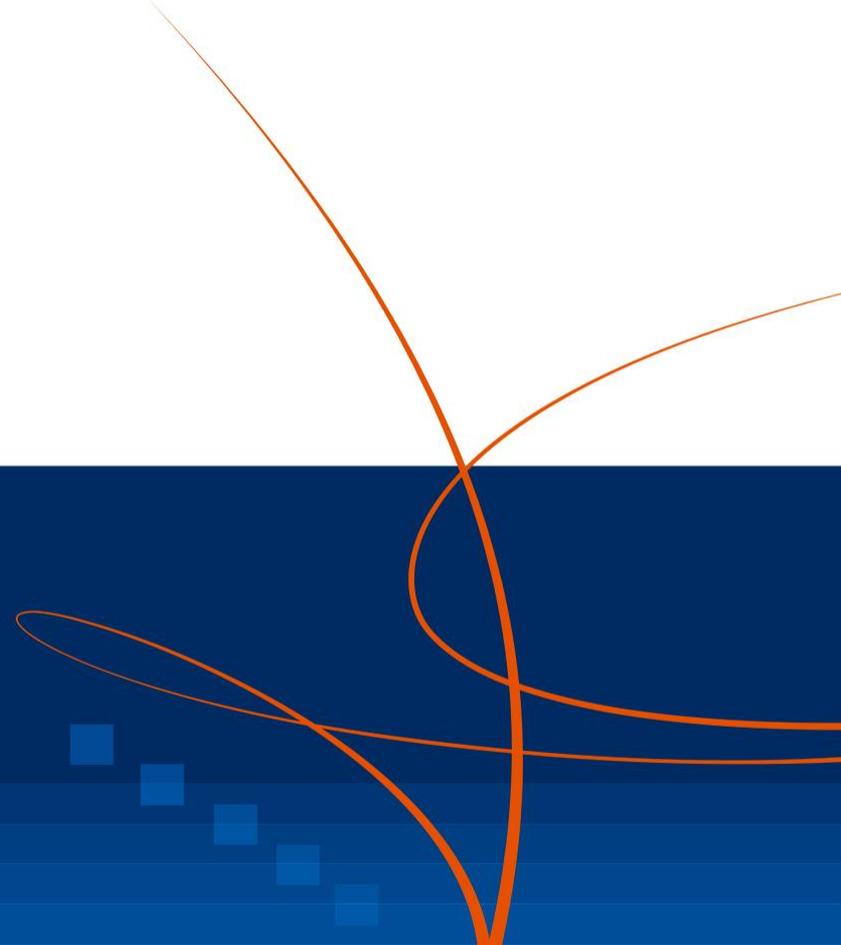


# Cross-Industry Unit

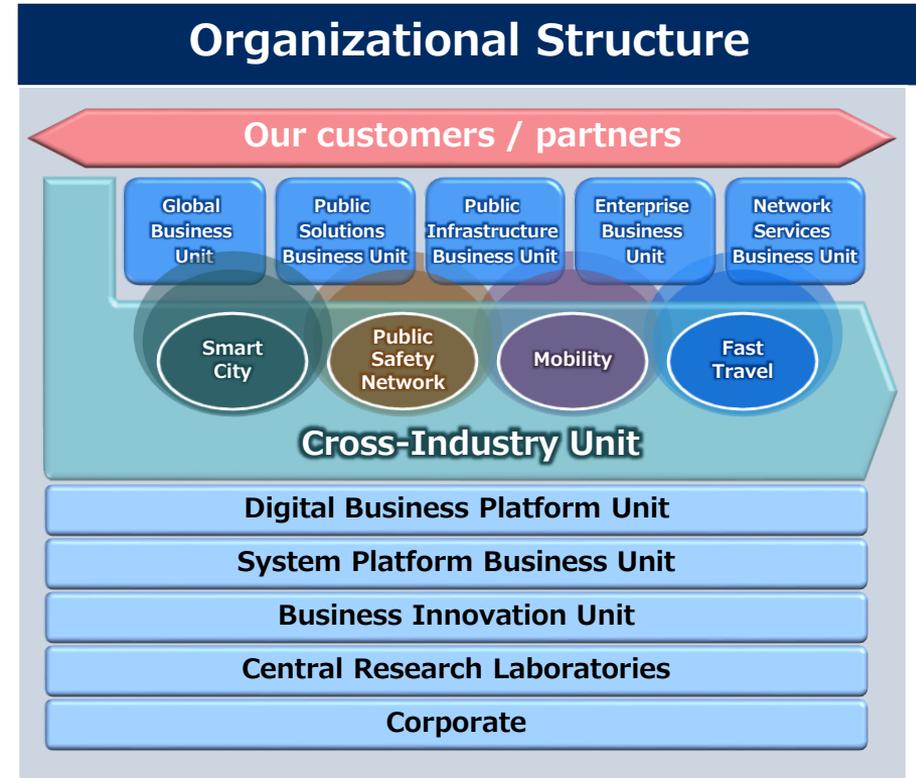
**Yutaka Ukegawa, Senior Vice President**



# Overview of Cross-Industry Unit

## Mission

- Company-wide and cross-sectional function to flexibly and swiftly proceed with the development of new businesses through public-private partnerships and cross-industry collaboration toward the realization of "Society 5.0"
- Focus on cross-industry markets of public-private partnerships and cross-industry collaboration with four key business domains for the time being
- Transform business model from conventional selling of equipment to subscription-based service business
- Responsible for all phases from business verification to business development and initial business deployment



# Market Sizes in Key Domains (FY2025)

	Market Size in FY2025		Key Points	Presented today
	Japan	Overseas		
 <p>Smart City</p>	<p><b>¥300bn</b></p> <p>CAGR for FY22-25: 9%</p>	<p><b>¥5.6tn</b></p> <p>12%</p>	<ul style="list-style-type: none"> <li>Track record in development of FIWARE, de-facto standard OS for Smart Cities, and deployment in Japan/overseas</li> </ul>	Presented today
 <p>Mobility</p>	<p><b>¥540bn</b></p> <p>2%</p>	<p><b>¥3.7tn</b></p> <p>20%</p>	<ul style="list-style-type: none"> <li>Advanced ICT infrastructure for roads incl. signals with use of 5G, security and image analysis technologies</li> </ul>	
 <p>Fast Travel</p>	<p><b>¥140bn</b></p> <p>71%</p>	<p><b>¥2.6tn</b></p> <p>71%</p>	<ul style="list-style-type: none"> <li>ID for inside/outside airports based on the world's No.1 face recognition technology</li> </ul>	Presented today
 <p>Public Safety Network</p>	<p><b>¥600bn</b></p> <p>36%</p>	<p><b>¥5.8tn</b></p> <p>30%</p>	<ul style="list-style-type: none"> <li>Advanced commercial-use wireless systems making the most of reliable LTE base station technology</li> </ul>	

Focus on marketable domains

\* Figures based on NEC estimates

# Smart City Initiatives by Japanese Government and NEC



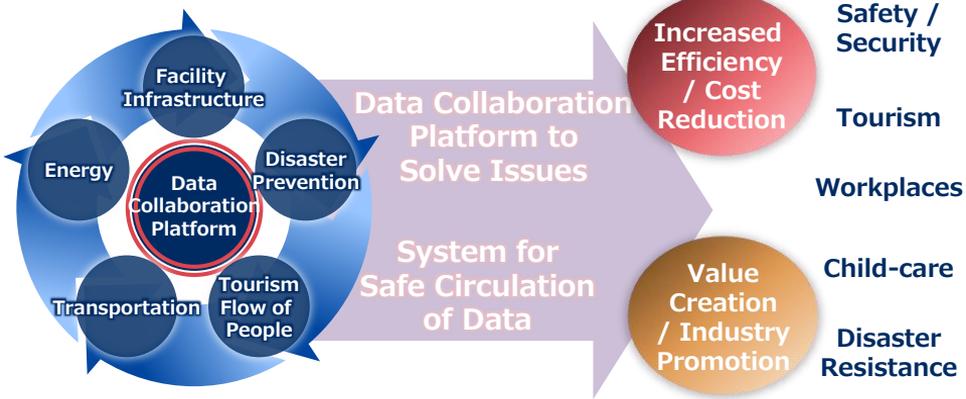
Govt

Council on Investments for the Future (2018): Advocate establishing smart cities as part of its growth strategy

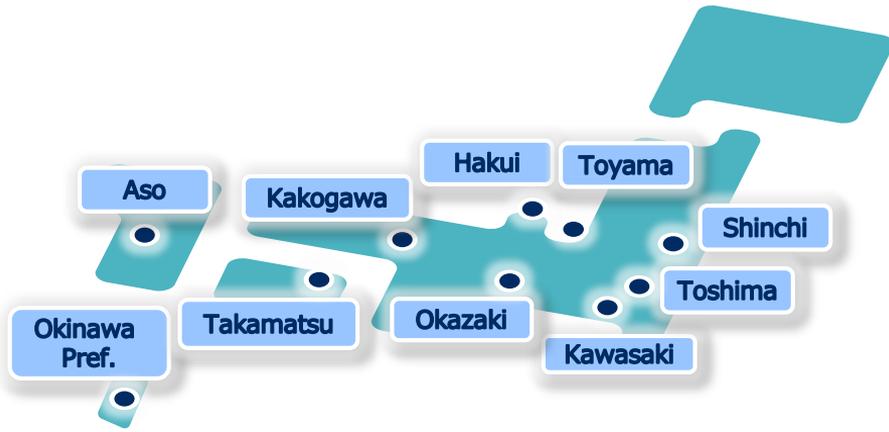
- Smart City Task Force was established (December 2018)
- Promote initiatives through collaboration across the government ministries based on the decision at the Integrated Innovation Strategy Promotion Council (March 2019)
  - G-20 themes, design of common architecture according to Strategic Innovation Program (2019)

## Benefits of smart cities

Realization of safe and secured life, and affluent and sustainable cities



## NEC's involvement in smart cities



Initiatives for smart cities in Japan are accelerating

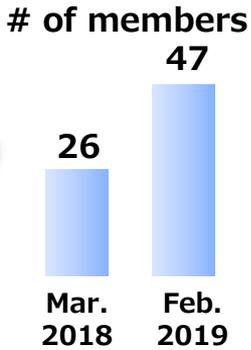
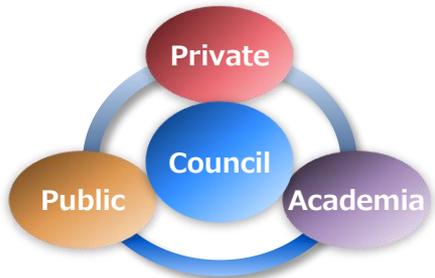
# Example of Smart City Initiative: Takamatsu City

Basic agreement was signed among Takamatsu City, NEC, STNet, Kagawa University and National Institute of Technology - Kagawa Collage on the establishment and utilization of smart city (February 2018)

## Increased members sharing local issues / Expansion of data-utilization

### Local Council to Discuss "Local Issues"

Smart City Promotion Council, Takamatsu



Promote utilization of data with communities

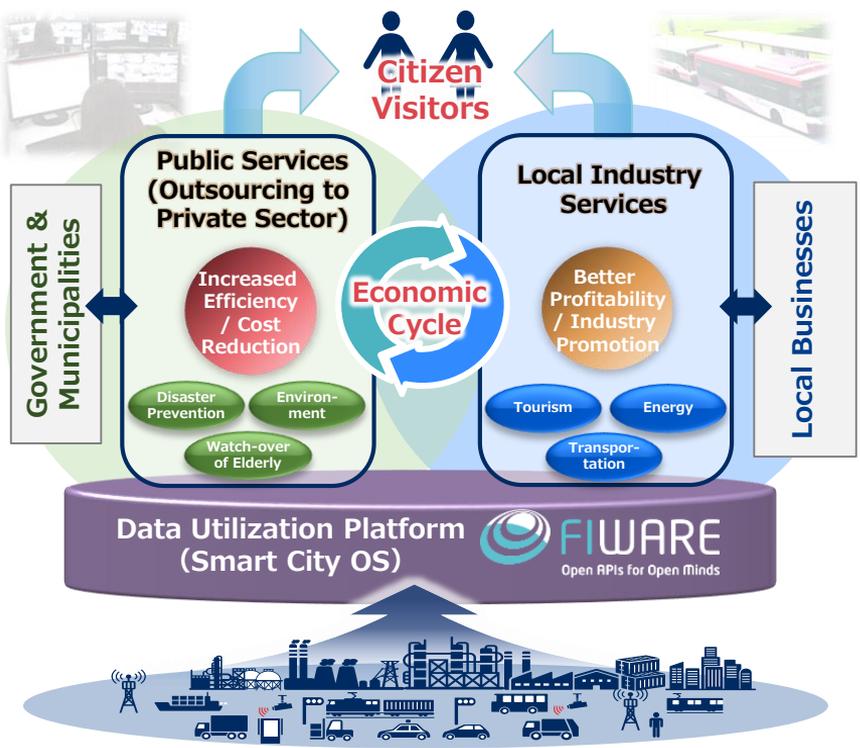
### Common Platform for Gathering and Analyzing "Local Data"

Data-utilization areas ( 2 areas→ 4 areas)

Disaster Prevention	Prompt decision-making in case of flooding of storm surge	<ul style="list-style-type: none"> <li>Visualize real-time disaster info</li> <li>Sharing disaster info among relevant personnel</li> </ul>
Tourism	Promote inbound tourism	<ul style="list-style-type: none"> <li>Visualize tour routes and stay time (rental bicycles)</li> </ul>
Welfare	Watch over elderly / Be prepared for swift actions as necessary	<ul style="list-style-type: none"> <li>Grasp vital info e.g. breathing, heart rate and acceleration</li> </ul>
Transportation	Reduce the number of traffic accidents	<ul style="list-style-type: none"> <li>Analyze causes by joint use of municipalities' traffic accident data and private sector's drive data recorders</li> </ul>

# NEC's Business Model and Future Development for Smart Cities

## Business Model for Smart Cities



### Strengths

- “FIWARE” is spreading worldwide
- ✓ Cross-domain collaboration data platform developed in Europe
- ✓ Joined by 24 countries, 117 cities, and 993 companies
- ✓ NEC took part from the development stage and is the only platinum member among Japanese companies
- ✓ Actual cases of implementing FIWARE in Japan

### Future Development

Contribute to standardizing the architecture using the government’s framework along with regional business verifications

Number of cities where proposals and roll-out will be made (Target)

- FY2019 (Present)    10 cities
- FY2020                50 cities
- FY2025                200+ cities

# Example of Fast Travel (One ID) and Future Development

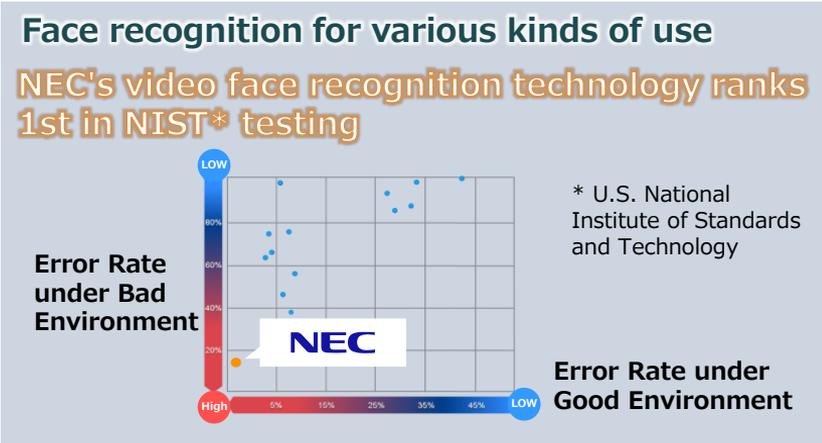
## New Boarding System at Narita Airport NEC's One ID was ad (May 2019)



"One ID" Presentation Session in May 2019



### Strengths



### Future Development

- #### Airports
- Penetrate into major airports in Japan and overseas
- #### Off-Airports
- Provide services to various sites as well as airports [Transport systems, duty-free procedure, medical purposes, etc.]

# Fast Travel: Off-Airports



**When travelling...**  
**Ticket/Pass purchases without long-queuing and other stresses**

Speedy start of travel with document-free face recognition



**At Duty-free shops...**  
**Duty-free shopping without stresses**

One-stop procedure of payment and duty-free procedures



**In case of an accident...**  
**Realization of prompt and accurate medical treatment**

Able to receive reliable treatment in case of sudden illness

