IoT International Symposium 2017

Panel Discussion "Future Direction of International Cooperation in IoT"

# **Trends in IoT Platforms**

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### **IoT Platforms**

- IoT Platforms providing APIs for collecting, analyzing, and utilizing data by IoT are expanding.
- IoT service based on platform function APIs creates real world big data which are accumulated in the platform. The platform aims to provide better function through analysis of accumulated data by fencing in IoT service providers.
- Issues for IoT service providers:
  - Each platforms have different function units and APIs. Easy to be locked in particular platform.
  - Platform tend to be "black box" where service providers do not know how their data are utilized.



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### **IoT Value Chain**

- The value chain shows IoT elements for enabling IoT service in various industry area.
- A large part of the value added is estimated to belong to IoT Platform which provides functions needed for developing IoT services.

Industry Area	Business Solution	IoT Platform	Connectivity	Chips, devices
Energy				
FA•Manufacturing	<ul> <li>ERP</li> <li>Inventory management</li> <li>CRM</li> <li>Marketing</li> <li>POS service</li> </ul>	<ul> <li>Device management</li> <li>Data collection</li> <li>Data analytics</li> <li>AI engine</li> <li>Rule Engine</li> <li>Billing</li> </ul>	•ZigBee •BLE •LPWA •Wi-Fi •3G/LTE	<ul> <li>Communication modules</li> </ul>
ITS • Automobile				•Smart Meters
Smart Housing				<ul> <li>Automotive Eq.</li> <li>Office Eq.</li> </ul>
Transportation			* Provided mainly by TelCos	<ul> <li>Game terminal</li> <li>Wearable Eq.</li> </ul>
Health-care				
Estimated Added Value ratio	15-20%	30-40%	15-20%	5-10%

### Value Chain

## **Smart cities based on IoT Platforms**

- MIC has been developing technologies on common infrastructure for implementing smart cities, which constitute functions of IoT Platform.
  - Objective: In order to create various advanced IoT services, platform technologies such as management of huge number of IoT devices, secure and efficient connectivity of IoT devices used for different services or using different wireless systems are to be developed.
- Implementation of IoT platforms for smart cities can be different by countries, local municipalities or by business fields. In those case, it is necessary that functions constituting IoT platforms are interoperable and could be interconnected.



Source: MIC (unofficial translation by Mitsubishi Research Institute)