Innovation and Digitization in the

Source: https://www.technologyreview.com/2018/02/21/145310/a-smarter-smart-city/

Networking Forum on Enhancing Cross-Border Facilitation for Logistics, Trade and Investment Development in the Lancang-Mekong Countries.

Dr Non A
Digital Economy Promotion Agency (depa)
November 30, 2021

depa Driving Forward

Shaping a dynamic digital economy, with digital-ready manpower and greater digital awareness to propel change

1 Digital Manpower

Build Manpower for the Digital Era

- Digital Manpower
- Digital Citizen

2 Digital Industry

Promote Digital Industry & Innovation

- Hardware & Smart device
- Software
- Telecom
- Digital Content
- Digital Services

3 Digital Economy

Transform Businesses and Create New Growth Engines

- Agriculture
- S-Curve Industry
- SMEs Business
- Community

4 Digital Ecosystem

Build an Enabling Digital Ecosystem

- Smart City
- Big data
- Cyber Security
- Thailand Digital Valley

Source: Digital Economy Promotion Agency (depa)

Thailand's Smart City Mechanisms

Propose a Smart City Plan

Plans' Five Components

- Vision
- Infra Plan
- Data Platform
- Solutions
- Management Model

SMART CITY Thailand เขตส่งเสริมเมืองอัจฉริยะ

depa

Smart City 'Promotional Zone'

- Incubation
- Capacity Building
- Technological Matching

Smart City Plans

SMART CITY Thailand

'Smart City Thailand'

- Tax incentives from Board of Investment (BOI)
- Synchronized efforts from relevant ministries
- Special Integration Budget (TBC)

Candidate Cities

(Provinces, Municipalities, Landowners)

- Smart City Thailand Office
- depa's Smart City Promotion Department

- National Steering Committee
- National Sub-Committee (Smart City's Project Management)

3 Facts about Digitalization

1. **Digitalization is already there but slow – COVID-19 helps to accelerate it;**
2. **COVID-19 makes digitalization cheaper and better;**
3. **Recovery efforts will be digital.**

Source#1: https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days

Source#2: https://www.mastercardcenter.org/insights/covid19-shows-small-businesses-the-benefits-of-digital-financial-services

SMART CITY Thailand

กระทรวงดิจิทัล เพื่อเศรษฐกิจและสังคม | depa | DIGITALTHAILAND | EXPO 2020 DUBAI UAE | THAILAND EXPO 2020 DUBAI

OFFICIAL PARTICIPANT – THAILAND

7 Smarts

7 Dimensions of Thailand Smart City

Smart Environment

Minimizing the negative impact of urban living on the environment and climate change through the systematic use of technology, such as, in water resource management, climate monitoring, waste management and disaster watch, including the public participation in the conservation of the natural resources.

Smart Economy

Using digital technology to effectively increase valueaddedness in the economic system as well as resource management, such as smart agro-city and smart tourism city.

Smart Mobility

Emphasizing the development of traffic and transportation systems in driving the country forward. By enhancing the connectedness of a variety of traffic and transportation systems, urban residents benefit from the enhanced convenience, safety, and by becoming friendlier to the environment.

Smart Energy

Spearheading effective energy management and building a fine balance between the producing and usage of energy to enhance energy security and decrease reliance on the traditional channels of energy distribution

Smart People

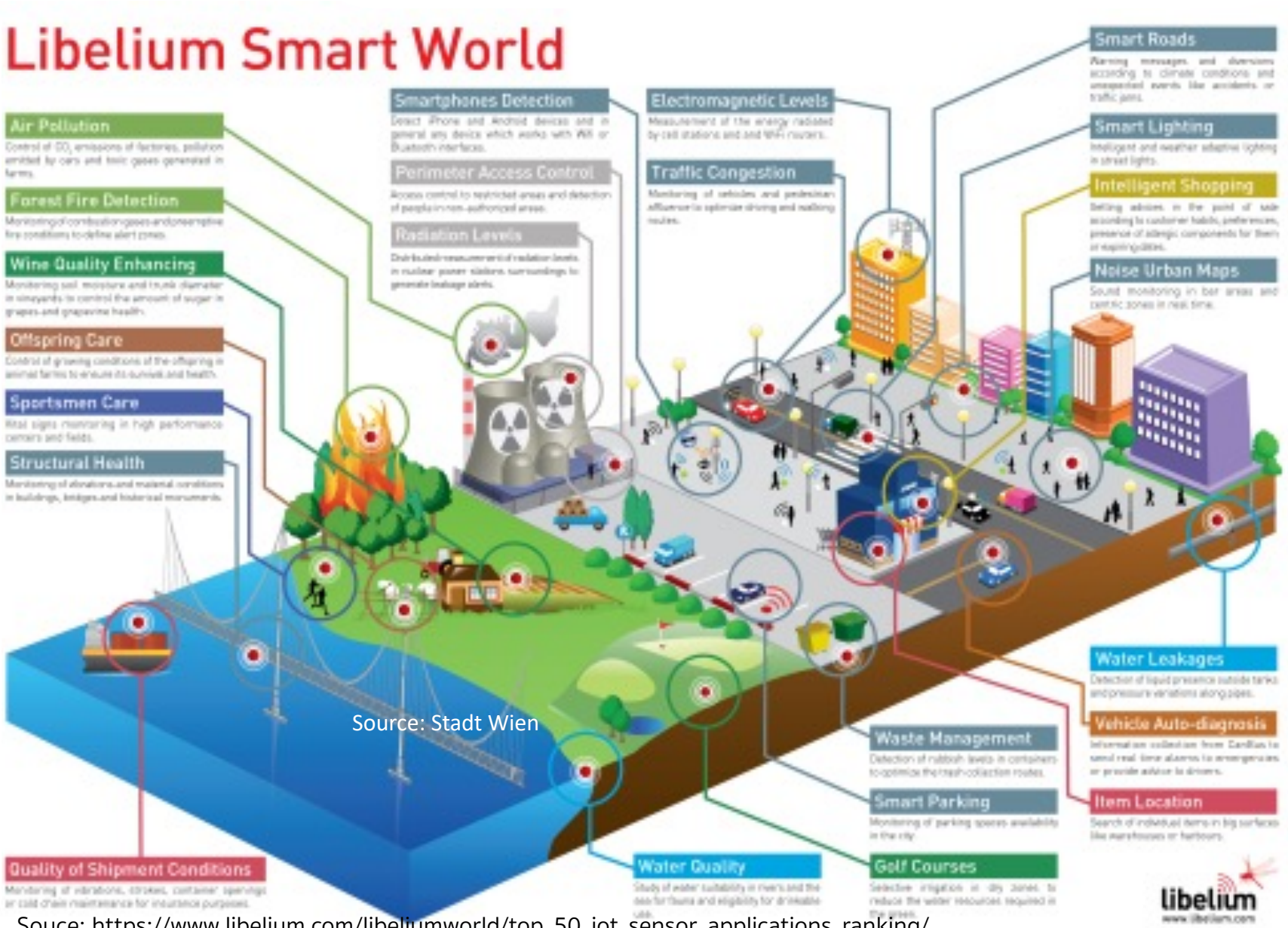
Improving knowledge base, skill sets, and environment conducive to the life-long learning of urban residents in order to decrease social and economic inequality and provide new opportunities for creativity, innovation and public participation.

Smart Living

Maximizing health, safety, and the quality of life of urban residents through universal design.

Smart Governance

Developing the system of public services to benefit the residents whose access to data and trust in the accountability of such system are key to their livelihood and wellbeing. The system shall be consistently improved through applied service innovation.

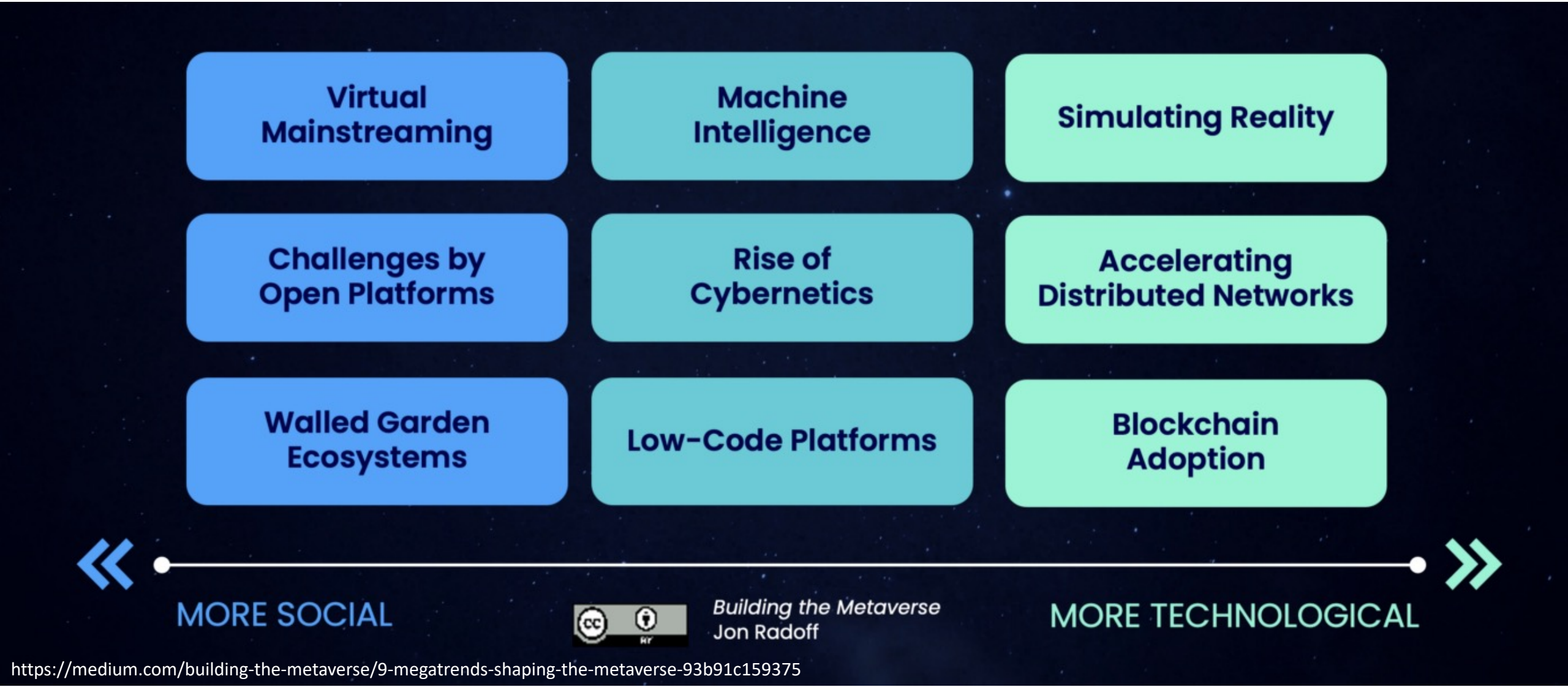


Souce: https://www.libelium.com/libeliumworld/top_50_iot_sensor_applications_ranking/

3 Trends about

1. **Trends: Cashless, Contactless, Paperless, Office-less, School-less**
2. **Organizations will become more goal-oriented;**
3. **Seamless blending of physical and virtual world (e.g., metaverse, convergence technology)**
4. **Cybersecurity and automation will be key.**

Source: Urban Renaissance Japan



https://medium.com/building-the-metaverse/9-megatrends-shaping-the-metaverse-93b91c159375

Some Benefits of

1. Companies are re-focusing;
2. Creative ideas emerge;
3. Decrease in social stress, pollution, road accidents;
4. Positive changes in education;
5. Etc.

Sources: https://www.lsbf.org.uk/blog/online-learning/6-positive-benefits-of-the-new-normal

Source: Urban Renaissance Japan

Mobility-as-a-Service (MaaS)

Illustrations Courtesy of Fujitsu & IBS, Toyota Tsusho, Ministry of Land, Infrastructure, Transport and Tourism of Japan

Phuket Tourism MaaS Image Diagram (Draft)

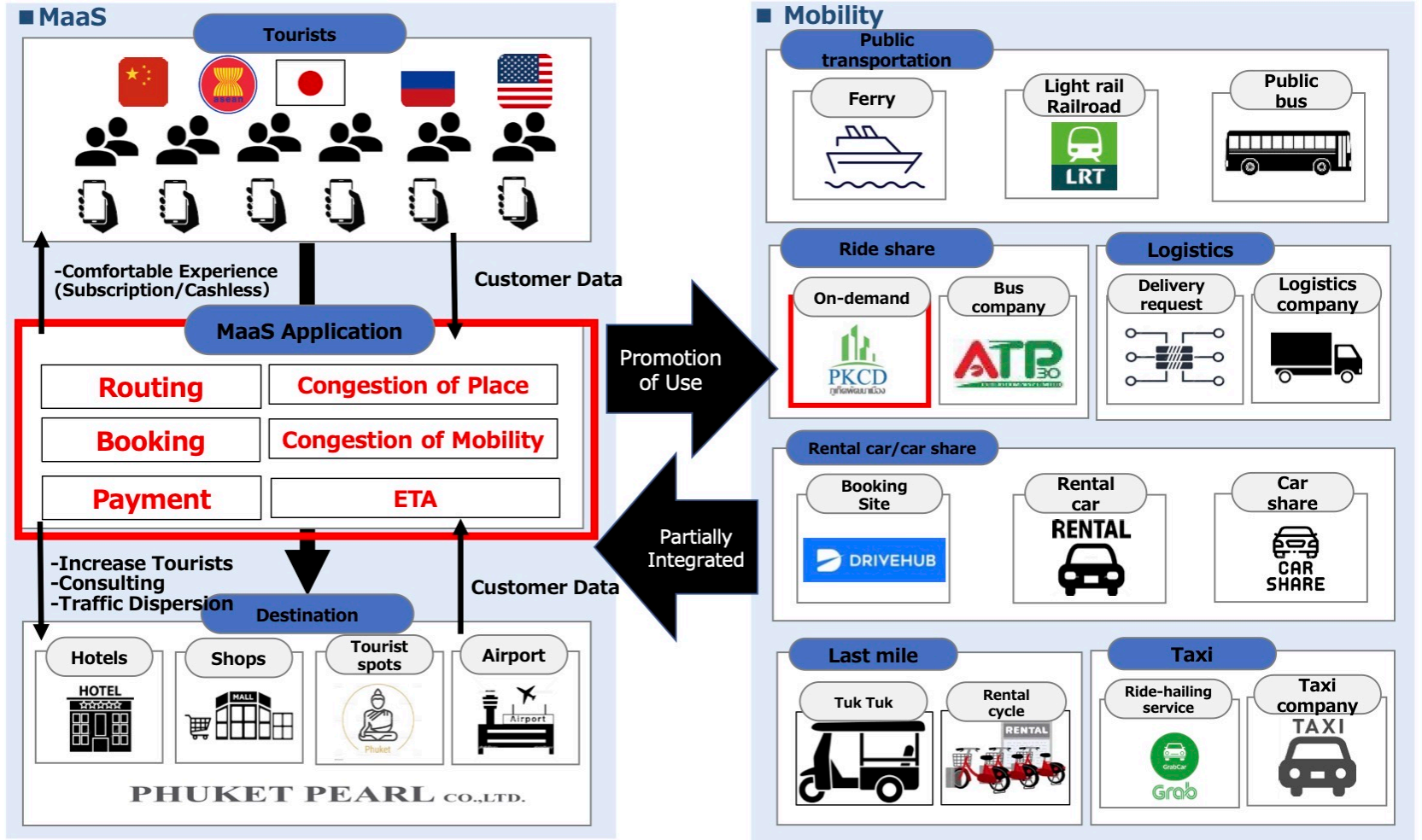


Photo by Bao Menglong on Unsplash
Photo by Alexandr Popadin on Unsplash

Digital-Led Transit Oriented Development (ToD)

Illustrations Courtesy of Korea Transport Institute (KOTI) and the Taskforce of Khon Kaen K-City Global Collaboration Programm

Introduction

Needs of Khon Kaen Smart City- Smart Mobility

RANGE

Thailand announced to develop 7 cities into smart cities incl. Bangkok, Khon Kaen, Phuket and 3 EEC (Eastern Economic Corridor: Chonburi, Rayong, Chachoengsao).

Importance of Khon Kaen Smart City

A key region connecting the Greater Mekong Subregion (GMS)

National Highway 2 (Mittraphap)

National Highway (NH) 2 passes through Khon Kaen to the Thai-Lao Friendship Bridge at their border.

As the transport infra. has been developed for the GMS economic corridor, Khon Kaen is located at the intersection of North-South (China-Southeast Asia) & East-West (Vietnam-Myanmar) Economic Corridors.

Intersection of Economic Corridors (GMS)

Necessity of Khon Kaen Smart City

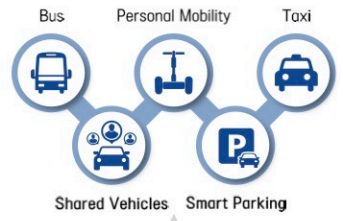
Need to provide integrated smart mobility services based on cutting-edge IoT/ICT & platform

Mass Transit (artery) + Shared-Micro Transit (vein)

Khon Kaen's Smart City development program

Khon Kaen Light Rail Transit Project

- Length: 22.6km
- Agency: Khon Kaen Transit System Co (KKTS)



Implementation Plan

Short Term - Pilot (1) Priority signal service for emergency vehicles

Service Overview

When an emergency vehicle (ambulance, etc.) moves in order to transport an emergency patient, detect the position of the emergency vehicle in real time and control intersection signals in the travel route to the destination (medical institution) in order to support the right of way for the emergency vehicle

Remote control

- Control all intersections connected to the center
- Possible to add or change a priority signaling route

Decrease in travel time

- The result of a pilot project in Korea shows that the travel time decreases by approximately 40%.

Provide the driving path information for emergency vehicles

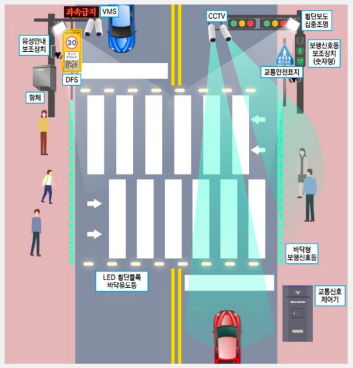
- Possible to provide and check the information of signal status for all intersections on the driving path of the emergency vehicle

Implementation Plan

Short Term - Pilot (3) Smart Crosswalk

Service Concept

- Provide safety-related information to pedestrians, drivers/motorcyclist at unsignalized or signalized crosswalks by sounding an alarm, displaying messages and controlling the traffic signal based on detected pedestrian/car/motorcycle information using IoT and ICT technologies.



▸▸ Service and operation plan

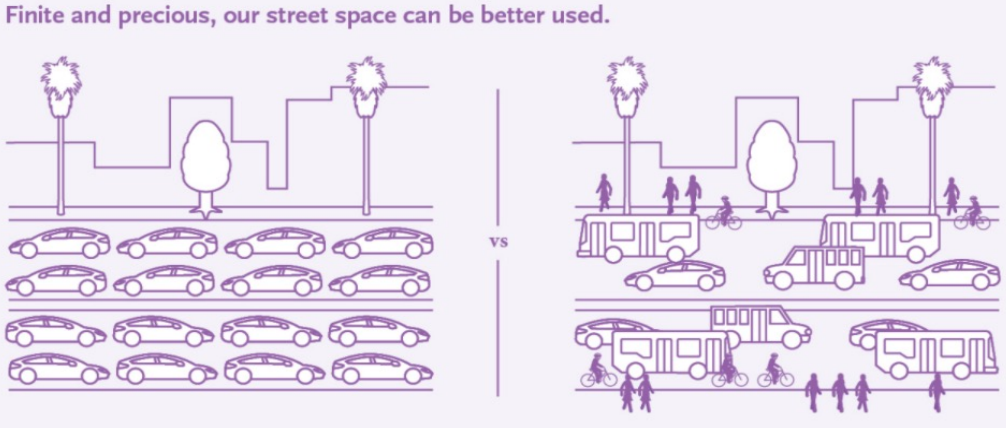
Target	• Vehicles, motorcycles or pedestrians
Service range	• Major crosswalks in Khon Kaen City
Service Function	• Detect peds and vehicles/motorcycles at the crosswalk • Provide ped. signal information to peds and ped. crossing information to vehicles/motorcycles • Pedestrian signal violation warning, vehicle/motorcycle stop line passing or speeding violation warning • CCTV-based site monitoring

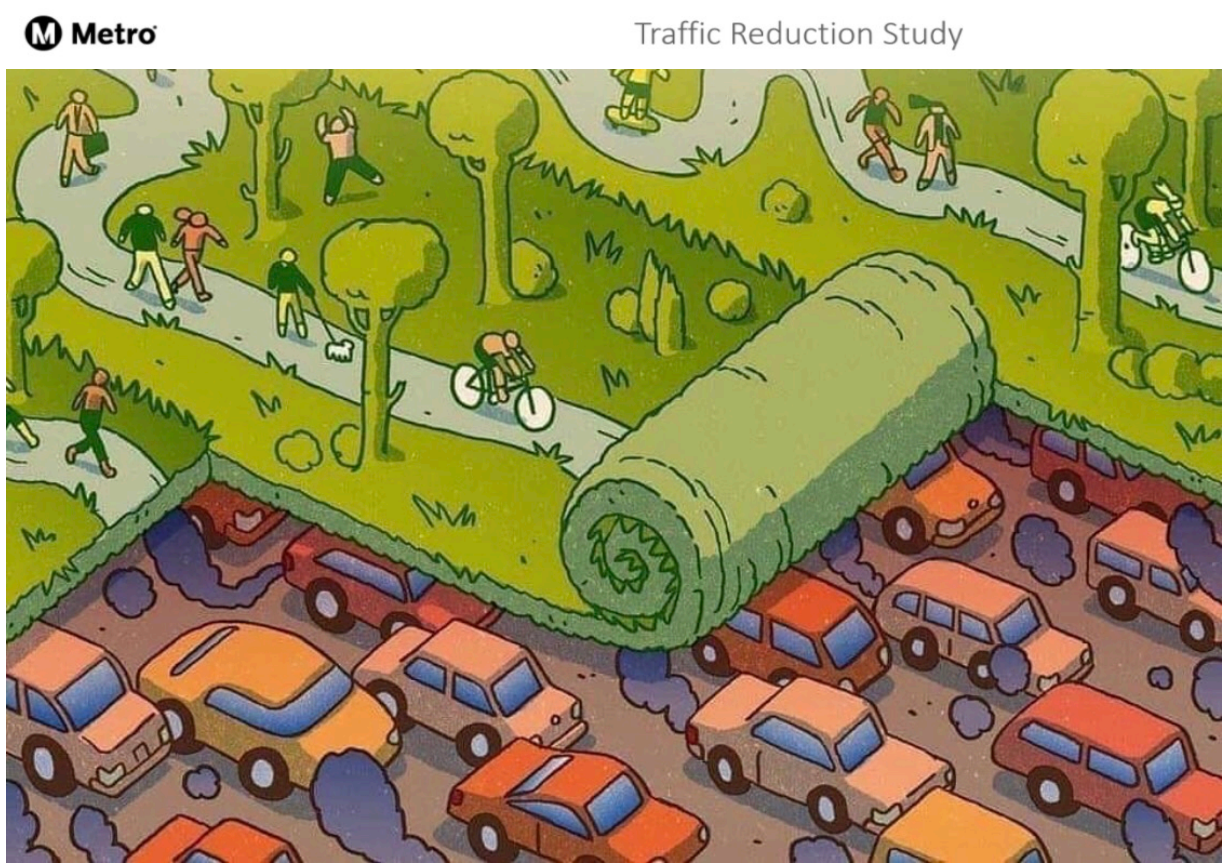
▸▸ Expected effects

- Reduce accidents involving pedestrians at crosswalks and the severity of injury
- Prevent jaywalking
- Improve the environment for pedestrians roads

New Normal Guidelines

1. **Re-Think and Re-Design:**
   - **"15-Minute Cities" and walkable neighborhoods**
2. **New Standards**
   - **"Certified Sanitation" Ratings**
3. **Incentives and Campaigns**
   - **Work-From-Home Stipends**
4. **Data-Driven Planning**
   - **Collecting Data for Policy and Planning**
5. **Innovative Business Models**
   - **Public-Privat—Partnership (PPP)**



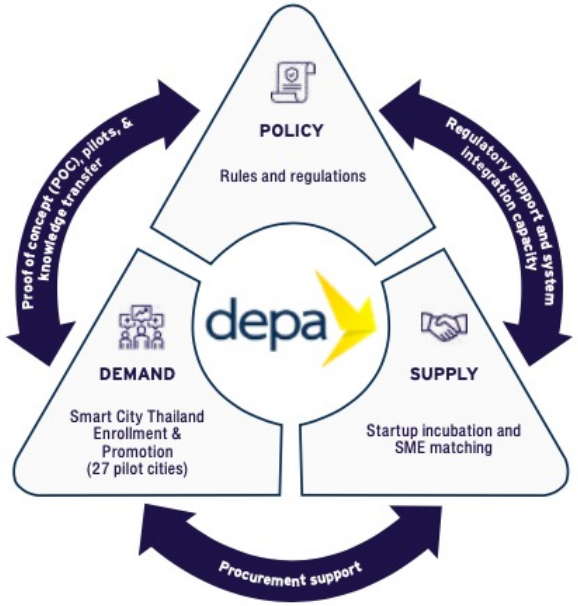


DEPA AND THE SMART CITY

As the leader of Smart City Thailand, depa takes a three-pronged approach to building and supporting a burgeoning smart city marketplace.

It does this through three primary activities:

- Policy, regulations and incentives development
- Demand generation through city enrollment in its Smart City Thailand promotion programme
- Supply matching through startup incubation and SME support.



DEPA AS THE CONNECTOR

depa has positioned itself to be the connecting hub between the many stakeholders involved in smart city development.

In a more mature smart city market, connections between various stakeholders will happen more organically, building off of an active ecosystem and strategic plan to drive forward service delivery and user-focused solutions.

However, in Thailand where the smart city sector is still in its early state, depa aims to orchestrate these connections more deliberately and overtly in order to facilitate the growth of the Thailand market.

Source: Smart City Handbook Thailand
http://bit.ly/smartcityhandbook

YOUNG & EMERGING

Having only been founded in 2017, and the Smart City Thailand office itself being just over a year into its existence, depa and its mission are both young.

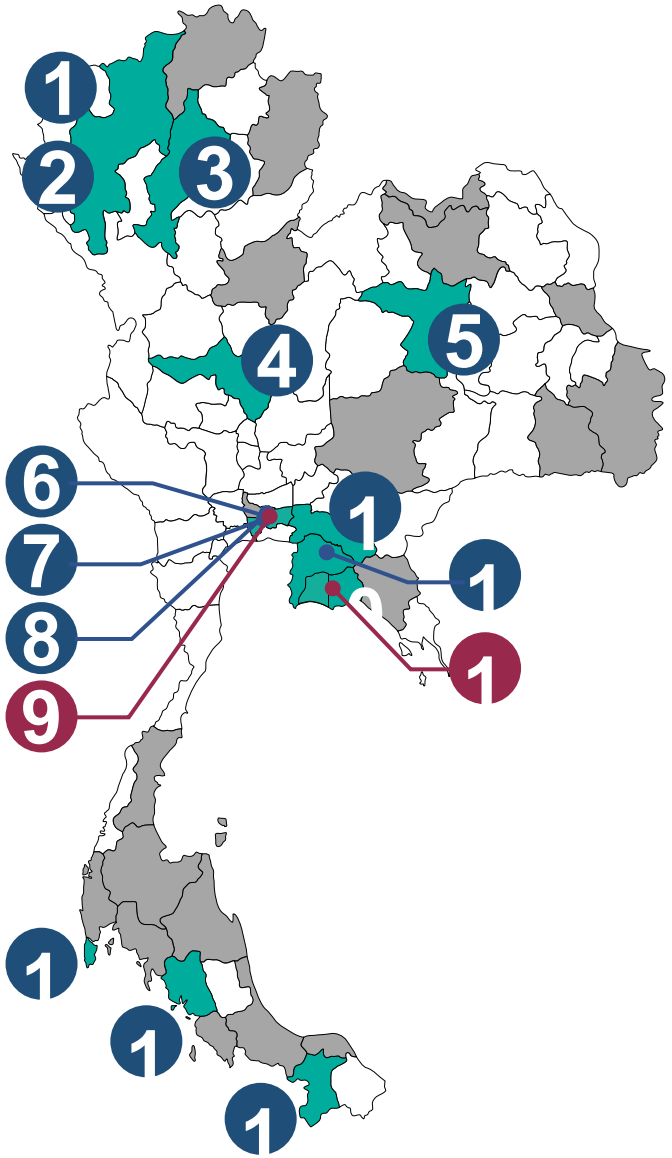
As the primary government sector agency charged with facilitating development of the smart city market in Thailand, depa is still seeking out new and innovative ways to engage with stakeholders, just as the market itself is still taking shape.

With a growing sphere of influence and expertise related to smart cities, depa represents the one-stop-shop for both international and local partnerships.

depa provides an active entry point into the market and can act as a first point of contact for any foreign companies and government organisations looking to explore market opportunities or engage in business in Thailand's emerging smart city market.

Get in touch: doss@depa.or.th

15 Smart Cities in Thailand



1 Chiang Mai Smart City Through Smart Old Town

2 CMU Smart City

3 Mae Moh Livable City

4 Nakhonsawan Smart City

5 Khon Kaen Smart City

6 Samyan Smart City

7 Phra Ram 4 Smart City

8 Smart City Development for Klong Phadung Krung Kasem

9 Makkasan Smart City

1 Chachoengsao Livable City

1 Saensuk Smart City

1 Wangchan Valley Smart City

1 Phuket Smart City

1 Sri Trang City

1 Yala Smart City

Livable City

New City

Information updated as of September 2021

Smart City Handbook: Thailand

http://bit.ly/smartcityhandbook

Photos from UK Embassy Smart City Handbook Workshop, Chiang Mai, 3 December 2020

SMART CITY Thailand

non.ar@depa.or.th

http://bit.ly/depa-csco
http://bit.ly/smartcityhandbook