

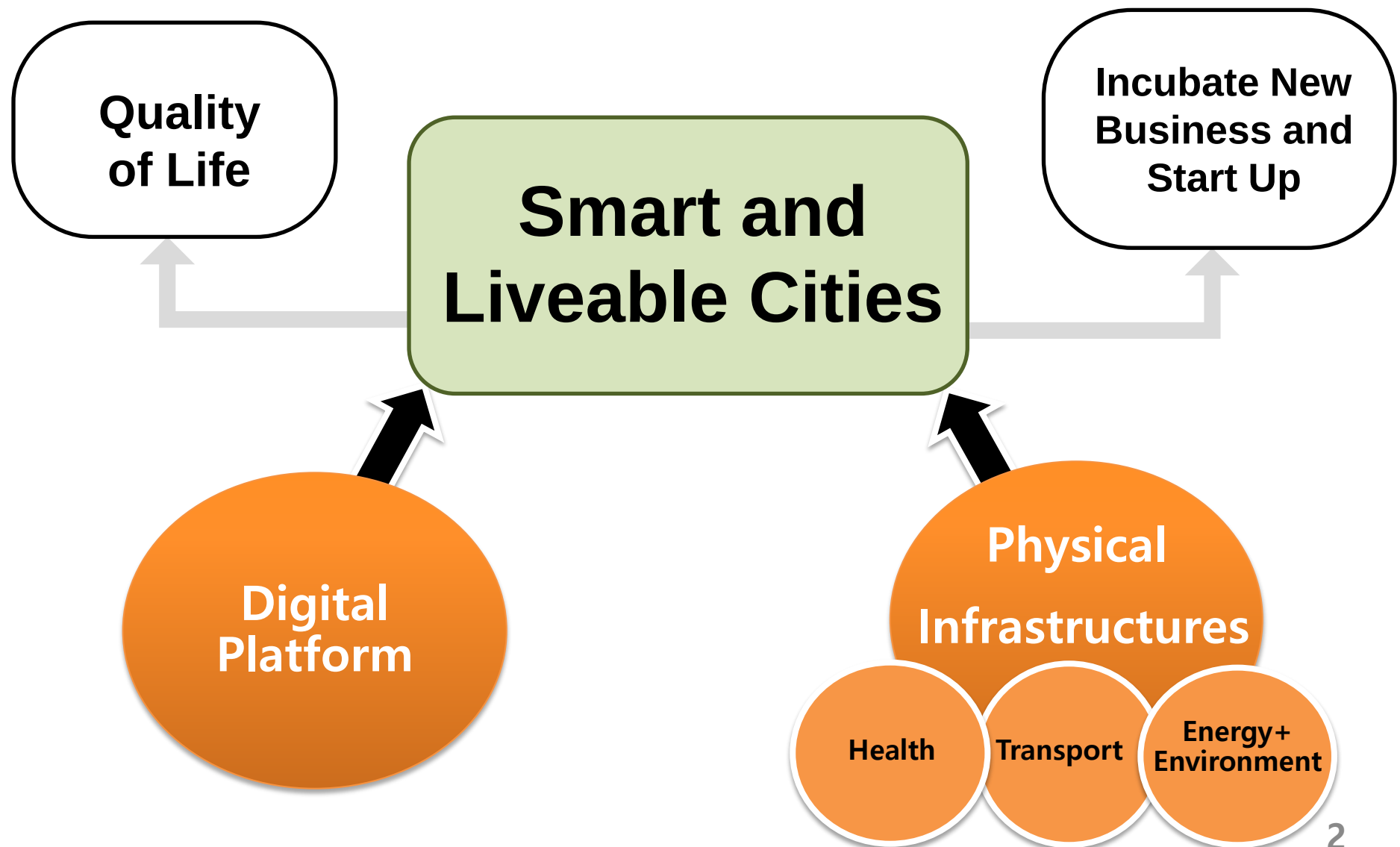


Smart Cities Initiative in ASEAN And How does Thailand's Energy 4.0 Support it

Dr. TWARATH SUTABUTR

Inspector General Ministry of Energy, THAILAND

Singapore International Energy Week (SIEW) 2019
31 October 2019



Establishment of ASCN



ASEAN Smart Cities Network

National Representative

City # 1

Chief Smart
City Officer
(CSCO)

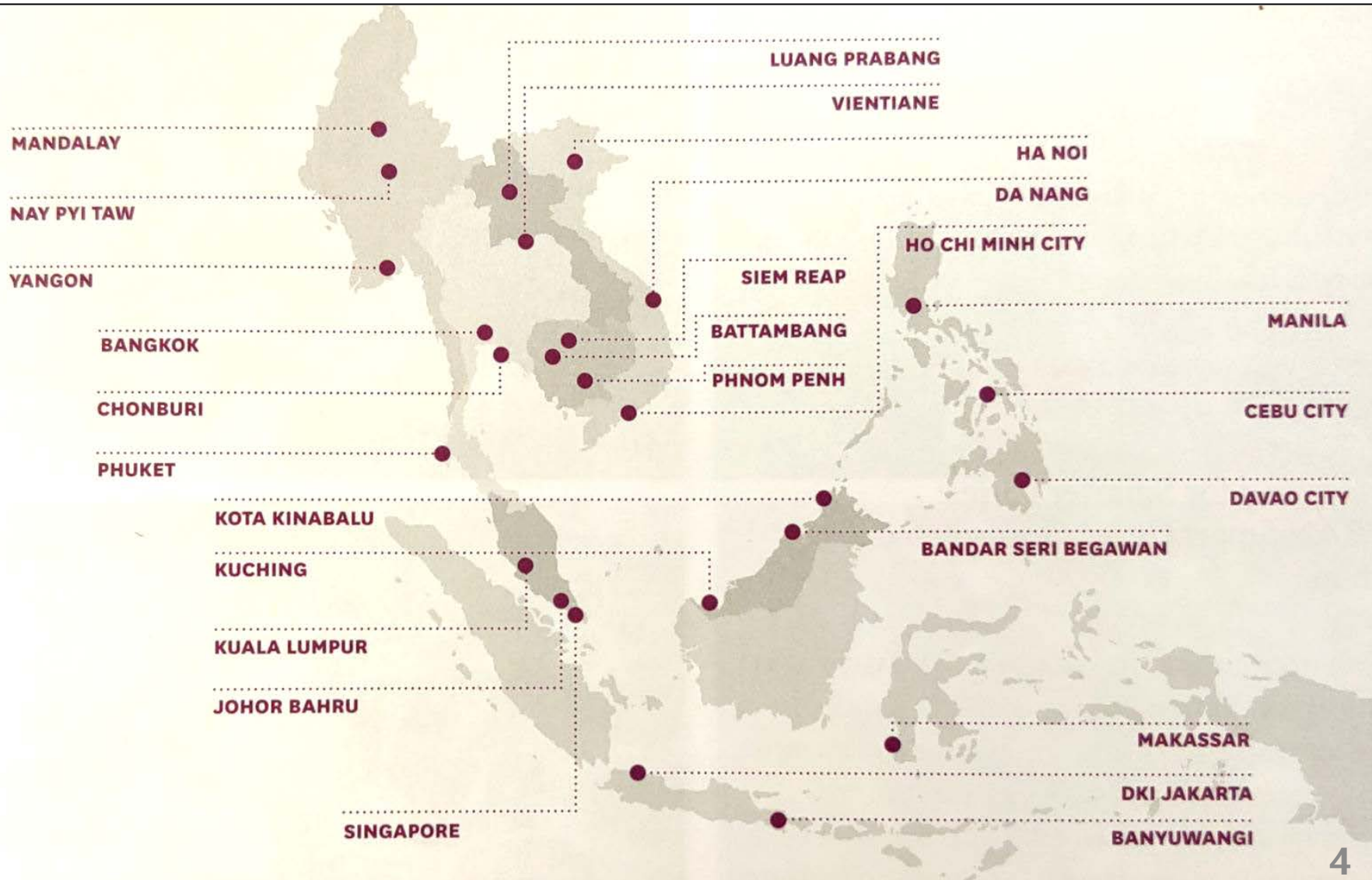
City # 2

CSCO

xxx

CSCO

26 Cities for ASEAN



ASCN Activities



: May 2018 in Singapore Brainstorming for Smarter Cities : The ASEAN Smart Cities Governance Workshop

- To exchange ideas and learn from industry experts about successful adoption around the globe.



: July 2018 in Singapore The Inaugural ASCN Meeting

- The Smart City Action Plan that 26 ASEAN cities had developed during the workshop were showcased during the Inaugural meeting.
- The ASEAN Smart Cities Framework (ASCF) was endorsed.



: June 2019 in Bangkok

-
-

Summary Record of ASEAN-Japan Smart Cited Network High-level Meeting, Yokohama, Japan, 8-9 Oct 2019



- ✓ There are various definitions and different types of smart cities
 - uniqueness, needs, priorities, challenges
- ✓ To realize smart city -> '**Challenge-Oriented concept**' rather than Technology-Oriented
 - overall approach using advanced technology + wise know-hows to solve the challenges cross-cuttingly in optimizing the entire city and region
- ✓ Acknowledge "**Japan Association for Smart Cities in ASEAN (JASCA)**"
 - framework to facilitate cooperation between ASEAN and Japan
 - composed of Japanese partners from various fields that interests ASCN and public sectors eg. JICA, JOIN, JBIC, NEXI, JICT, UR supporting finance and know-hows.
- ✓ Noted Japan's proposal for extensive analysis of challenges, needs, targets of the cities
 - study of comprehensive solutions and measures for the cooperation
- ✓ Noted Japan's continuous share of experiences, know-hows and good practices with ASCN through "**Smart City Public-Private Partnership Platform**"
- ✓ Affirmed the continued cooperation between ASEAN and Japan
 - another ASEAN-Japan Smart Cited Network High-level Meeting in the future agreed

Implementation of Smart Cities Initiative



Planning



Implementation

1

**Role of Local
Government**

2

Sand box Area

3

Digital Readiness

4

**Funding and
Partnership**

1. Role of Local Government

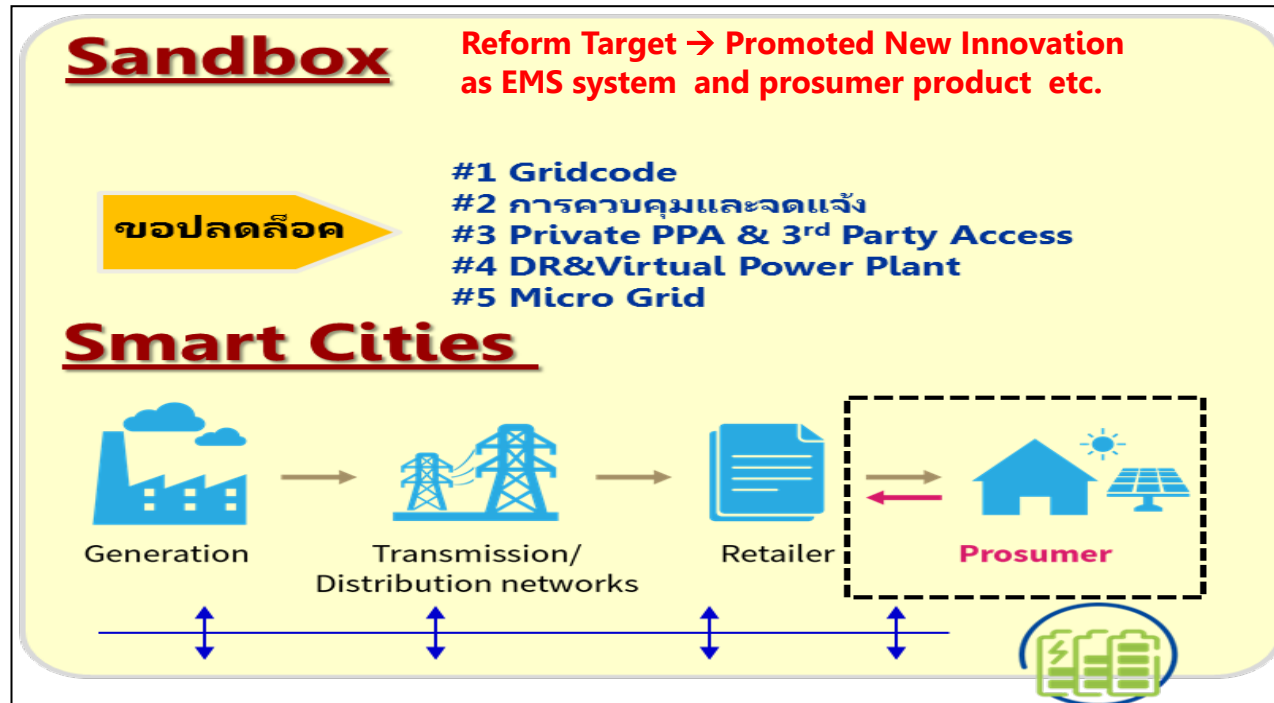


- Take a lead $\Rightarrow$ Local Champions
- Adaptable to Change $\Rightarrow$ Flexible
- Creating Participatory Platform

2. Sand Box Area



- A designated area that is selected for “Pilot Project”

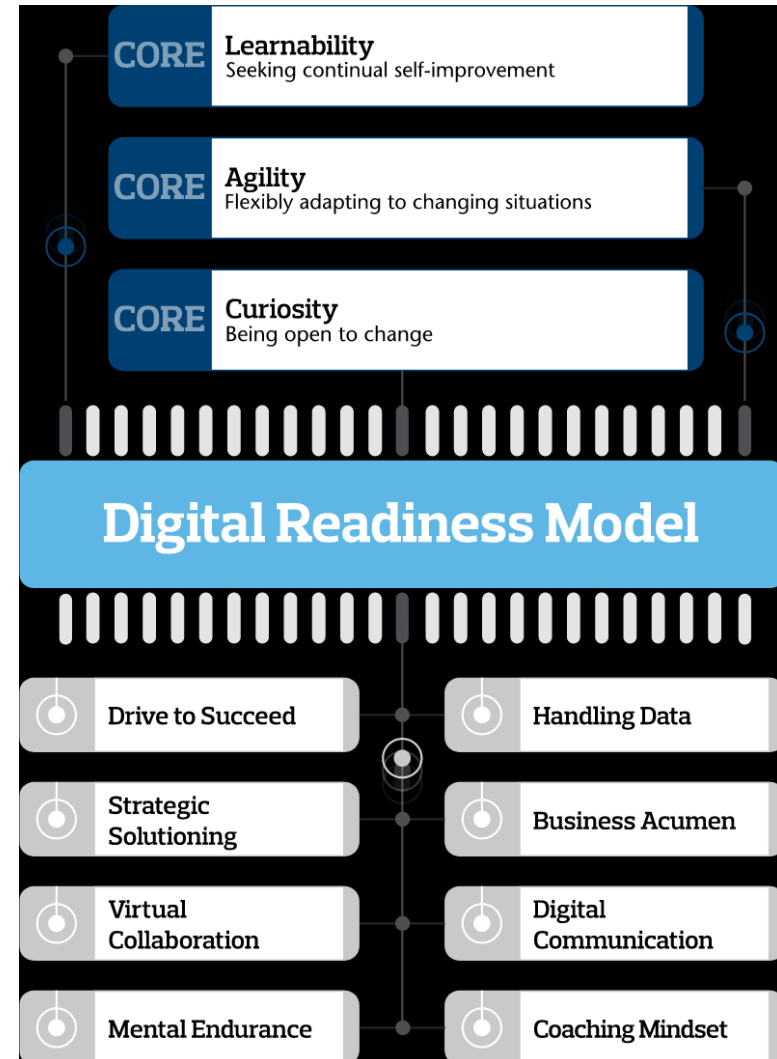


- Rules-Relaxation
- Extended Flow of Funding / Crypto-Currency !!
- Free Flow of Data

3. Digital Readiness



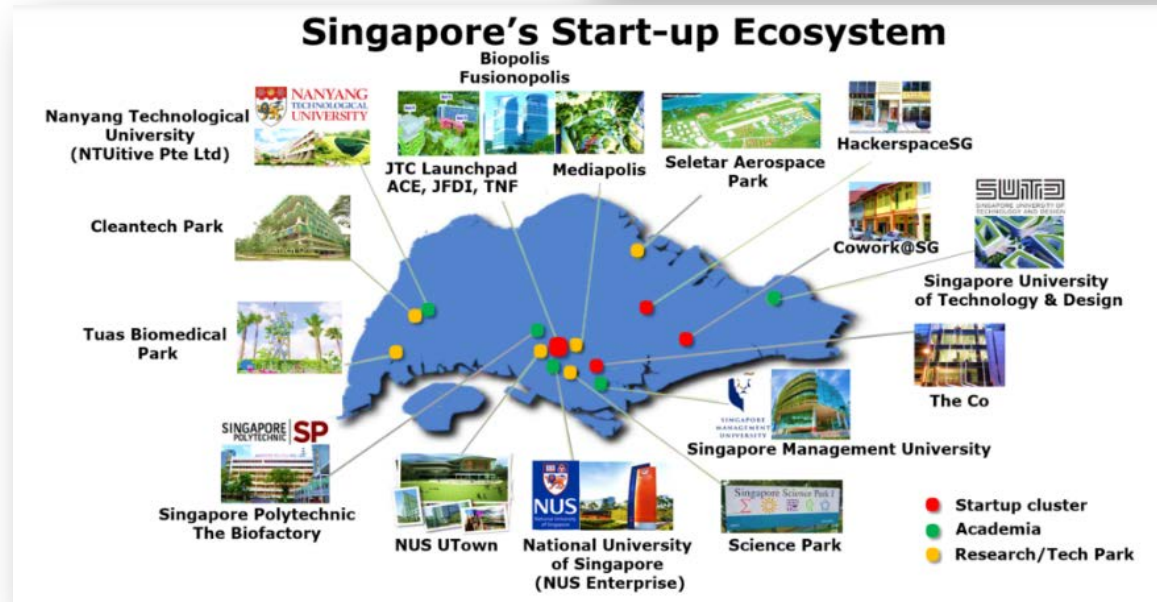
- Era of "Sensorization"
- Cyber-Security
- Cloud Computing Platform
- Digital Manpower



4. Funding and Partnership

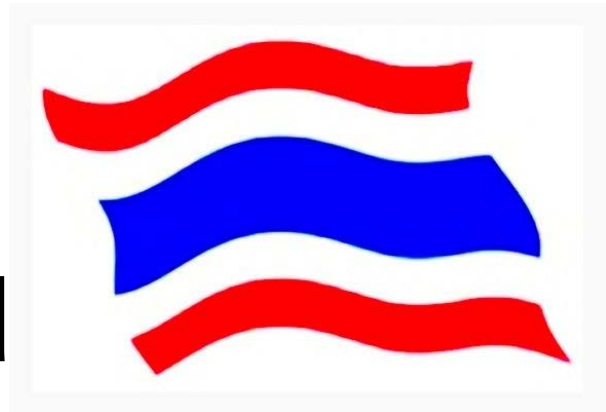


- International Funding
- Technology Transfer
- Start Ups Ecosystem
- Alliances

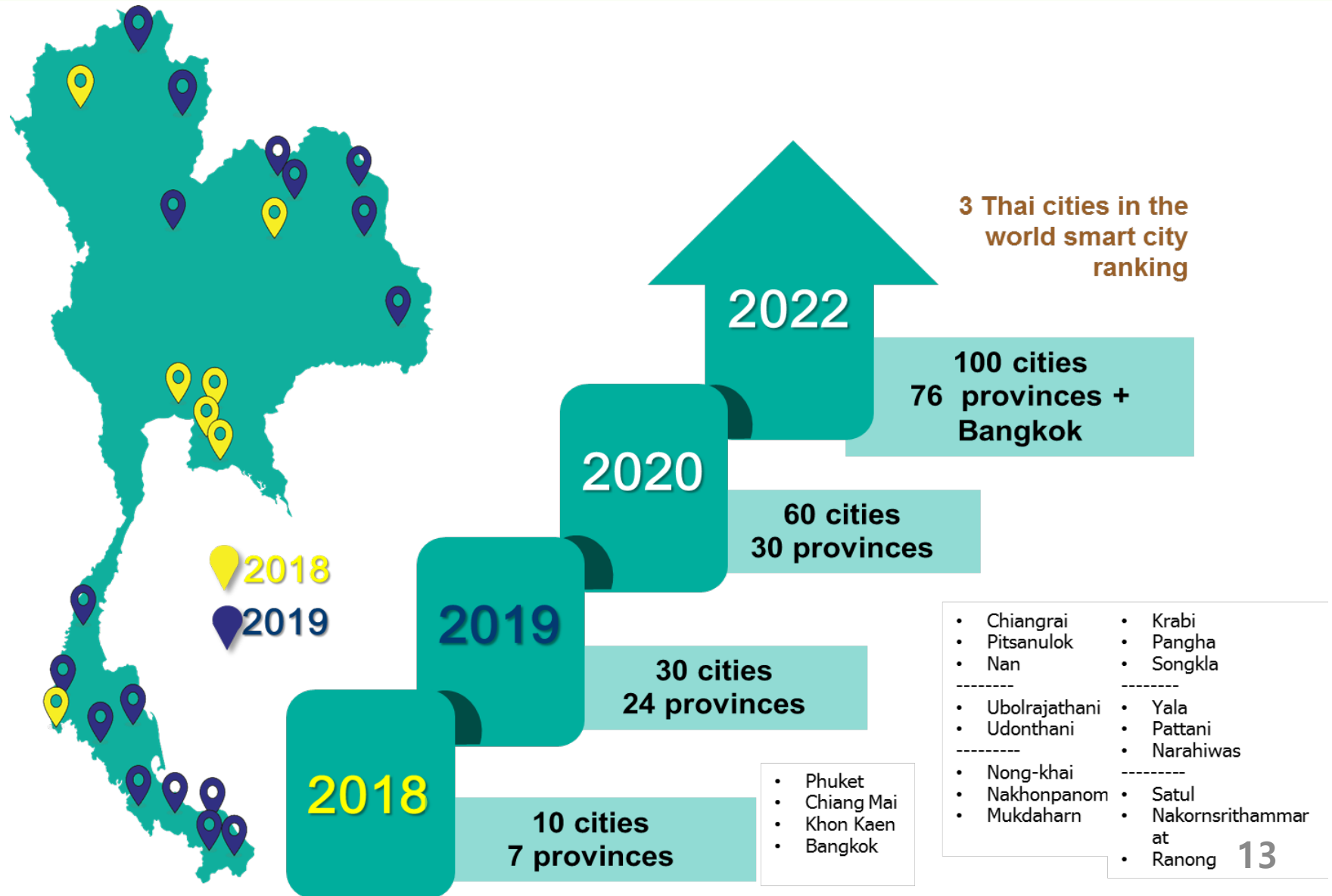




Smart City Development in Thailand



Smart City Development Roadmap

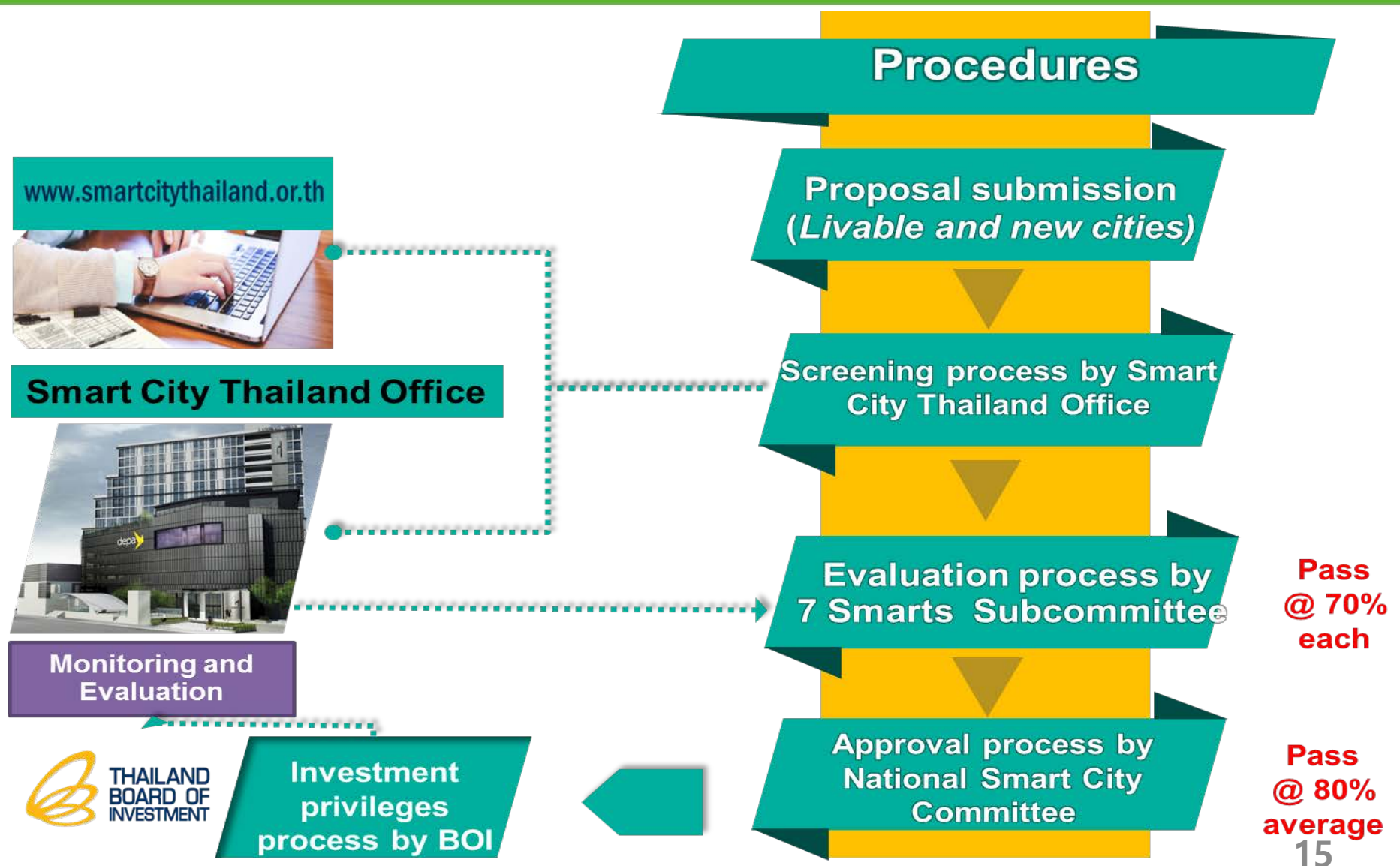


Criteria of Thailand Smart City





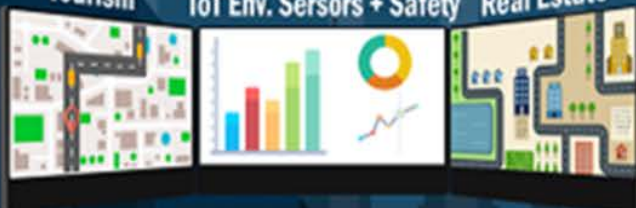
Smart City Evaluation Criteria and Procedures



Smart City Data Platform

3 Intelligent

Tourism IoT Env. Sensors + Safety Real Estate



2 Interconnected

Data Integration + Analytic → Services



Gov. Open Data



Social Analytic



Data from Instrumental (Near Real time)

1 Instrumental (Near Real time)



City Application



Wast IoT



Public WiFi



City + Marine Safety



Env. Sensors



Transport

Smart Safety

Now :- CCTV Integration 700 of 1,300 cameras

- LPR (8 Installation point, 37 cameras, Detected > 59.38 M plate)
- Face recognition (3 Fixed cameras, 8 Smartphone Detected > 1.49 M)
- Traffic law enforcement (5 Installation point, 41 cameras, Detected > 41 M, 620 K Offenders)
- CCTV Command Centre
- Vessel Tracking and Monitoring System (23 Radar + AIS Stations)
- Maritime Safety (1 Pier UAT, 4 Piers expend)
- Guide / Job order System

New :- Integrate data with Smart City Data Platform
- 3,500 cameras for Complete CCTV

Smart Healthcare

Now :- Project plan

Smart Economy

Now :- Smart City Innovation Park (IoT Lab, Co Creation Space, Investment OSSC)
- 200 SMEs participated Digital transform Courses
- 28 BOI Digital Cluster, 156 M Invest
- 5 x 500 K Fund for Smart City Startups

New :- Digital OSS for Startups + SMEs
- 200 SMEs to Digital transform
- 50 Startups



Smart Environment

Now :- 10 IoT sensors stations (CO, DO, Water levels, etc.)

- 16 IoT sensors stations (Rain, Temperature, Humidity)
- Traffic Waste Platform (10 Installation point in Patong)

New :- 5 IoT sensors station on NB-IoT

- Integrate data with other sensors platform
- Integrate data with Smart City Data Platform

Smart Education

Now :- Project plan

Smart Tourism

Now :- PHUKET App. for FIT

- Support Tourism Startups
- Public free WiFi (1,000 AP / >1.3 M Accounts > 40 K Connected per day)
- LoRaWAN Network (35 base, > 500 sq.km)

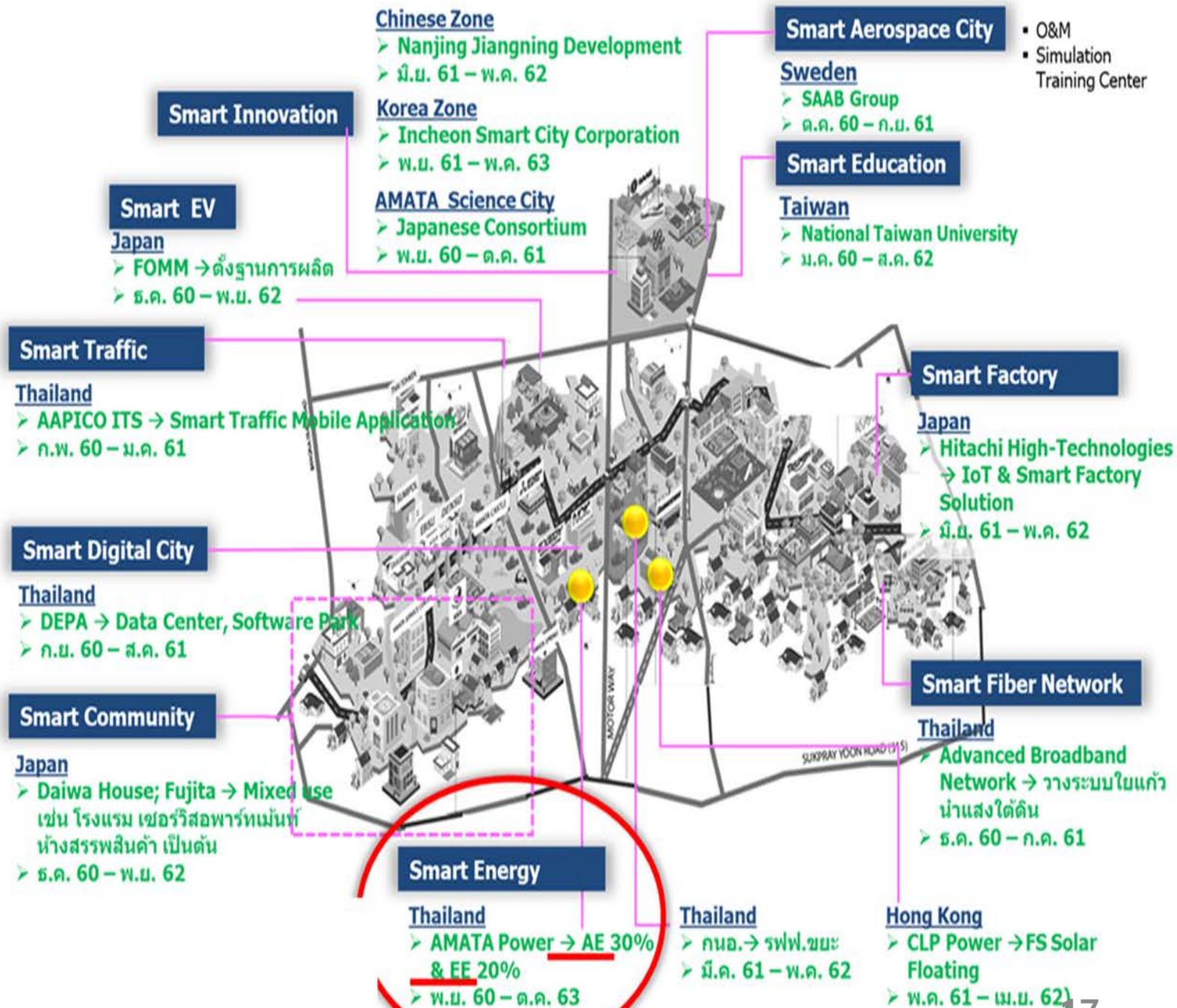
New :- Collaborate PRSThailand for content + PR on PHUKET App.
- Integrate data with Smart City Data Platform

Smart Governance

Now :- Smart City Data Platform

New :- Phuket Intelligent Communication Center

ออกแบบ AMATA เป็น เมืองคู่แฝด Yokohama



Key Take aways



1. Smart Cities Policy have been kick-started
2. Moving from Planning to “Implementation”, to successful implementation SC policy

4 Factor to be concern

- 2.1 Local Government
- 2.2 Sand Box Area
- 2.3 Digital Capabilities
- 2.4 Funding





Ď ZnáčĚ ěŠn
Thank you
for your Attention





Back UP

THAILAND

BANGKOK

About the City

Total Land Area	1,568.7 sq.km.
Population	8.28m
Density	5,300 / sq.km.

Smart City Project

1. Transport Hub Development at Bang Sue Area
2. Smart City Plan



CHONBURI

About the City

Total Land Area	43 sq.km.
Population	215,000
Density	5,000 / sq.km.

Smart City Project

1. Smart Grid Project
2. Waste to Energy plant



PHUKET

About the City

Total Land Area	543 sq.km.
Population	0.4m
Density	719 / sq.km.

Smart City Project

1. City Data Platform
2. Phuket Eagle Eyes - Safe City based on Big Data

Harvesting and Analytics CCTV Safe City



MYANMAR



MANDALAY

About the City

Total Land Area	285 sq.km.
Population	1.23m
Density	4,300 / sq.km.



Smart City Project

1. Traffic Congestion Management
2. Solid Waste and Waste Water Treatment



Built Infrastructure



Safety and Security

NAY PYI TAW

About the City

Total Land Area	7,054.37 sq.km.
Population	924,608
Density	131 / sq.km.



Smart City Project

1. Affordable Housing and Low-cost Housing Project
2. International Comprehensive University



Built Infrastructure



Health and Well-being

YANGON

About the City

Total Land Area	576 sq.km.
Population	5.21m
Density	9,045.1 / sq.km.



Smart City Project

1. Conservation of Yangon City Downtown Area
2. Low Cost Rental Housing and Transit Oriented Development



Civic and Social



Health and Well-being



LUANG PRABANG

About the City

Total Land Area	16,875 sq.km. (Province)
Population	97,760
Density	5.79 / sq.km.



Smart City Project

1. Heritage Wetland Restoration for City Green Spaces and Habitats
2. Construction of Concrete Alleyways and Footpaths



Quality Environment Built Infrastructure

VIENTIANE

About the City

Total Land Area	130 sq.km.
Population	821,000
Density	6,315 / sq.km.



Smart City Project

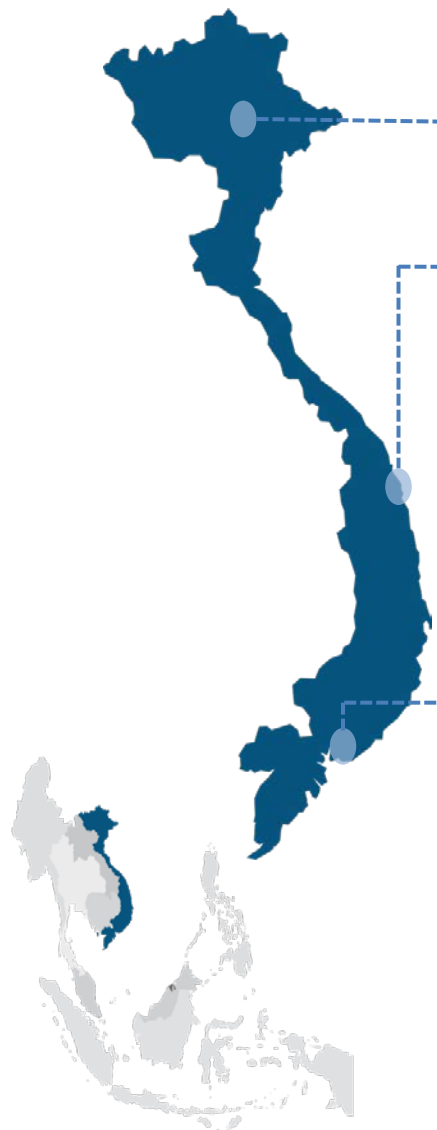
1. Establishment of Drainage System
2. Sustainable Transport Plan



Quality Environment Built Infrastructure



VIETNAM



HANOI

About the City

Total Land Area	3,358.9 sq.km.
Population	7.6m
Density	2,280 / sq.km.



Smart City Project

1. Intelligent Operations Centre, IOC
2. Development of Intelligent Transportation



Safety and Security



Built Infrastructure

DANANG

About the City

Total Land Area	1,285 sq.km.
Population	1.0m
Density	814 / sq.km.



Smart City Project

1. Intelligent Traffic Control System
2. Smart Water Management



Safety and Security



Quality Environment

HO CHI MINH CITY

About the City

Total Land Area	2,095.6 sq.km.
Population	8.2m
Density	3,924.4 / sq.km.



Smart City Project

1. Integrated Operations Centre, IOC
2. Integrated and Unified Emergency Response Centre



Safety and Security

CAMBODIA

SIEM REAP

About the City

Total Land Area	424.7 sq.km.
Population	268,380
Density	631.8 / sq.km.

Smart City Project

1. Smart Tourist Management System
2. Solid Waste and Wastewater Management



Civic and Social



Quality Environment



BATTAMBANG

About the City

Total Land Area	115 sq.km.
Population	161,030
Density	1,395 / sq.km.

Smart City Project

1. Urban Street and Public Space Management
2. Solid and Liquid Waste Management



Civic and Social



Quality Environment



Built Infrastructure



PHNOM PENH

About the City

Total Land Area	693 sq.km.
Population	2.8m
Density	4,040.4 / sq.km.

Smart City Project

1. 11 Sidewalks Rejuvenation Project
2. Improving efficiency of Phnom Penh's Public Transport Services



Built Infrastructure



PHILIPPINES



MANILA

About the City

Total Land Area	39 sq.km.
Population	1.8m
Density	45,700 / sq.km.

Smart City Project

1. Command Centre Upgrade
2. E-Education
3. E-Health



Safety and Security



Health and Well-being

CEBU CITY

About the City

Total Land Area	315 sq.km.
Population	923,000
Density	2,930 / sq.km.

Smart City Project

1. Automated Citywide Traffic Control Systems
2. Bus Rapid Transit (BRT) System



Built Infrastructure



Safety and Security

DAVAO CITY

About the City

Total Land Area	2,444 sq.km.
Population	1.7m
Density	699 / sq.km.

Smart City Project

1. Converged Command and Control
2. Intelligent Transport and Traffic Systems with Security



Built Infrastructure



Safety and Security



MALAYSIA

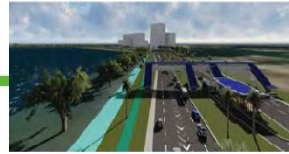
KUALA LUMPUR

About the City

Total Land Area	243 sq.km.
Population	1.8m
Density	7,377 / sq.km.

Smart City Project

1. G-Asset
2. Kuala Lumpur Integrated Submission System (KLIS)
3. GoKL Journey Planner



JOHOR BAHRU

About the City

Total Land Area	220 sq.km.
Population	1.5m
Density	6,909 / sq.km.

Smart City Project

1. Iskandar Malaysia Urban Observatory (IMUO) Tool
For Decision Making, Stocktaking And Measurement
2. Management of Water Resources and Distribution



KOTA KINABALU

About the City

Total Land Area	366.03 sq.km.
Population	452,940
Density	1,290 / sq.km.

Smart City Project

1. Integrated Public Transport System
2. Integrated Solid Waste Management
3. Smart New Township
4. Smart Water Management



KUCHING

About the City

Total Land Area	2,031 sq.km.
Population	680,000
Density	336 / sq.km.

Smart City Project

1. Smart Mobility - Integrated Smart Traffic Light System
2. Integrated Flood Management and Response System



BRUNEI DARUSSALAM & SINGAPORE



BANDAR SERI BEGAWAN

About the City

Total Land Area	100.4 sq.km.
Population	64,409
Density	641 / sq.km.

Smart City Project

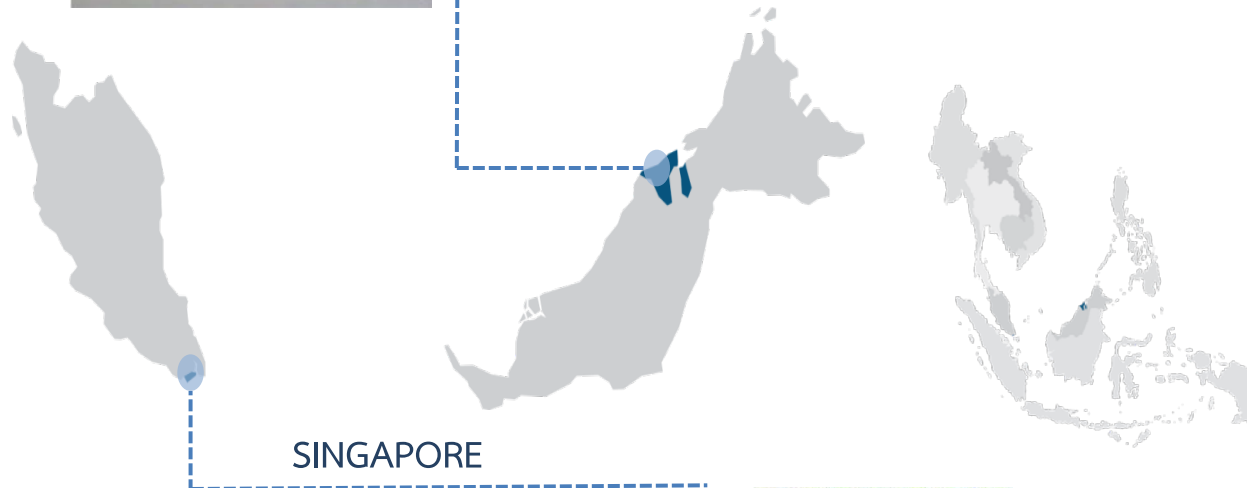
1. Revitalise Kampong Ayer (Water Villages)
2. Clean River Management Projects



Civic and Social



Quality Environment



SINGAPORE

About the City

Total Land Area	719.9 sq.km.
Population	5.61m
Density	7,796 / sq.km.

Smart City Project

1. E-Payments
2. National Digital Identity



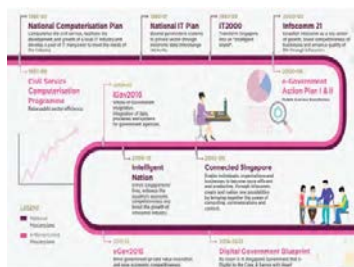
Civic and Social



Health and Well-being



Industry and Innovation



INDONESIA



MAKASSAR

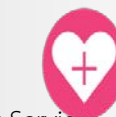


About the City

Total Land Area	199.3 sq.km.
Population	1.77m
Density	7,400 / sq.km.

Smart City Project

1. Improved Health Care
2. Integration of Online Tax Services



Health and Well-being



Civic and Social

DKI JAKARTA



About the City

Total Land Area	662.3 sq.km.
Population	10.1m
Density	15,367 / sq.km.



Built Infrastructure



Civic and Social



Industry and Innovation

Smart City Project

1. Job Creation Through Linking Research Institutes And Potential Entrepreneurs
2. OK OTriP Integrated Transit Cashless Payment

BANYUWANGI

About the City

Total Land Area	5,782.5 sq.km.
Population	1.6m
Density	277 / sq.km.

Smart City Project

1. Spearheading Industrial Growth through Education
2. Creating Inclusive Economic Growth Through Tourism-Based Development



Health and Well-being



Industry and Innovation