

# Japan's smart cities and Smart JAMP

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Ministry of Land, Infrastructure, Transport and Tourism  
Government of Japan

- Japan's smart city effort
- Smart JAMP
- ASEAN Smart City Planning Guidebook

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# History of Urban Development in Japan

Source: the materials of the 2nd ASEAN-Japan High-Level Meeting on Smart Cities Network,

	1960~ High economic growth period	1980 ~ Stable growth period	2000 ~ Maturity
Issue	<ul style="list-style-type: none"> <li>• Shortage of housing due to population concentration in urban areas</li> <li>• Infrastructure (electricity, water etc.) shortage due to rapid urbanization</li> <li>• Environmental problems and pollution such as air and water pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Dealing with high quality living environment needs that come with improved living standards</li> <li>• Worsening of traffic congestion with progress of motorization</li> <li>• Underutilized and unused land due to change of industrial structure</li> <li>• Increased environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Dealing with low environmental burden town planning needs</li> <li>• Decreasing vitality in urban centers due to falling birthrates, ageing society, and decreasing population</li> <li>• Utilizing progressively deteriorating housing stock</li> </ul>
Solution	<ol style="list-style-type: none"> <li>1. Decentralize urban functions through new town development in coordination with traffic infrastructure</li> <li>2. Mass supply of housing (provision of new urban areas)</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. Maintenance of existing urban areas</li> <li>7. Resource circulation efforts</li> </ol>	<ol style="list-style-type: none"> <li>8. Compact City Plus Network town planning</li> <li>9. Stock regeneration</li> <li>10. Landscape protection</li> <li><b>11. Realization of Smart Cities</b></li> </ol>

## Japan's Smart Cities ~ Solving Global Issues such as SDGs with Japan's Society 5.0 ~

### 3 pillars characteristic of Japan



① **Eco-Cities**  
(environmentally symbiotic cities)



② **TOD**  
(Transit-Oriented Development)



③ **Building Disaster-Resilient Cities** (Resilient Cities)

### Issues and Solutions

- ① Realize the world's highest level of a **safe and secure society** (eg: crime prevention, disaster prevention, traffic accident reduction etc.)
- ② Demonstrate maximum ability of **traffic and logistics infrastructure** (eg: MaaS, autonomous driving, car-sharing etc.)
- ③ Realize efficient **energy use** and zero emissions
- ④ Become the world's highest level **recycling society**
- ⑤ World-shaking **infection control measures and public health**
- ⑥ Expand access to education and improved **education quality** (distance / online learning)
- ⑦ Utilize **tourism** resources to attract people from around the world
- ⑧ Dependable infrastructure **asset management** and extending life
- ⑨ Safe and high quality **agricultural production and distribution infrastructure**

- It is necessary to **maintain diversification of each** city by adapting to various circumstances and requirements which the city has.
- It is necessary to **involve various types of participants** from local governments, industries & companies, academics and citizens.
- It is necessary to **ensure openness and transparency**. At the same time, it is important for a wide range of people from various sectors and organizations to make reliable data freely available. Moreover, it is required to establish confidence in privacy, data protection, intellectual property rights and data security.

# Smart City Projects in Japan

Source: the materials of the 3rd ASEAN-Japan High-Level Meeting on Smart Cities Network,



## FY2017-2020

about **200** Demonstration projects  
in about **160 areas** were done



Implementation of City OS projects  
are in progress in **23 areas**  
(at September 2020)

Implementation **100 areas**  
by **FY2025**

**Hokuriku region**  
7 areas, 11 projects

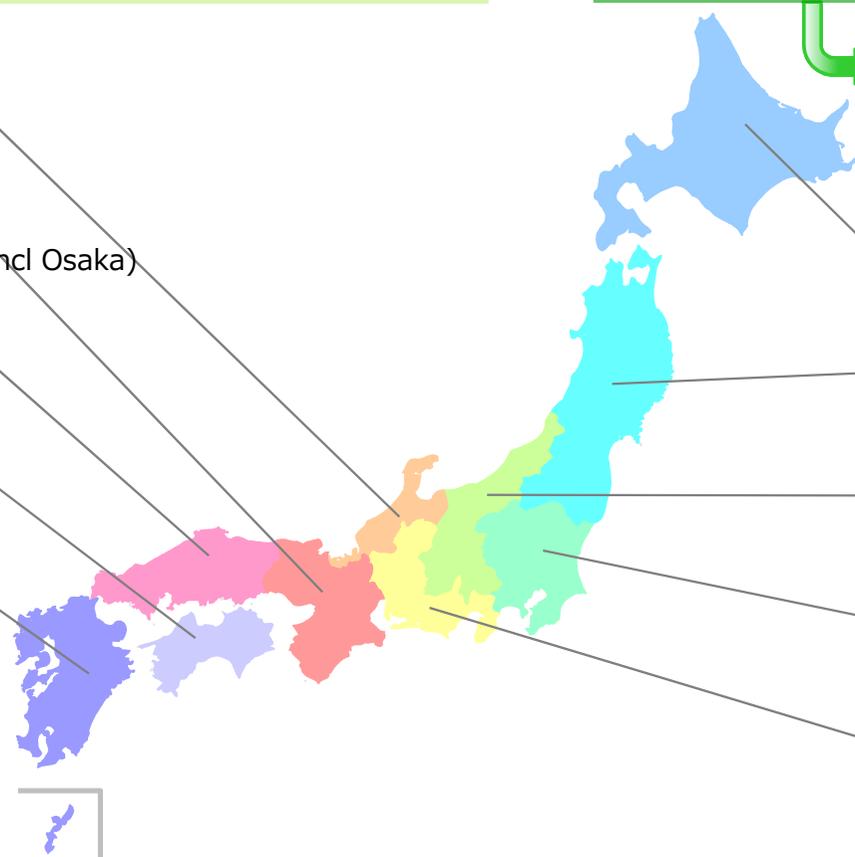
**Kansai region\***  
26 areas, 29 projects

(\*incl Osaka)

**Chugoku region**  
17 areas, 19 projects

**Shikoku Region**  
10 areas, 12 projects

**Kyushu region**  
16 areas, 16 projects



**Hokkaido region**  
9 areas, 12 projects

**Tohoku region**  
7 areas, 10 projects

**Shin-etsu region**  
5 areas, 7 projects

**Kanto region\*\***  
44 areas, 58 projects

(\*\*incl Tokyo)

**Tokai region**  
19 areas, 26 projects

(Cabinet Office)

## Indonesia – Delta Mas City



Completed image drawing of Delta Mas City

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## Vietnam - Complex Urban Development in Binh Duong Province



Becamax Tokyu



Tokyu bus  
(Uses ICT technology, low environmental impact)

## Thailand - Urban Development Project around Bang Sue Station (TOD)



Image of urban development around Bang Sue Station

## Vietnam - Smart City Development in Northern Hanoi



Image drawing of completed first  
(※First stage is in the red dotted area)

## Thailand - EEC (Eastern Economic Corridor) AMATA Chonburi Smart City Development Project



Chonburi Smart City master plan drawing

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# History of ASCN and Japan's cooperation

2018 Establish the ASCN

2019 The 1<sup>st</sup> ASEAN-Japan Smart Cities Network High Level Meeting (HLM)

**Establish JASCA (Oct. 2019)**

2020 The 2<sup>nd</sup> HLM

**Launch Smart JAMP (Dec. 2020)**

2021 The 3<sup>rd</sup> HLM

**Publish the ASEAN Smart City Planning Guidebook (Mar. 2022)**

2022 The 4<sup>th</sup> HLM

2023 The 5<sup>th</sup> HLM

Next coming event

 The cooperation between ASEAN and Japan has deepened over the years.

“SmartJAMP” is a four-pillar support measure.

**Smart City supported  
by Japan ASEAN Mutual Partnership  
(Smart JAMP)**

- **Conducting Feasibility Studies contributing to the overseas development of smart cities.**
- **Preparing investments and loans for overseas smart city projects.**
- **Ensuring support structures in each country.**
- **Information sharing via the “JASCA” website and other channels**

## 1. Conducting Feasibility Studies contributing to the overseas development of smart cities.

- FY2022: 12 projects based on proposals from ASCN and Japanese firms have done.
- FY2023(Tentative): Promote consideration of projects that better match the needs and seeds of both government and business.

## 2. Preparing investments and loans for overseas smart city projects.

- JOIN's investment of around ¥50 billion and JBIC's ¥200 billion financing facility have been secured.

## 3. Ensuring support structures in various countries.

- Support structures consisting of Embassies, JICA, JETRO and JBIC offices have been established in various countries.

## 4. Information sharing via “JASCA” website.

- A website was launched at the end of March 2022 to share information on Smart JAMP projects, good practices and technologies of Japanese companies, as well as to enable business matching.



<<https://www.jasca2021.jp/>>

## Recent Achievement: Smart JAMP Projects in 2022

FY2022 Research themes	ASUS “6 Focus Areas”
① Feasibility Study on Bus Operation Management System	Built Infrastructure
② Feasibility Study for projects listed in Master Plan (Smart Tourism)	Civic & Social
③ Feasibility Study on Smart Road Management System	Built Infrastructure
④ Pilot Project for Smart Bus Shelter	Built Infrastructure
⑤ Feasibility study for projects listed in Master Plan (Digitization of village)	Civic & Social
⑥ Feasibility study for projects listed in Master Plan (Traffic safety monitoring)	Security
⑦ Pilot Project for river environment monitoring system	Quality Environment
⑧ Feasibility Study on Automated Traffic Control System	Built Infrastructure
⑨ Feasibility Study on Smart City Concept around Station Area (Utilization of Big Data)	Industry & Innovation
⑩ Feasibility study on MaaS apps	Built Infrastructure
⑪ Feasibility study on road management system using AI image recognition app.	Industry & Innovation
⑫ Pilot Project for river disaster prevention (river management, evacuation behavior)	Security

 Most of studies are in initial phases.

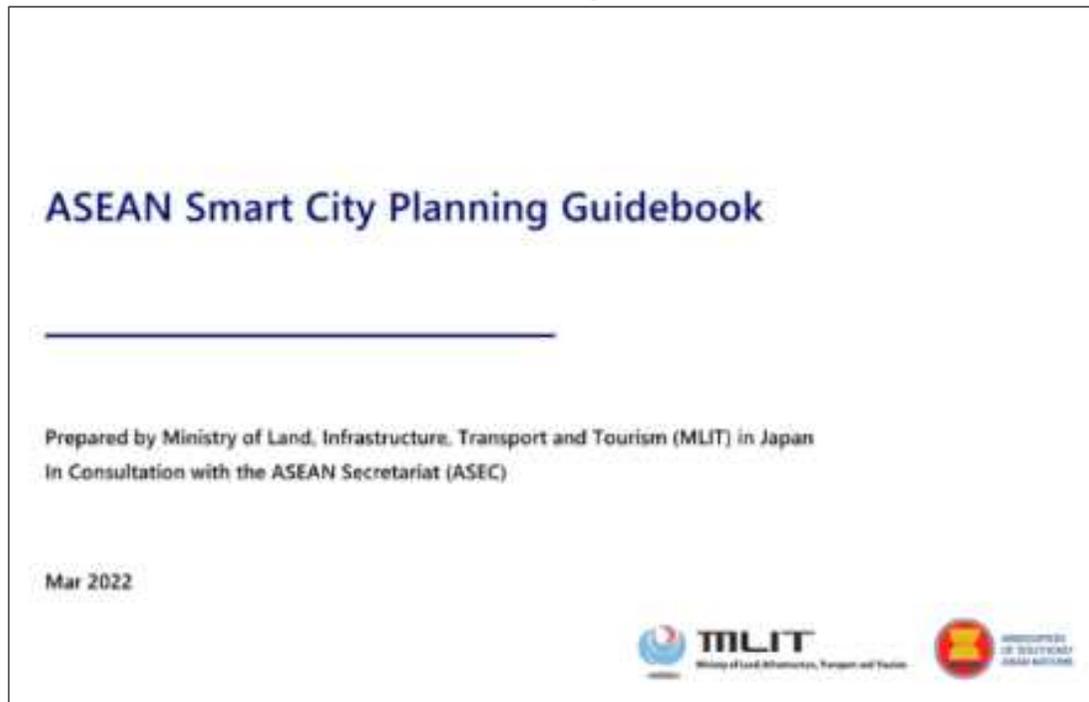
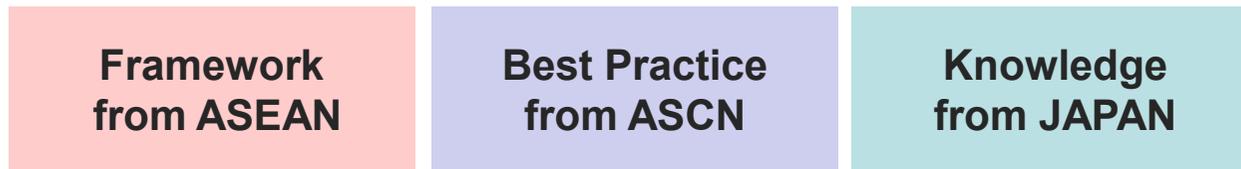
6 Priority Area from "ASEAN Sustainable Urbanisation Strategy"					
Civic & Social	Health & Well-being	Security	Quality Environment	Built Infrastructure	Industry & Innovation
<p>② Feasibility study for projects listed in Master Plan (Smart Tourism)</p> <p>⑤ Feasibility study for projects listed in Master Plan (Digitization of village functions)</p>		<p>⑥ Feasibility study for projects listed in Master Plan (Traffic safety monitoring)</p> <p>⑫ Pilot project of river disaster prevention (river management, evacuation behavior)</p>	<p>⑦ Pilot project of river environment monitoring system</p>	<p>① Feasibility Study on Bus Operation Management System</p> <p>③ Feasibility Study on Smart Road Management System</p> <p>④ Pilot project of for Smart Bus Shelter</p> <p>⑧ Feasibility Study on Automated Traffic Control System</p> <p>⑩ Feasibility study on MaaS apps</p>	<p>⑨ Feasibility Study on Smart City Concept around Station Area (Utilization of Big Data)</p> <p>⑪ Feasibility study on road management system using AI image recognition app.</p>

Wide range of surveys have been conducted.

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- **ASEAN Smart City Planning Guidebook**

# About “ASEAN Smart City Planning Guidebook”

- ✓ Aimed to develop a reference for ASEAN cities to promote Smart City.
- ✓ Issued March 2022.
- ✓ Having a common framework to be referred during project implementation.



**Objectives and Definition of Smart City Development**

A smart city leverages digital infrastructure across business areas, to address the urban challenges observed across ASEAN Member States.

**Objectives and definition of smart city**

- Rapid urbanisation has caused issues and challenges in the ASEAN Member States, for areas including the quality of life for the residents, environment, and infrastructure.
- Smart cities in ASEAN aims to address such issues and challenges and provide new value to the citizens, by leveraging digital infrastructure and data as an enabler.

**Issues and Challenges caused by Rapid Urbanisation**

<b>City Congestion</b>	Insufficient public transport infrastructure and services, and traffic congestions.
<b>Water / Air Quality</b>	Increased water demand causing strains on the existing water infrastructure.
<b>Security and Safety</b>	In addition to traditional threats, non-traditional threats such as cyber threats.
<b>Urban / Rural Divide</b>	Less opportunities for residents residing in rural areas compared to urban residents.
<b>Rising Inequalities</b>	Economic inequality, further accelerated by the digital technology adoption as a result of the Corona Virus Disease (Covid-19).

**Overview of Smart Cities in ASEAN**

Source: Smart City Guidebook (Japan), ASEAN Sustainable Urbanisation Strategy

**Basic Concept for Smart City Development**

Smart city should be developed in alignment with the key principles and guidelines, to ensure that the city enhances the quality of life for the citizens.

**Key Principles and Guidelines for Smart City Development**

**3 Key Principles**

- Prioritize the Citizens**: Focus on the well-being of the citizens, and promote the participation by the citizens.
- Focus on the Vision and Issues**: Aim not only to implement new technology, but focus on solutions which resolves the issues.
- Collaborate across Business Areas and Cities**: Work across different business areas and cities, to address challenges which are complex and arise across cities.

**5 Key Guidelines**

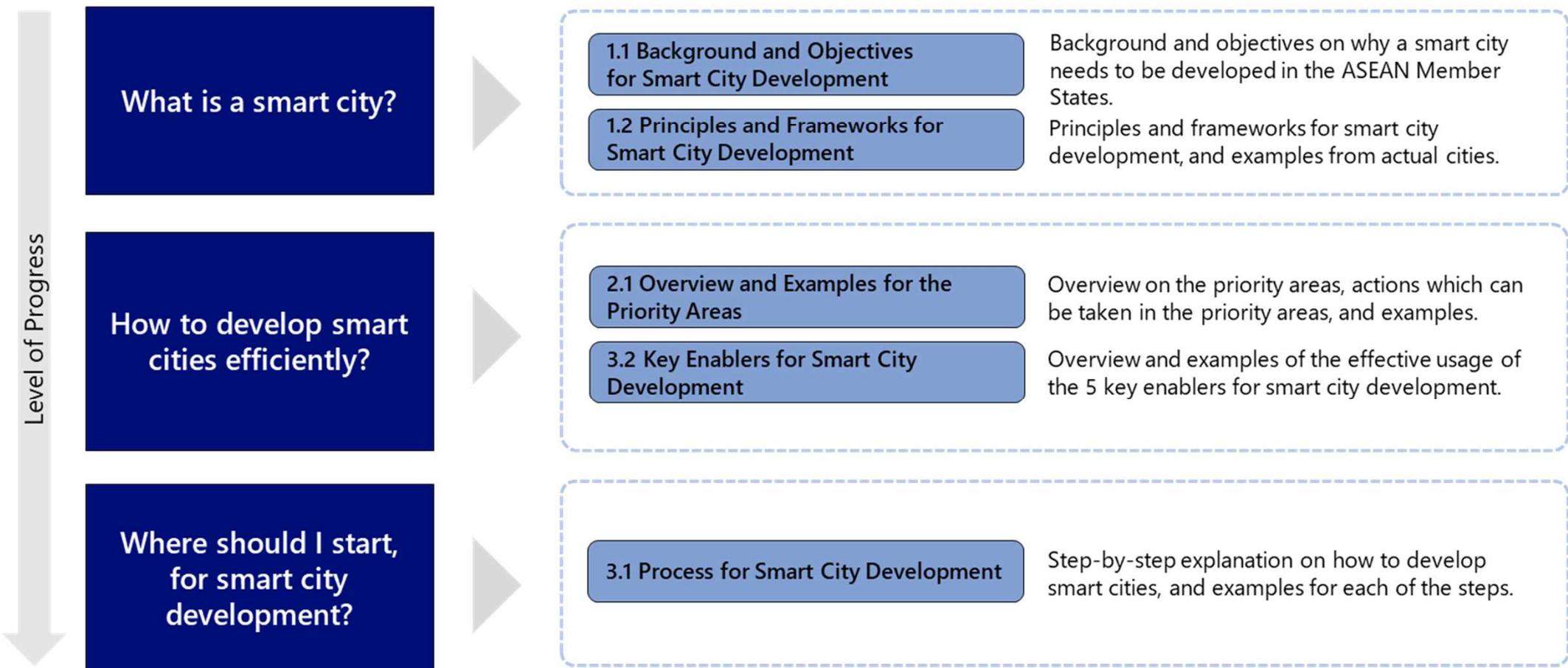
- Fair and Inclusive**: Achieve a smart city which all citizens can participate and access the service equally.
- Ensure Privacy**: Ensure that the privacy of citizens is maintained, when using data.
- Security and Resilience**: Ensure that security is maintained, and a resilient infrastructure is developed, for emergency situations.
- Transparent and Interoperable**: Develop digital infrastructure which the data can be used in a transparent and interoperable manner.
- Sustainable Finance and Management**: Secure sustainable finance and management system, to ensure that the city can grow sustainably.

Source: World Economic Forum: Global Smart Cities Alliance, Smart City Guidebook (Japan)

## Example of Use Cases

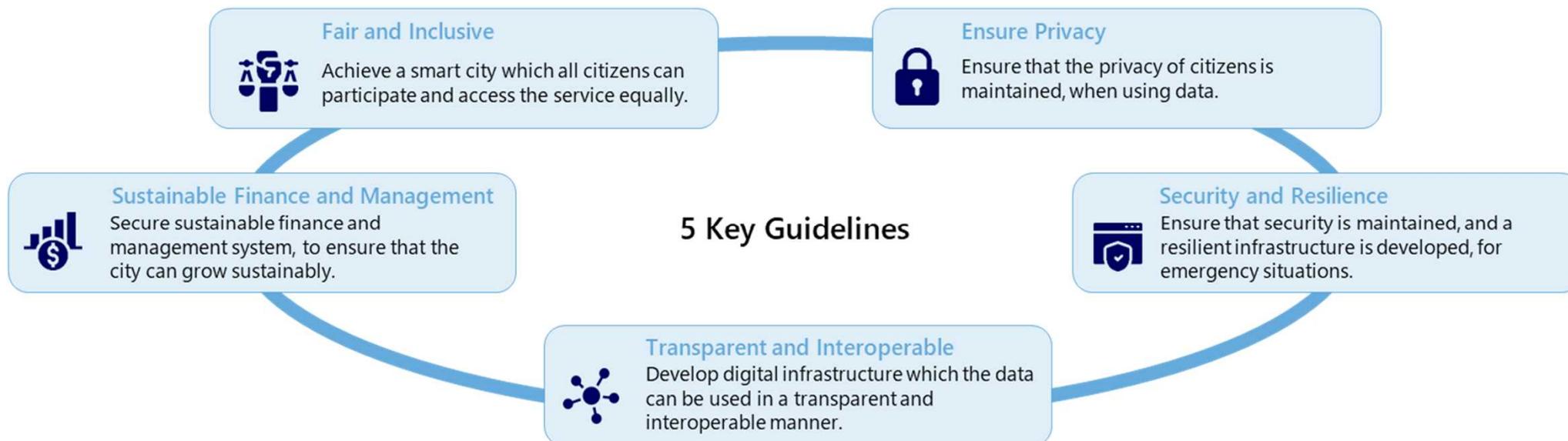
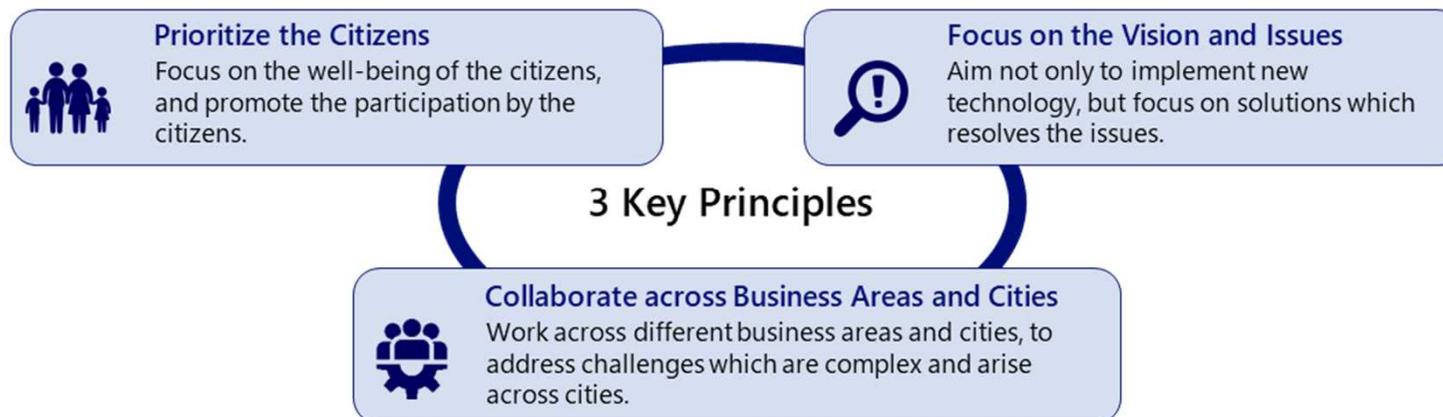
### Basic Questions regarding Smart Cities

### Relevant Contents in Guidebook



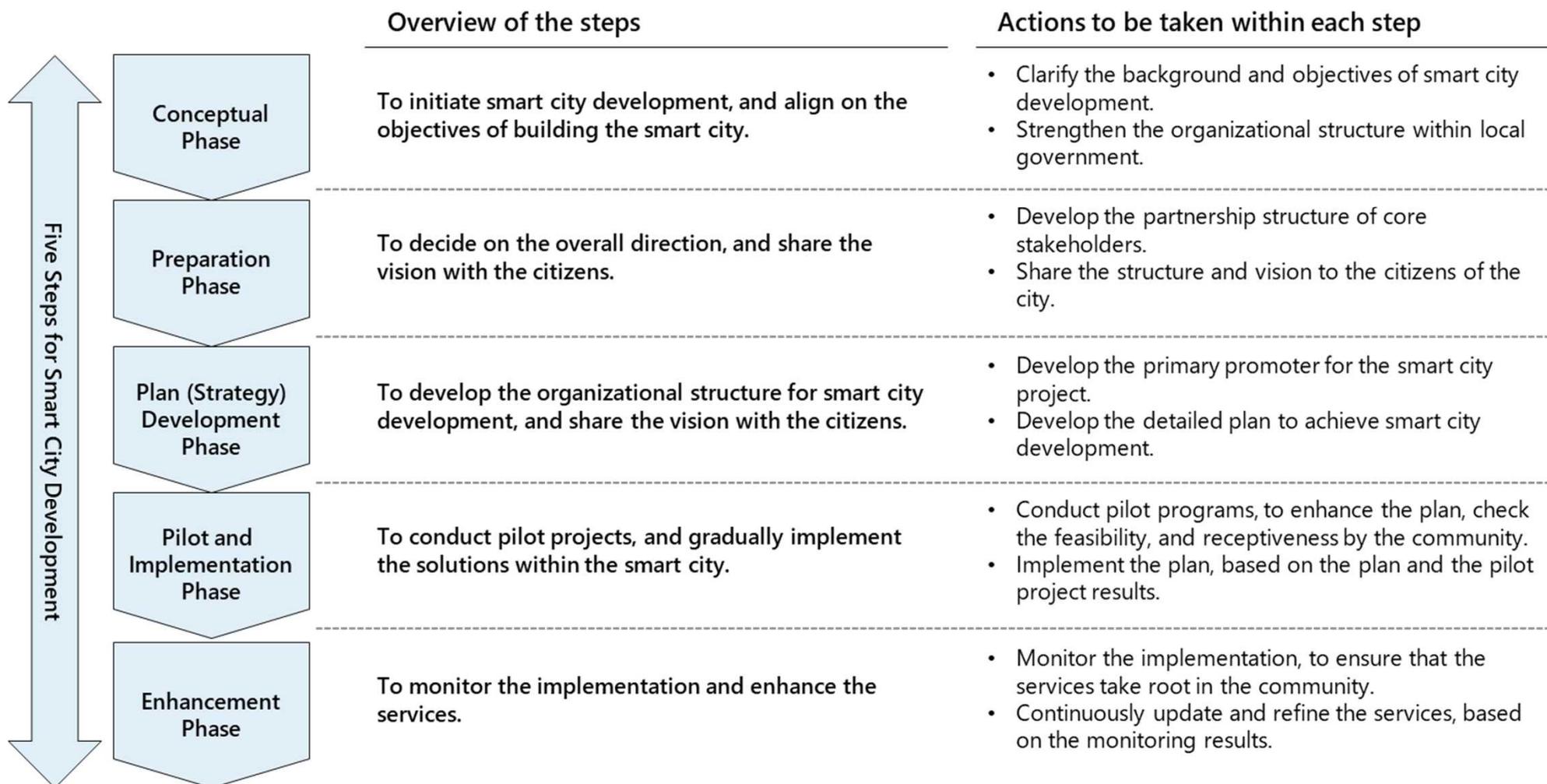
# About “ASEAN Smart City Planning Guidebook”

## Key Principles and Guidelines for Smart City Development

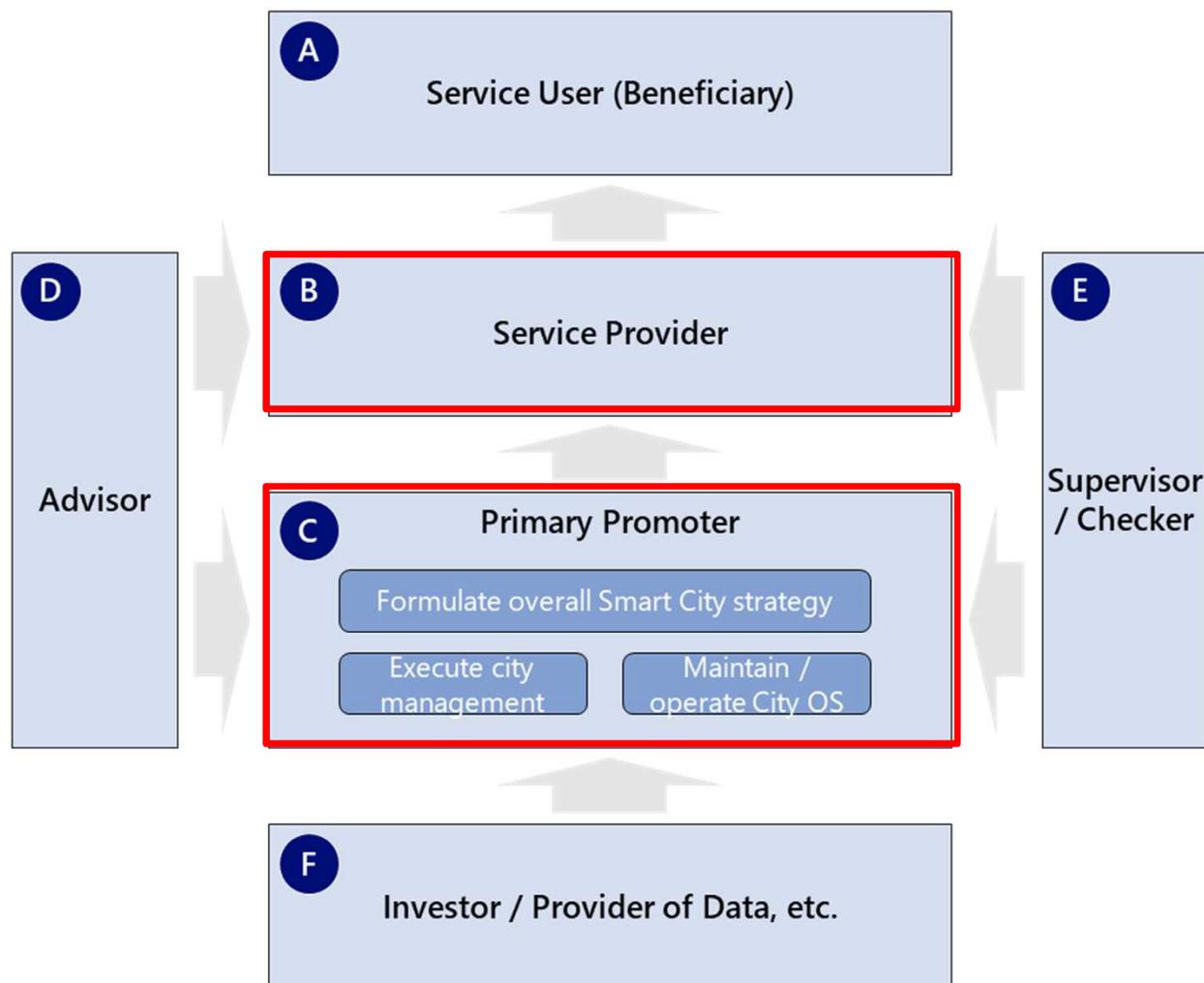


# About “ASEAN Smart City Planning Guidebook”

## Process for Smart City Development



## Types of Stakeholders in Smart City



## Objectives and Roles

- A** • Receive benefits through use of the services, and pay compensation for them as needed.
- B** • Provide and manage each individual service.  
• Objectives of generating profit by provision of services and R&D and other activities utilizing the region for trials and implementations.
- C** • Comprehensive promotion and operation of Smart City.  
• Objectives of uplifting and developing local economy.
- D** • Advise as an expert regarding Smart City promotion as a whole and direction of each service.
- E** • Constantly check services provided and overall promotion, regularly provide instructions and feedback.
- F** • Provide funding and data sometimes for compensation.

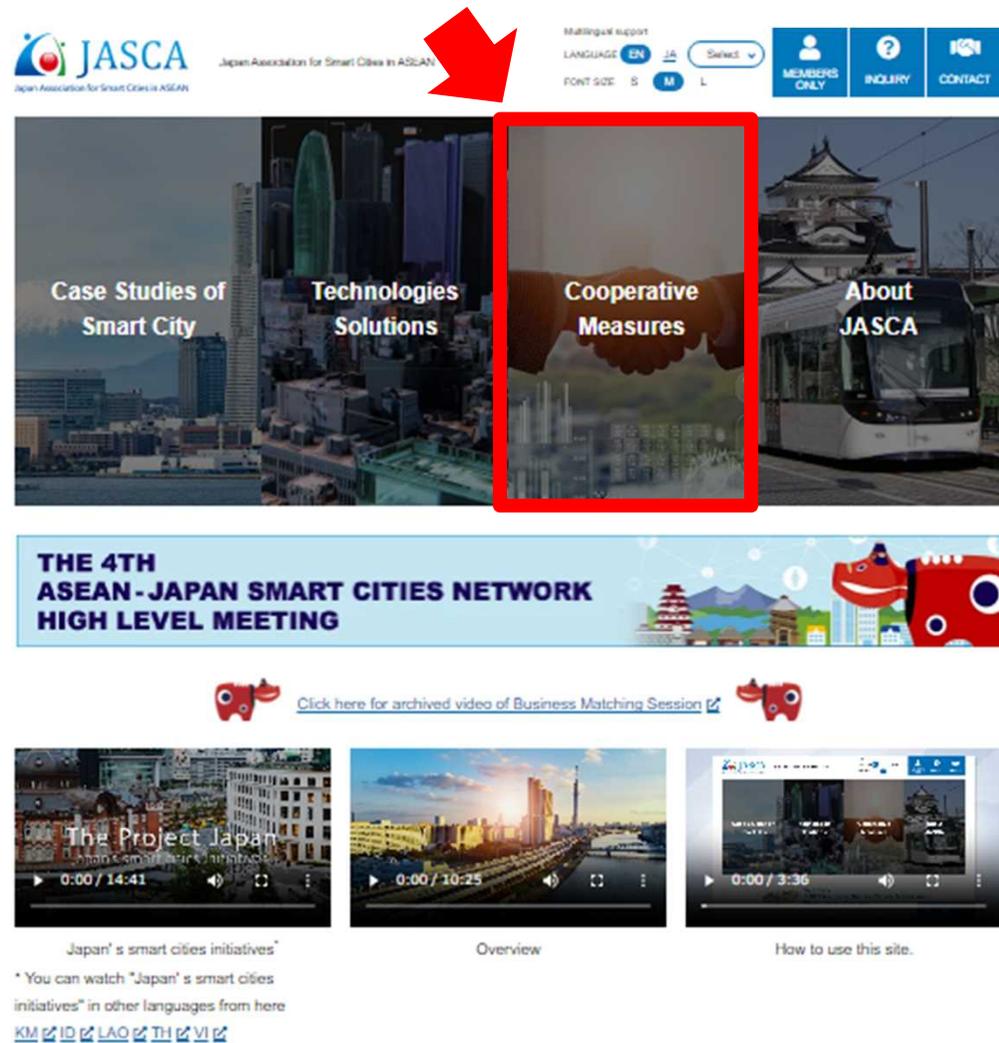
## ■ Project to study stable and efficient micro-grid system on islands.

- The electricity in this island area is supplied by diesel generators.
  - However, as the fuel cannot be procured sufficiently due to lack of budget from the authorities, the electricity supply is limited to night-time only.  
⇒ The challenge is stable and efficient electricity supply.
  - Through the study, it was found that micro-grids combining solar power generation and batteries are effective for stable electricity supply.  
⇒ On the other hand, financing the initial and running costs was a challenge to realising this solution.
- The involvement of Service Provider is a key to formulate the sustainable business structure.

 Involvement of appropriate Service Providers is critical for a sustainable smart city.

# How to get "ASEAN Smart City Planning Guidebook"

Please Access to JASCA website



**JASCA** Japan Association for Smart Cities in ASEAN

Multilingual support  
LANGUAGE: EN JA Select  
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MEMBERS ONLY INQUIRY CONTACT

Case Studies of Smart City Technologies Solutions **Cooperative Measures** About JASCA

**THE 4TH ASEAN-JAPAN SMART CITIES NETWORK HIGH LEVEL MEETING**

[Click here for archived video of Business Matching Session](#)

**The Project Japan**  
Japan's smart cities initiatives  
0:00 / 14:41

**Overview**  
0:00 / 10:25

**How to use this site.**  
0:00 / 3:36

Japan's smart cities initiatives  
\* You can watch "Japan's smart cities initiatives" in other languages from here  
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Thank you for your attention.