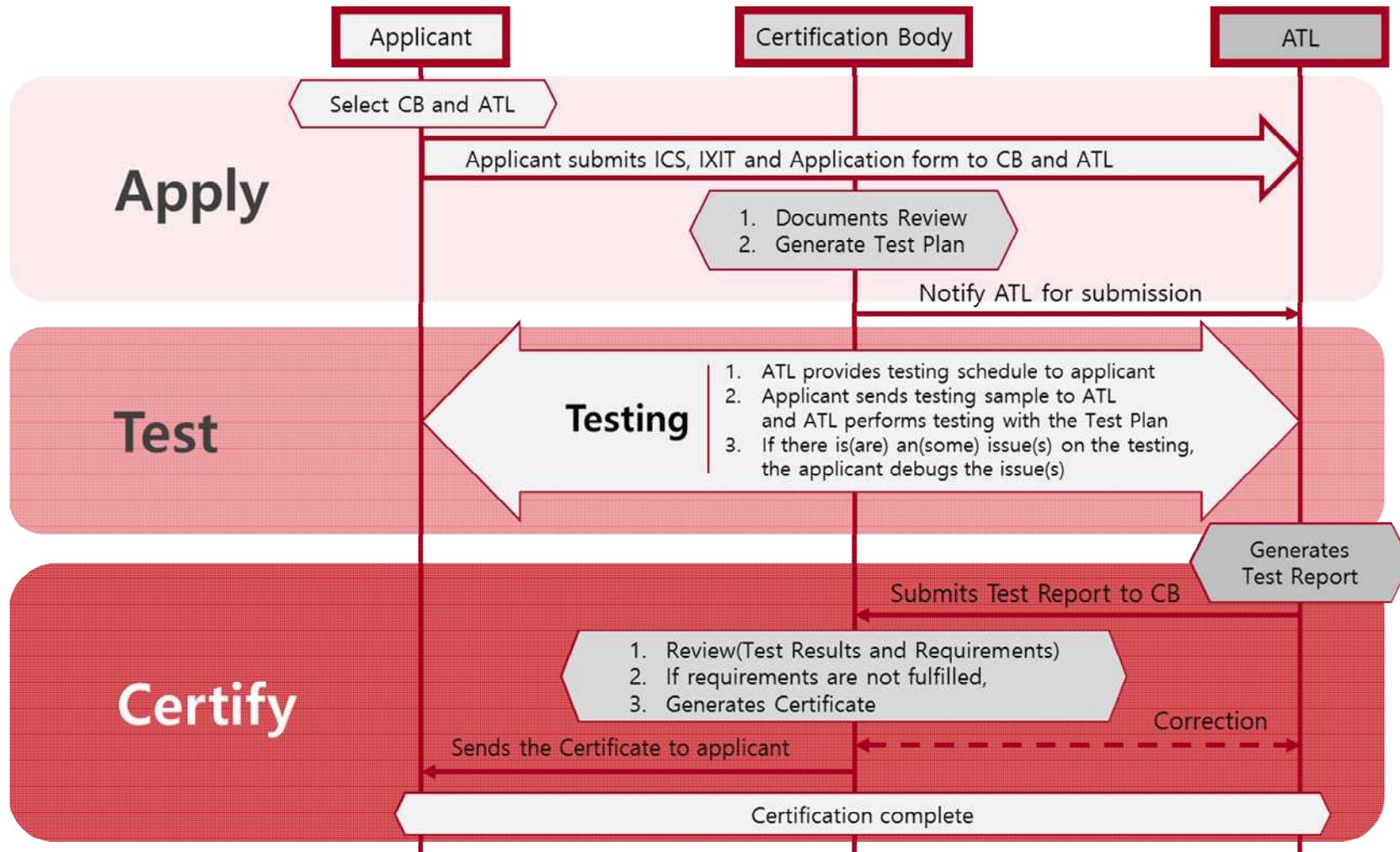
- **Conformance Testing**

- Conformance Test Specifications are under development by oneM2M Testing WG

oneM2M member participation is requested for the provision of Conformance Testing for global proliferation of oneM2M standard in the market



Certification Process





Certified Products(I)

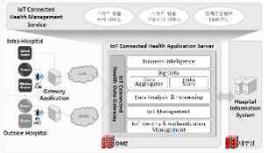


Product Vendor	Product Name	Product Website	Product Information	
SK Telecom	ThingPlug	http://Thingplug.sktiot.com		ThingPlug® is an open IoT platform of SK Telecom.
nTels	N-MAS	http://www.ntels.com		N-MAS is an open IoT platform that provides connectivity functions used in various service areas such as smart city, industry, healthcare, sports, and agriculture.
KT	IoTmakers Middleware	http://iotmakers.olleh.com		IoTmakers Middleware provides interface to communicate with KT Platform via oneM2M standard protocol ..
	IoTmakers	http://iotmakers.olleh.com		IoTmakers is the OPEN IoT platform which can support IoT players to realize their idea and lead to success ..
KEPCO	e-IoT Energy Gateway	https://spin.kepco.co.kr		e-IoT Energy Gateway provides interface to communicate between sensors and the e-IoT Energy Platform via oneM2M standard protocol.
	e-IoT Energy Platform	https://spin.kepco.co.kr		e-IoT Energy Platform is the OPEN IoT platform for an electrical power system and industry.



Certified Products(II)



Product Vendor	Product Name	Product Website	Product Information
HANDYSOFT, Inc.	HANDYPIA IoT Platform	http://www.handypia.co.kr/homepage_eng/	 <p>ThingPlug® is an open IoT platform of SK Telecom.</p>
HealthConnect Co., Ltd	IoT Healthcare Platform	http://110.93.135.108/	 <p>IoT Healthcare Platform is an IoT platform for connected healthcare management service such as rehabilitative management and nursing support service.</p>
Samsung SDS	Insator™	https://iot.insator.io	 <p>Cloud based Enterprise IoT platform that supports the development of numerous smart solutions and intelligence services through data collection and analytics</p>



03 Use Cases of Certified Products

SKT 'ThingPlug'



- Open IoT platform of SK Telecom
- Service Use Case(<https://www.thingplug.net/loTPortal/start/caseList>)
 - B2C: Entertainment, Healthcare/Wellness, Home Control, Energy Management, Safety
 - B2B: Productivity, Location-aware, Automation, Intelligence

Service Use Case



B2B Smart City(Busan)



B2C Location
(Gper, LoRa&oneM2M)



Office Environment Monitoring



B2C Smart Home



electronic anklet (of sex offender)



Weather observation
(Weather Planet)

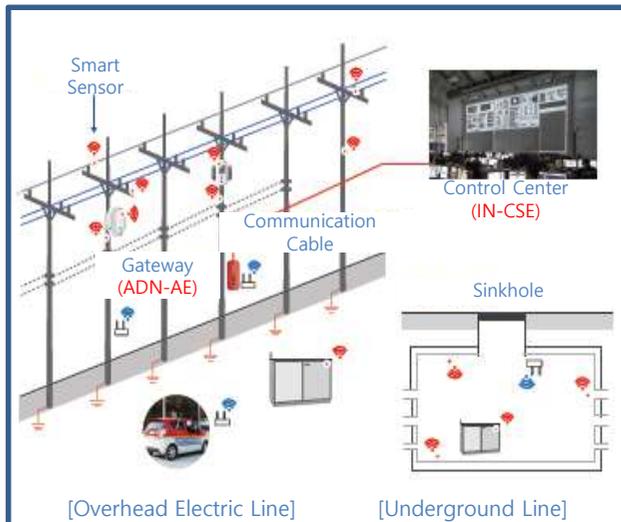


KEPCO 'e-IoT Energy Gateway/Platform'

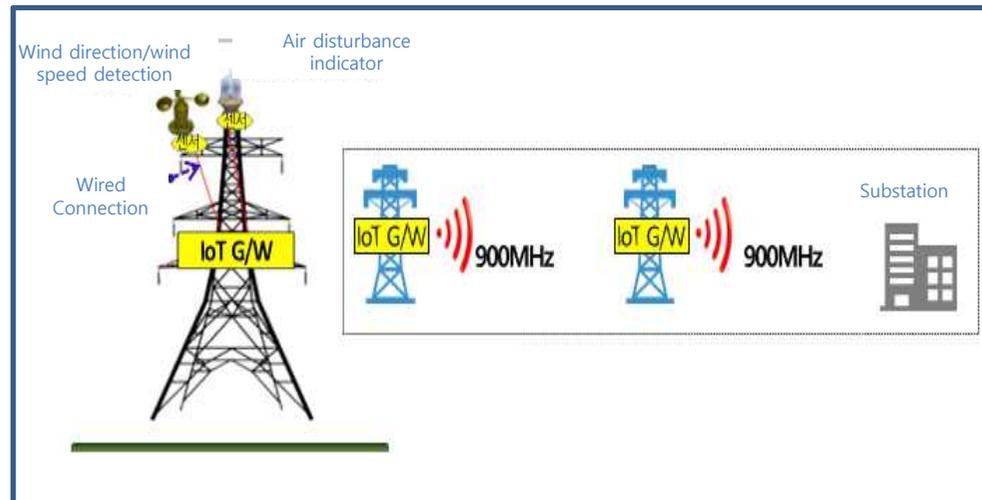


- Open IoT platform/Gateway of KEPCO
- Service Use Case
 - Electrical power system management

Representative Use Case



Purpose : Real-time management of power facilities and prevention of failure through self-diagnosis based on e-IoT



Purpose : Remote monitoring of steel tower structures using IoT sensor technology



HANDYSOFT 'HANDYPIA IoT Platform'



- **Cloud-based Open IoT platform**
- **Service Use Case**
 - Smart Home, Smart Office, Connected Car, Smart Loss Prevention System, Smart Sportswear

Representative Use Case

Smart Bicycle(Smart Loss Prevention System)

- The loss prevention system provides useful services to find lost or stolen bikes using crowdsourcing.
- The smart bicycle has a beacon for location tracking.
- Also it provides sales & repairing history management and customers information management system.

- The only self-producing Korean bicycle brand
- No.1 in and the leader of the bicycle culture in Korea

The diagram illustrates the Smart Bicycle system. It features an 'Acceleration Sensor' and a 'Bluetooth Beacon' connected to an 'App' on a smartphone. The app is linked to an 'IoT System for Bicycle management' and 'Customer management for Franchises'. A 'Service Center' is also shown. A feature for 'Finding the lost bicycle using SNS' is highlighted with a location pin and a bicycle icon.

Smart Home Appliance

- Smart home appliance IoT services connected with home appliances enable on & off of all connected home electronic appliances using smartphones while away from home.
- In addition, it offers multi-functions, such as energy usage monitoring, saving and statistical analysis.
- The IoT boiler is providing convenient services for monitoring the status and intelligent control the boiler using smartphones in and away from home.

The diagram shows a smart home with a Kiturami boiler. A 'Service Center' is connected via Wi-Fi. A person is shown using a smartphone to control the boiler. The diagram includes the following text: 'Monitoring the status and controls the boiler using smartphones in and away from home (Android & iOS App)'. A legend indicates: 'Red line: User remote control' and 'Blue line: Notification for the fault auto diagnosis'. Four smartphone screens are shown with the following features: 'Remote Power ON/OFF', 'Control & Temperature Setting', '24hours reservation feature', and 'Fault auto diagnosis & Alarm function'.

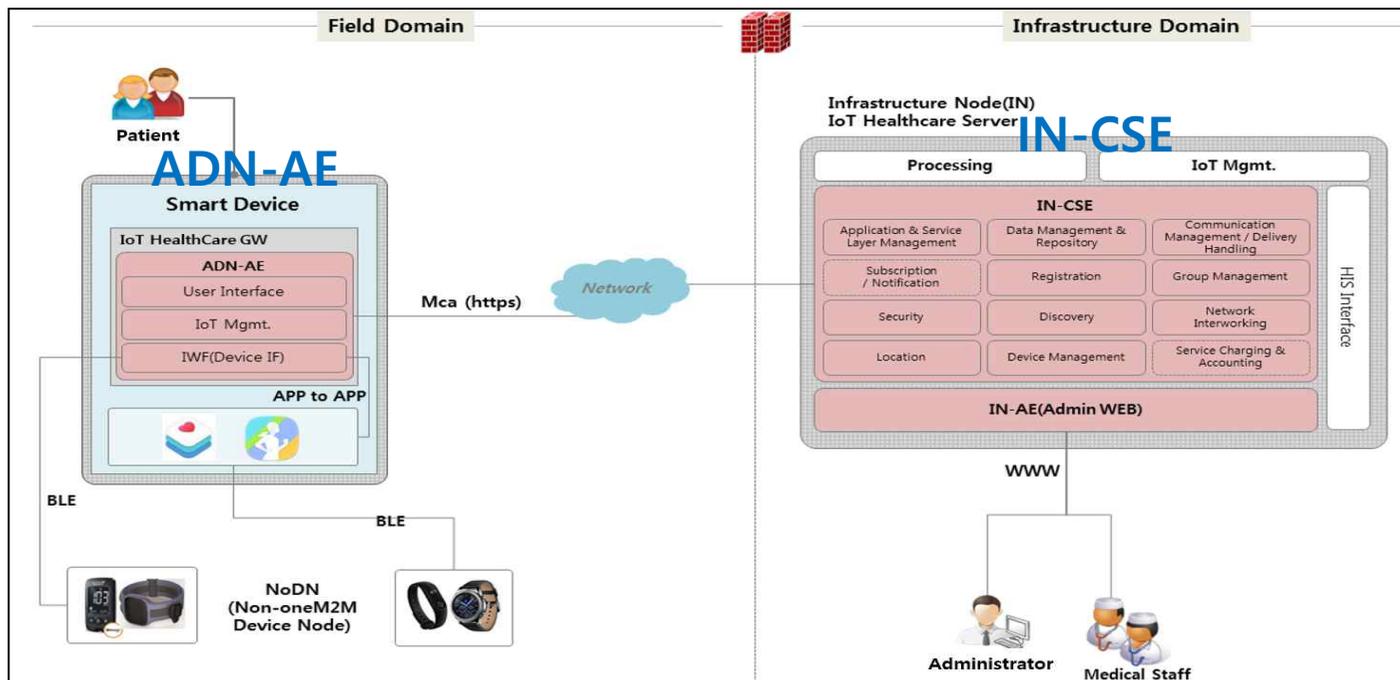


HealthConnect 'IoT Healthcare Platform'



- Cloud-based Open IoT platform
- Service Use Case
 - Smart Medical Care Service, Smart Hospital Nursing Support Service, etc.

Representative Use Case



Purpose: Health Management with IoT healthcare platform and smart device through collection of data from Healthcare IoT sensors and devices

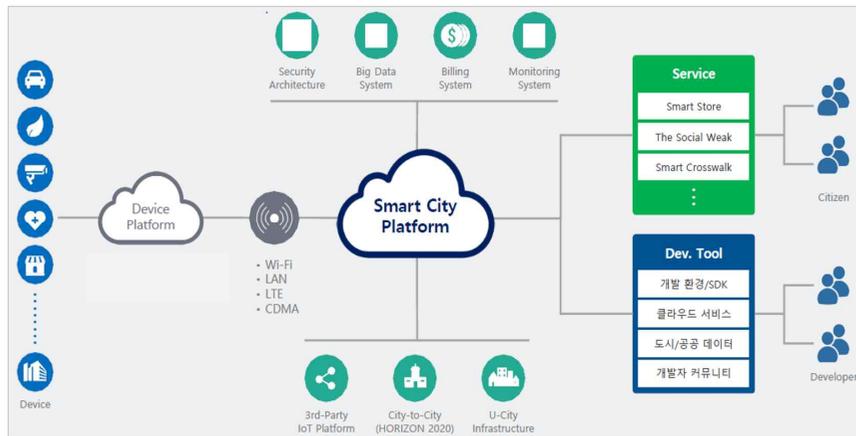


Ntels 'N-MAS'

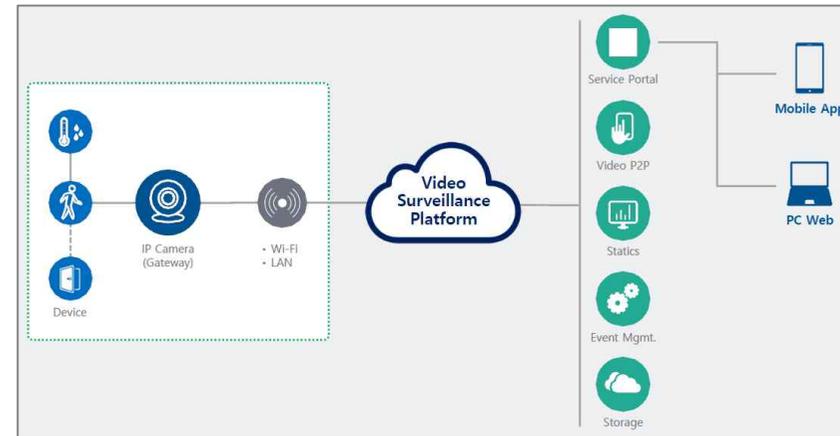


- Open IoT platform of Ntels
- Service Use Case
 - Consumer(Smart City, Smart Home, Video Surveillance, Digital Signage..)
 - Industry(Industrial Safety, Power IoT)

Representative Use Case



Purpose : Management and control of smart city application such as traffic, safety, energy management, etc. (Busan, Goyang, Daegu)



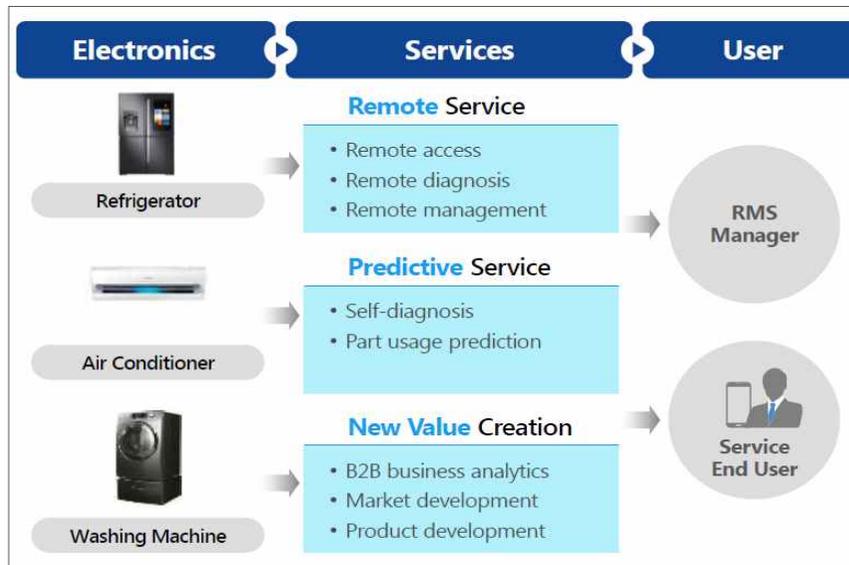
Purpose : Video surveillance through IP camera to monitor environment and be the gateway for collecting sensor data from IoT devices.

Samsung SDS "Insator™"



- Samsung SDS's common IoT, mobile, and big data platform
- Service Use Case
 - Manufacturing, Smart Home, Retail, Infrastructure

Representative Use Case



Purpose: Remote maintenance of consumer electronics (Refrigerator, Air Conditioner, Washing Machine and etc),



Purpose : Provides marketing insights based on data gathered from population in shopping malls and digital signage advertising

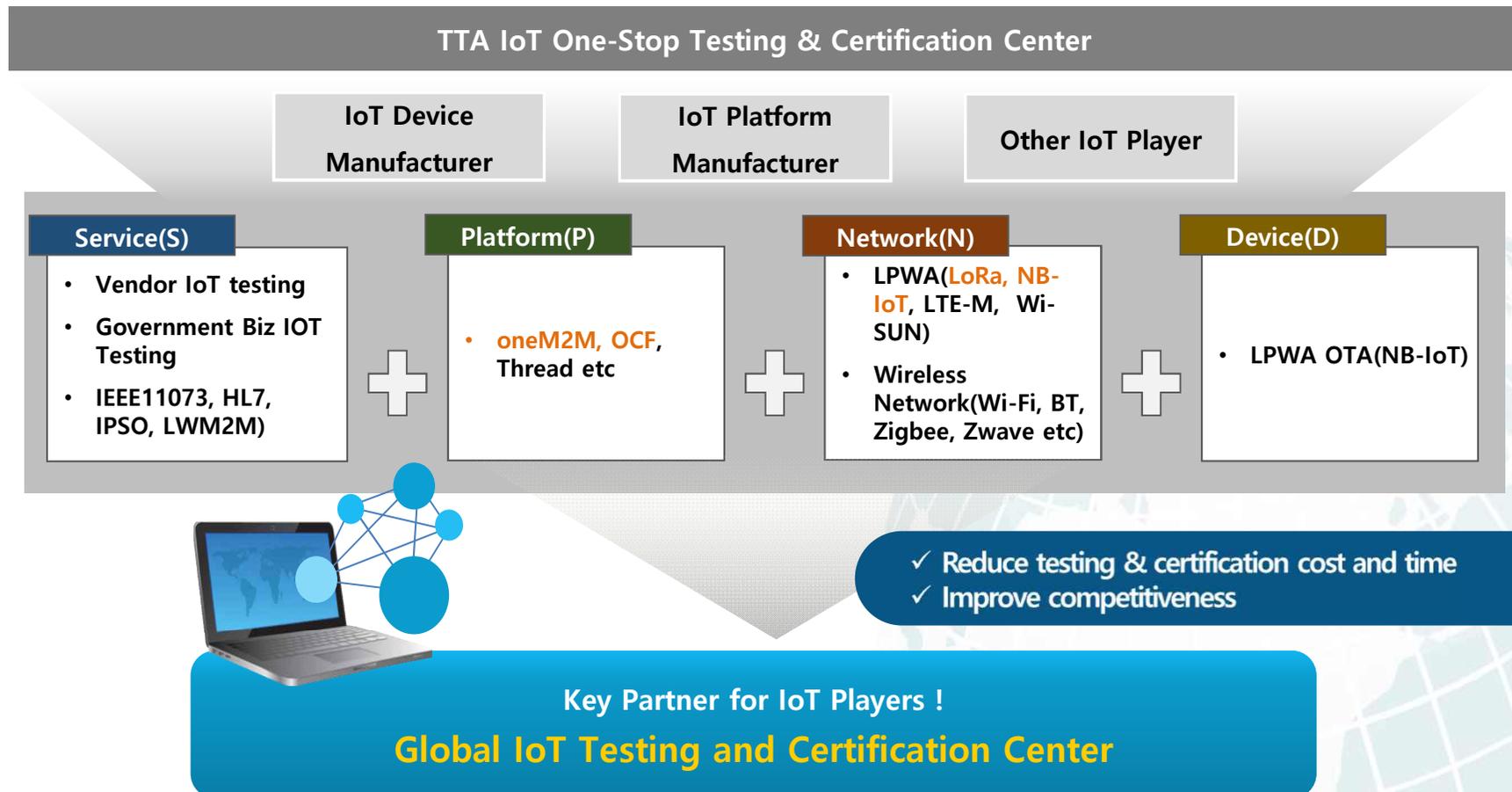


04 Global IoT Testing & Certification Center



Global IoT Testing & Certification Center

- (Goal) Establishment of **test-certification infrastructures based on international standard** to proliferate IoT services and foster globally competitive companies





THANK YOU!

www.oneM2Mcert.com

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