

# Recent trends in smart city development and Japanese cooperation.

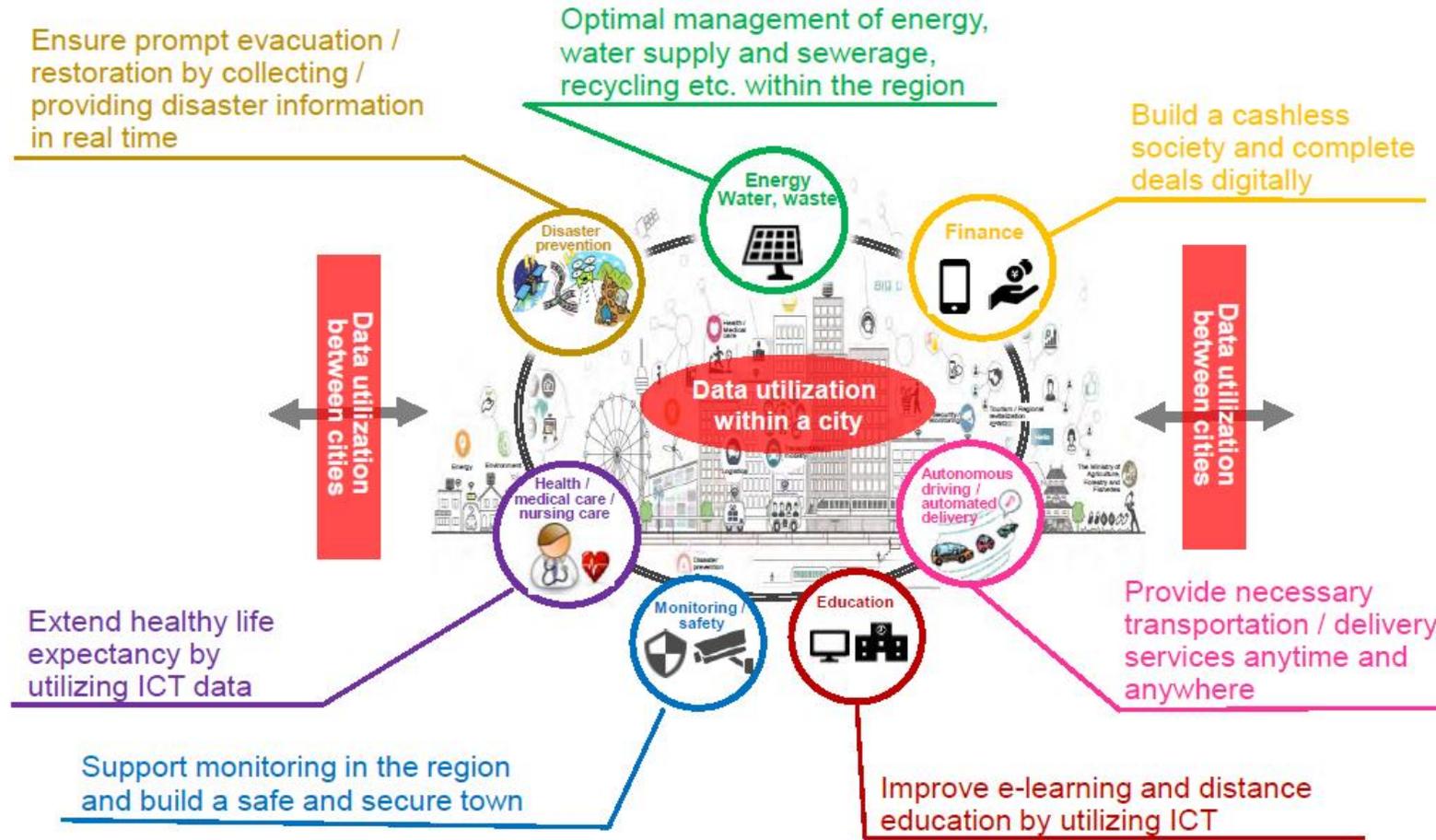
Special Advisor to the Prime Minister

Dr. MORI Masafumi

4 December 2022

# What is a smart city?

“Smart city” is a sustainable city / region that continues to create new value by providing services that meet the needs of citizens through the use of ICT and data, and by solving various urban / regional problems through advanced management.



Source : Smart City Guidebook(Japan)

- ✓ Smart city development is an initiative tied to the environment and issues surrounding the region.
- ✓ Smart city projects are underway in many parts of the world.

# Changes that have become apparent globally in recent years.

## Behavioral Change due to Covid-19

Non-face-to-face and non-contact in aspects of life  
Remote work  
Changes in ways of working and living

## Addressing Climate Change

Carbon neutral  
Efficient Energy Circulation  
Disaster prevention and mitigation

## Shifting of People's Values

Diversity and Inclusion  
Environmental awareness  
Consciousness about lifestyle

Challenges faced by each city/region

▶ In order to realize a smart city that contributes to solving issues, it is necessary to learn from various examples and continue to promote initiatives.

# Challenges that Japan has faced and dealt with.

	1960's~ Economic growth	1980's~ Stable growth	2000's~ Maturity
Issue	<ul style="list-style-type: none"><li>• Shortage of housing</li><li>• Infrastructure (electricity, water etc.) shortage</li><li>• Environmental issues (eg: water,air quality)</li></ul>	<ul style="list-style-type: none"><li>• Need for high quality living environment</li><li>• Worsening of traffic congestion</li><li>• Changes in land use patterns due to transformation of industrial structure</li><li>• Increased environmental awareness</li></ul>	<ul style="list-style-type: none"><li>• Need for low environmental burden city planning</li><li>• Decreasing social vitality due to falling birthrates, ageing society, and decreasing population</li><li>• Utilizing deteriorating housing stock</li></ul>
Solution	<ol style="list-style-type: none"><li>1. Decentralize urban functions through “new-town” development in coordination with transportation system</li><li>2. Mass supply of housing</li><li>3. Legislation in order to realize urban policy</li></ol>	<ol style="list-style-type: none"><li>4. Improved housing performance standards</li><li>5. Expansion of traffic infrastructure networks</li><li>6. Redevelopment of existing city areas</li><li>7. Resource Circulation Efforts</li></ol>	<ol style="list-style-type: none"><li>8. Realization of Smart Cities</li><li>9. Compact City Plus Network</li><li>10. Rejuvenation of housing stock</li><li>11. Landscape protection</li></ol>

Source :MLIT



We have experience in facing and dealing with various challenges at stages of economic growth. Japan's strength is knowledge of the challenges and digital solutions.

# Key features of Japanese smart cities



## **Eco-Cities (Environmentally Symbiotic Cities)**

### **Thorough consideration of low carbon, resource recycling, and reduction of environmental burden**

The oil crisis in the 1970s led to the pursuit of efficient energy use, which has in turn led to a thorough consideration of the environment. This trend is evident in efforts to create eco-cities (environmentally symbiotic cities) that are environmentally friendly in terms of both hardware and software, including low carbon society, resource recycling, and the reduction of environmental burden.



## **TOD (Transit-Oriented Development)**

### **Reducing traffic congestion and upgrading urban functions through urban development with a focus on public transportation**

As urban development not dependent on automobiles, Japan has focused on public transportation (Transit-Oriented Development or TOD) in its urban development. Offices, hotels, and other commercial complex facilities are located within walking distance of railway stations, and residential areas are systematically located around railway stations in the suburban areas along railway lines.



## **Building Disaster- Resilient Cities (Resilient Cities)**

### **Globally sharing Japanese knowledge as a major powerhouse in disaster prevention**

Japan has made proactive efforts in disaster prevention and reduction for the protection of assets and people's lives. In addition to strengthening social infrastructure, Japan is making the best use of technology for predicting and preventing disasters, warning systems, and technology for minimizing disaster damage in urban development.

Source : Smart City Catalog (Japan)

▶ Characteristics include “Environmentally Symbolic Cities” (Eco-Cities), Transit-Oriented Development (TOD) and Building Disaster- Resilient Cities (Resilient Cities).

# In addition to hardware, a soft approach is needed

## Establishment of legal systems, etc.

Urban planning legislation  
Land use system  
Location optimisation  
Environmental greening,  
etc.

## Consensus-building mechanisms among stakeholders.

Large-scale station-front developments  
Area management  
(e.g. development around Tokyo Station and Osaka Station)

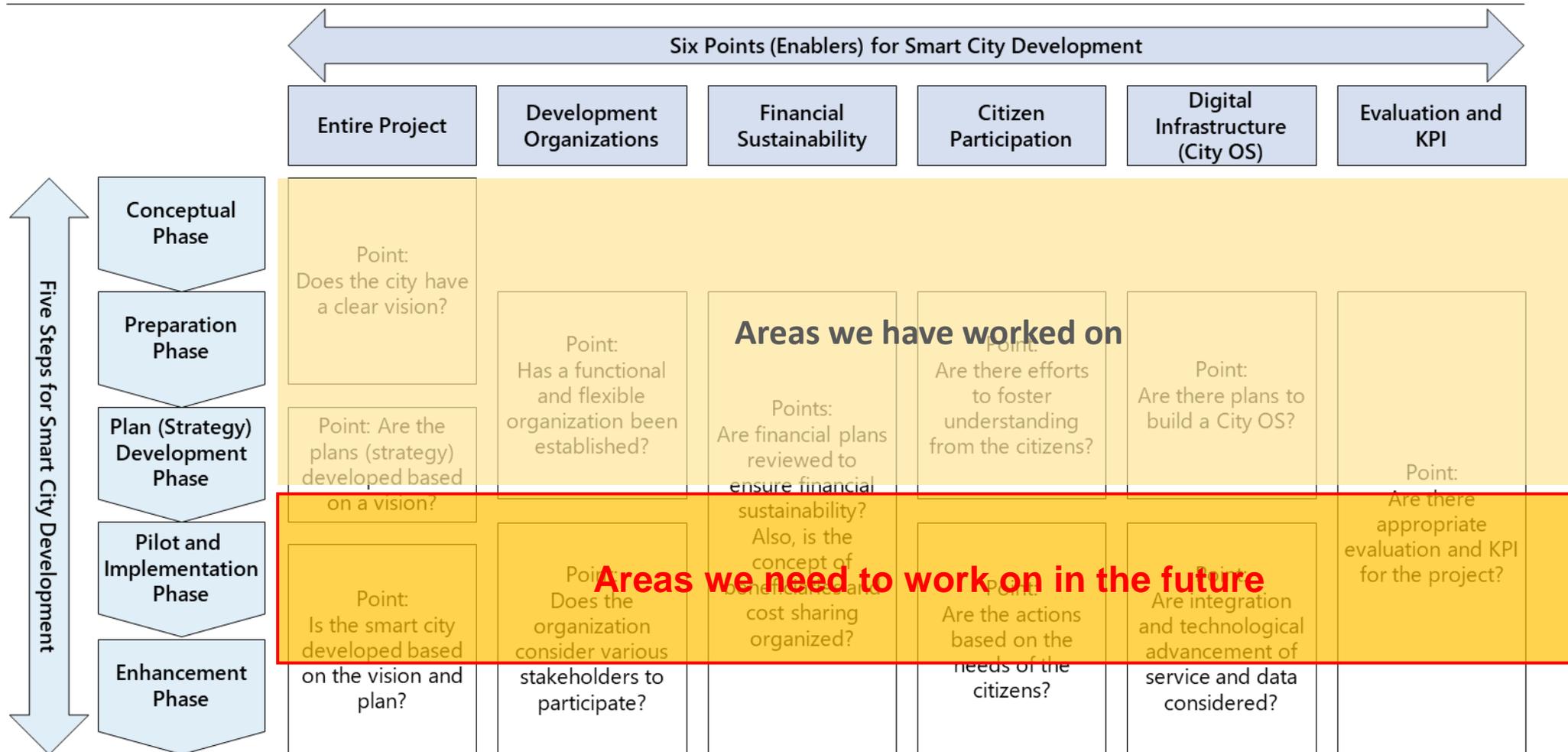
## Know-how on Construction Management

Process management  
Safety assurance  
Optimisation of Quality, Cost and Delivery

▶ Both hardware (technology) and software (institutions and mechanisms) approaches can increase the feasibility of smart cities.

# Key concepts in smart city implementation.

Framework on Approach to Smart City Development used in the ASEAN Smart City Planning Guidebook



Source :ASEAN Smart City planning Guidebook

► Involvement of various stakeholders and sustainability are important during the “Pilot and Implementation Phase”.

- The Japanese government will continue to cooperate with the efforts of the ASEAN Smart City Network.
- Contribute to the realisation of ASEAN Smart Cities in cooperation with knowledgeable companies and local governments in Japan.
- We would like to move forward with concrete projects from the study phase towards "implementation".
- We are looking forward to receiving proposals from cities in each country.

Thank you