



Presentation by Ong Eng Kian  
Director

# WHY ASEAN Smart Cities?

- Urbanisation is crucial for ASEAN's growth
  - 90 million more people expected to urbanise in ASEAN by 2030, with “middleweight” cities driving 40% of growth.
- However, rapid urbanisation also poses various challenges
  - Technological and digital solutions as a means to **improve people's lives**



# What Can Smart City Deliver?

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Smart cities in Southeast Asia can deliver real quality-of-life improvements.

**260k–270k** Kilotons of GHG emissions avoided

Equal to the total emissions produced by Laos

**4,900–5,000** Unnatural deaths averted annually

Equivalent to 50% of Malaysia's yearly total

**8M–12M** Disability-adjusted life years (DALYs) reduced

More than the total DALYs for all of South Korea

**1.2M–1.5M** New jobs created

Equivalent to 20–30% of the workforce in Jakarta, Bangkok, Manila

**\$9B–16B** Savings on the cost of living

Equivalent to 2–4x Brunei's total household expenditure

**6M–8M** Man-years saved in commuting time

2x more than Singapore's workforce spends commuting











SOURCE: McKinsey Global Institute analysis



# State of Smart City Development in ASEAN

*Emergence of digital technologies*

## Governments across Southeast Asia are integrating digital technologies across their cities

| Country   | City                               | City level actions   |
|---|------------------------------------|--|
|    | <b>Bandar Seri Begawan, Brunei</b> | Working with Ericsson to pilot 5G and IoT – with full deployment expected by 2021  |
|    | <b>Phnom Penh, Cambodia</b>        | ICT Federation of Cambodia is constructing a SMART town near Phnom Penh. The new town will make use of ICT in various aspects in order to boost performance and convenience, optimise resource consumption, and actively connect with citizens                                 |
|    | <b>Jakarta, Indonesia</b>          | Jakarta Smart City program aims to transform Jakarta into a more transparent and liveable city. Recently the local government introduced a programme developed by QLUE to receive and process complaints from the public as well as to monitor the work of civil servants      |
|    | <b>Vientiane, Lao PDR</b>          | Introduced connected CCTV system and connected household electricity meter system in Vientiane   |
|    | <b>Kuala Lumpur, Malaysia</b>      | Malaysia Digital Economy Corporation has promoted IoT through a partnership with LoRa alliance to improve low-power Wide Area Network (WAN) in the Klang valley  |
|    | <b>Yangon, Myanmar</b>             | Introduced the Yangon Payment System in 2017 which will standardise payment methods on public transport. The card system will help Yangon Region Transport Authority to ensure better bus services for the public  |
|   | <b>Clark City, Philippines</b>     | Clark Green City is being developed as a smart city; aside from spatial planning, the city is in the midst of developing disaster resilience mechanisms  |
|  | <b>Singapore</b>                   | Singapore's Smart Nation initiative includes plans to develop a national digital identity, e-payments, Smart Nation Sensor platforms, Smart urban mobility, and bundling of digital government services  |
|  | <b>Phuket, Thailand</b>            | Phuket has been designated to be part of Thailand's Smart Cities programme; Some of the projects underway include smart transportation systems, smart surveillance systems, and a big data operations centre   |
|  | <b>Da Nang, Viet Nam</b>           | Da Nang aims to be the first smart city of Vietnam by 2025, and has collaborated with IBM in their "IBM Smarter Cities" programme to develop smart city infrastructure to address issues such as air control, water management, waste management, energy, and disaster warning |

SOURCE: Desktop research; Team analysis



# State of Smart City Development in ASEAN

| Profile     | Examples  | Key features  |
|-------------|---|---|
| Preliminary | Luang Prabang, Battambang, Phnom Penh, Mandalay and Nay Pyi Taw | <ul style="list-style-type: none"><li>- Focus on building basic infrastructure</li><li>- Emphasis on keeping a sustainable environment</li><li>- Aware of the latest technological trends and available solutions to allow them to leapfrog</li><li>- Lack of capability in both the private and public sector</li></ul>  |
| Emerging    | Cebu, Davao, Chonburi, Hanoi and Brunei                         | <ul style="list-style-type: none"><li>- Possess established ICT infrastructure and systems</li><li>- Focus on exploiting wider use of technological solutions</li><li>- Focus on enhancing their capability to support urban development and management</li></ul>   |
| Advanced    | Singapore and Bangkok   | <ul style="list-style-type: none"><li>- Possess cutting-edge digital infrastructure and applications</li><li>- Work to integrate the different domains and digital platforms</li><li>- Experiment with more novel smart solutions</li><li>- Focus on improving enablers such as sharing and analysing of data and developing standards for smart city</li><li>- Possess skilled workforce</li><li>- Face the challenge of having active participation of citizens in smart city development</li></ul> |

# ASEAN Smart Cities Network (ASCN)

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- The **ASEAN Smart Cities Network (ASCN)** is a regional ecosystem to synergise smart city development across ASEAN
- Collaborative platform which aims to:
  - I. **Develop city-specific action plans and a joint framework for smart city development in ASEAN**
  - II. **Catalyse bankable projects with the private sector**
  - III. **Secure support from ASEAN's external partners**

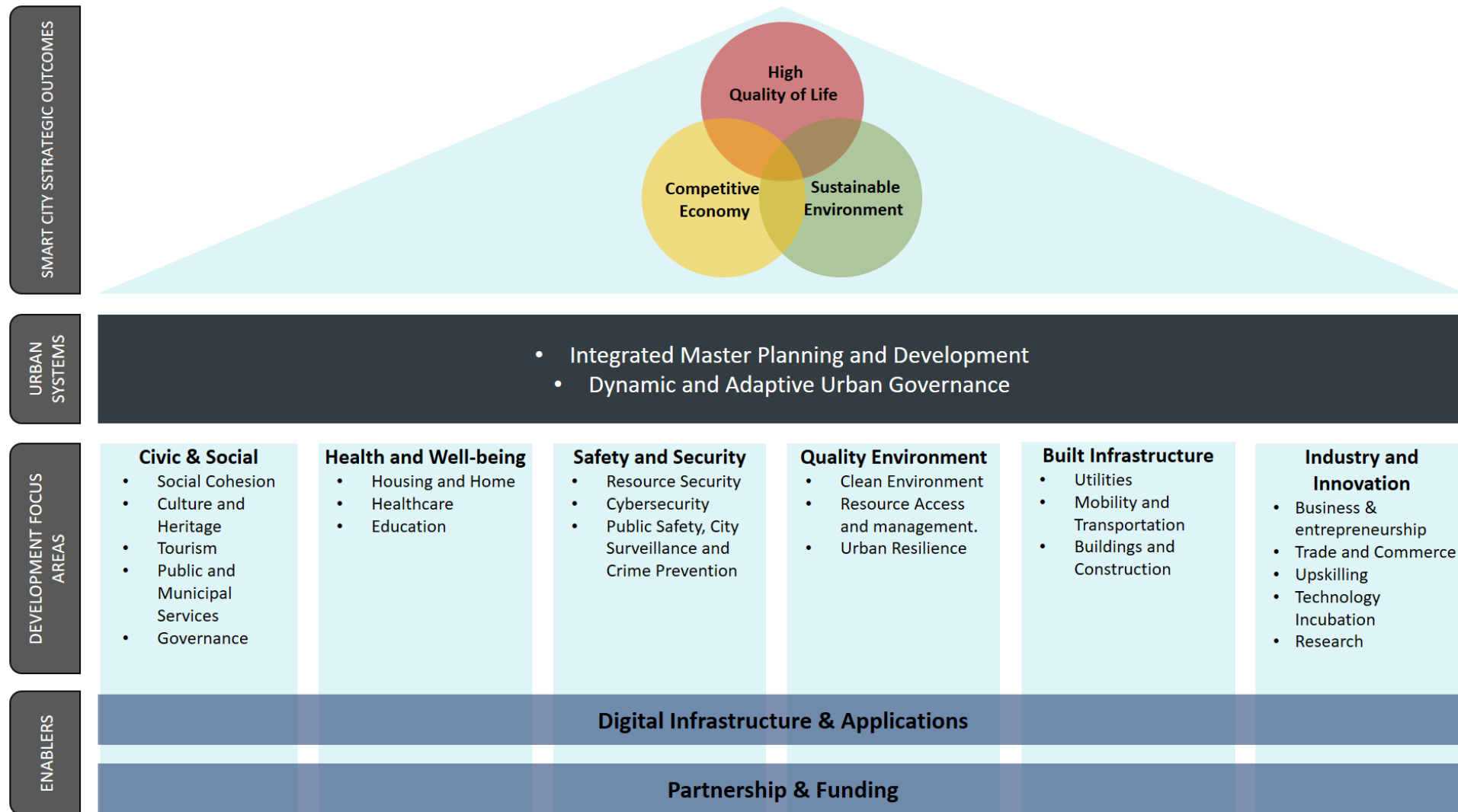


## CORE OBJECTIVE

Improving people's lives, using technology and innovative non-technology as an enabler



# ASEAN Smart Cities Framework





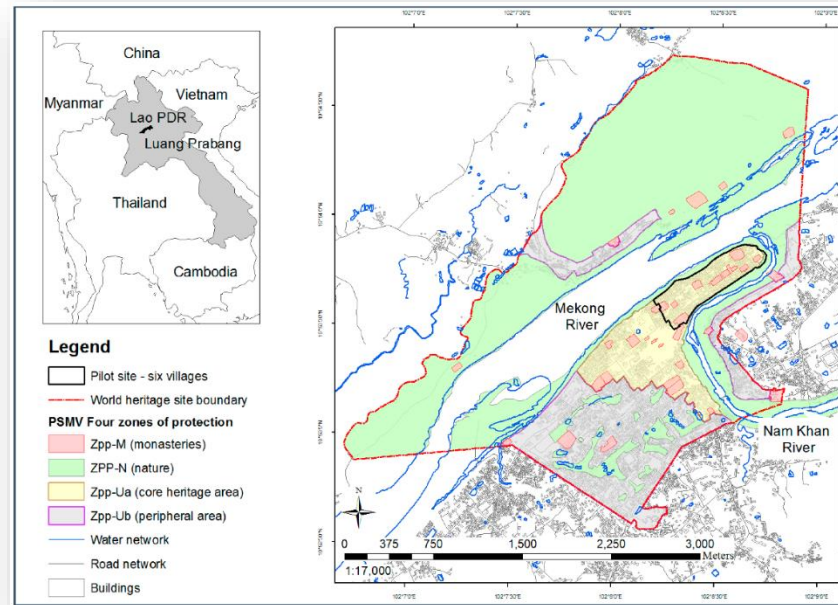
# ASCN Adopts a Broad and Inclusive Definition of ‘Smart’

## 1) Innovative Non-Technological means



600 home powered by self-made watermill and micro hydro power plants in a remote Indonesian village

## 2) Smart and Sustainable City



Luang Prabang, an UNESCO World Heritage Site, restoring wetlands with waste-water treatment and management

## 3) Nature as an important foundation for economic development

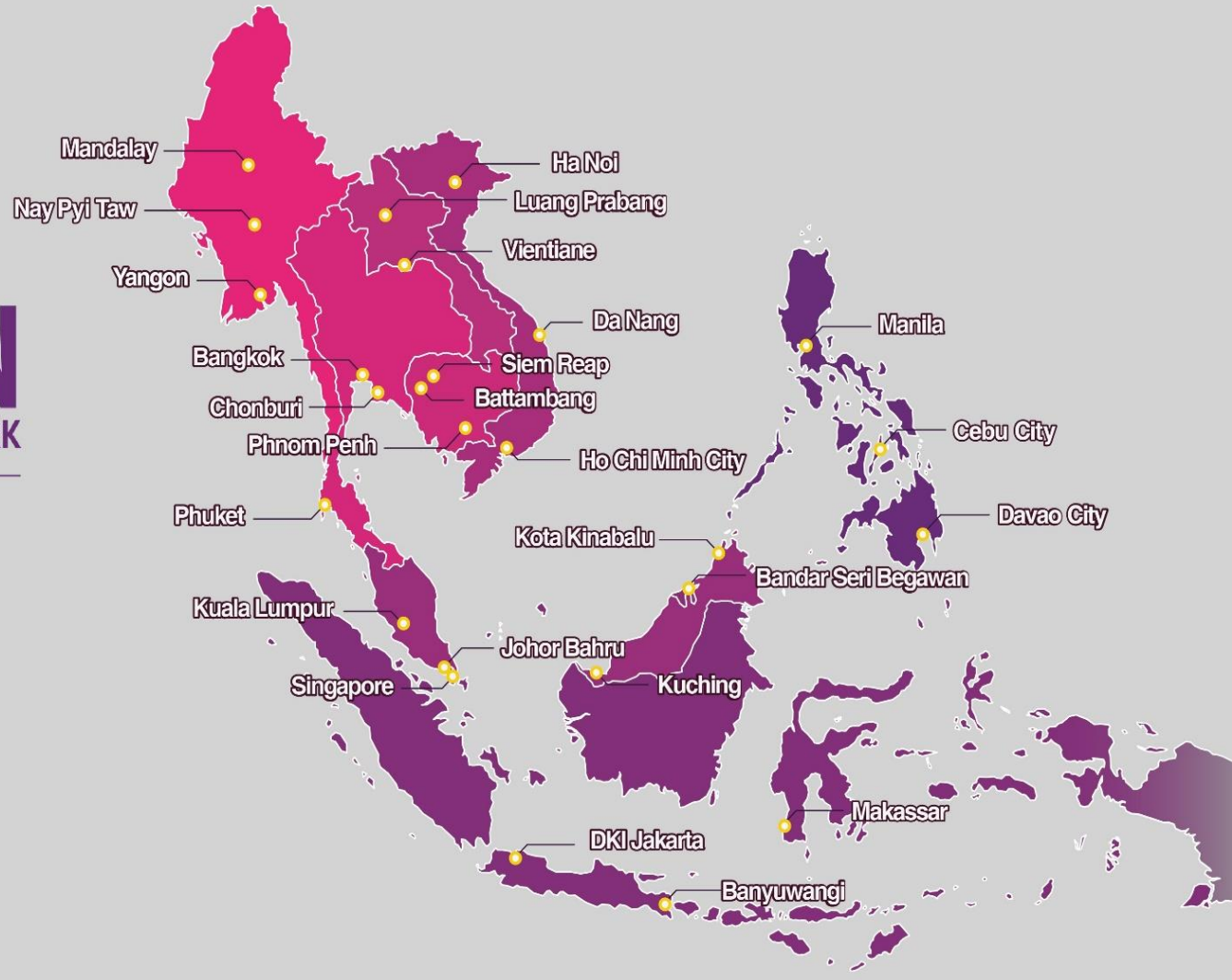


Making use of rich natural resources, Phuket wants to be a safe city for all including tourists

# 26 Nominated Pilot Cities for the ASCN

**ASEAN**  
SMART CITIES NETWORK

Pilot Cities



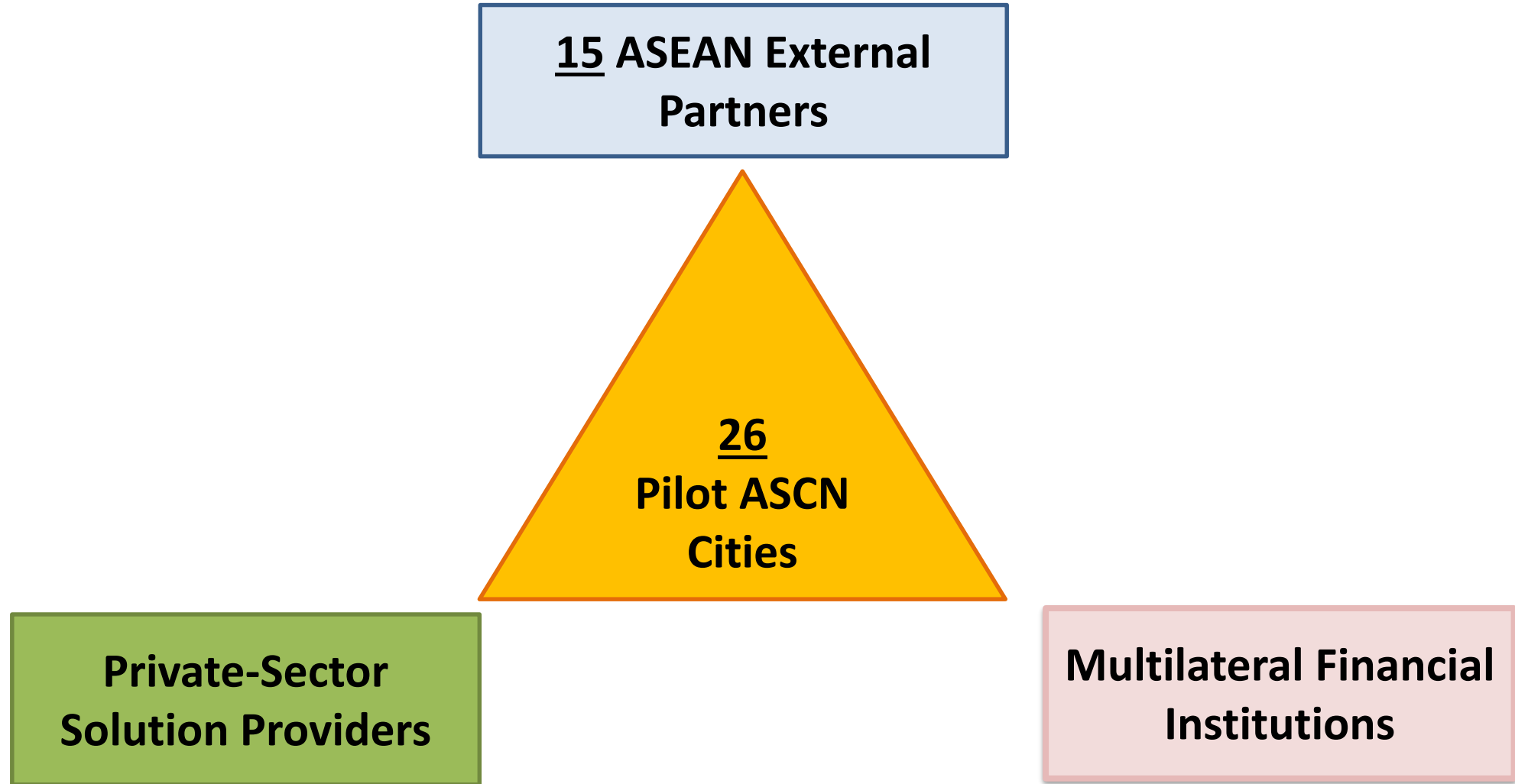
- National Representative



- Chief Smart City Officer

# Who is Involved?

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# ASEAN's External Partners' Key Priority areas

Energy with DPs and OEPs

NON EXHAUSTIVE – AS OF JULY 2018

## Areas of priority or key activity for Dialogue Partners and other external Partners

| Dialogue Partner / other External Partner   | Areas of priority and/or key activity  | Examples of actions  |
|---|--|--|
|    | <ul style="list-style-type: none"> <li>Social Cohesion</li> <li>Inclusive &amp; equitable growth</li> <li>Water, waste &amp; sanitation</li> <li>Entrepreneurship &amp; innovation</li> <li>Mobility</li> <li>Education</li> </ul> | <ul style="list-style-type: none"> <li>ASEAN-Australia Smart Cities</li> <li>Mekong Business Initiative</li> <li>Shaping Inclusive Finance Transformations (SHIFT) in Southeast Asia countries</li> <li>Identification of Poor Household Programme in Cambodia</li> <li>ASEAN-Australia Smart Cities initiative</li> <li>ASEAN Sustainable Urbanisation Strategy</li> </ul>  |
|    | <ul style="list-style-type: none"> <li>Building &amp; construction</li> <li>Water, waste &amp; sanitation</li> </ul>   | <ul style="list-style-type: none"> <li>TBD</li> </ul>  |
|    | <ul style="list-style-type: none"> <li>Building &amp; construction</li> <li>Housing &amp; home</li> <li>Urban resilience</li> <li>Energy</li> </ul>  | <ul style="list-style-type: none"> <li>Hanoi Highway Ringroad III: Mai Dich - Southern Thang Long (Vietnam)</li> <li>Ho Chi Minh City urban transport - Ring road no.3: Tan Van - Nhon Trach (Vietnam)</li> <li>Regional Infrastructure Development Fund Project (Indonesia) – through AIIB</li> <li>National Slum Upgrading Project (Indonesia) – through AIIB</li> <li>Metro Manila Flood Management Project – through AIIB</li> </ul>   |
|    | <ul style="list-style-type: none"> <li>Entrepreneurship &amp; innovation</li> <li>Urban resilience</li> <li>Cyber-security</li> </ul>  | <ul style="list-style-type: none"> <li>MEET-BIS Cambodia</li> <li>MEET-BIS Vietnam</li> <li>Myanmar Climate Change Alliance (MCCA)</li> <li>Global Action on Cybercrime extended (GLACY+)</li> </ul>   |
|    | <ul style="list-style-type: none"> <li>Education</li> <li>Personal safety &amp; security</li> </ul>  | <ul style="list-style-type: none"> <li>Training of English Language for Law Enforcement Officers in CLMV countries</li> </ul>  |
|    | <ul style="list-style-type: none"> <li>Mobility</li> <li>Water, waste &amp; sanitation</li> <li>Building &amp; construction</li> <li>Healthcare</li> <li>Energy</li> <li>Education</li> </ul>                                      | <ul style="list-style-type: none"> <li>Phnom Penh Urban Transport Master Plan</li> <li>Road development policy and strategy</li> <li>Mass Transit System Project in Bangkok (Purple Line)</li> <li>Establishment of Waste Material Circulation System Based on Marine Transportation in Ha Long Bay</li> <li>Mega Cebu Vision 2050</li> <li>Bandung Low Carbon City Plan</li> <li>Hai Phong Green Growth Strategy Action Plan</li> <li>Japan-ASEAN Health Initiative</li> <li>Yangon Power Distribution Improvement Project</li> </ul>   |
|    | <ul style="list-style-type: none"> <li>Mobility</li> <li>Water, waste &amp; sanitation</li> <li>Energy</li> </ul>  | <ul style="list-style-type: none"> <li>Support for the Master Plan for Transport Infrastructure Development</li> <li>Indonesia SMART City Index</li> <li>Drainage/Sewerage System and Water Environment in Siem Reap</li> <li>Water Management Programme</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>Limited direct focus on sustainable urbanisation in actions across ASEAN<sup>1</sup></li> </ul>   |  |
|  | <ul style="list-style-type: none"> <li>Social Cohesion</li> <li>Energy</li> <li>Education</li> </ul>   | <ul style="list-style-type: none"> <li>Women's livelihood Bond</li> <li>Lower Mekong Initiative</li> <li>Clean power Asia Programme</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>Mobility</li> <li>Energy</li> <li>Water, waste &amp; sanitation</li> <li>Urban resilience</li> <li>Building &amp; construction</li> <li>Education</li> </ul>                                | <ul style="list-style-type: none"> <li>Transport &amp; Climate Change / Energy efficiency and climate change mitigation in the land transport sector in the ASEAN region (TCC)</li> <li>Sustainable Urban Transportation Improvement Project (SUTIP)</li> <li>Sustainable Urban Transport Programme Indonesia – NAMA (Nationally Appropriate Mitigation Actions)</li> <li>Indonesian bus rapid transit corridor development project (INDOBUS)</li> <li>Advancing transport climate strategies (TraCS)</li> <li>Clean Air for Smaller Cities</li> <li>NAMA – Green chillers and industrial energy efficiency</li> <li>ASEAN-German Energy Programme (AGEP)</li> <li>Cities Development Initiative for Asia (CDIA)</li> <li>Wastewater &amp; solid waste mgmt. for provincial centres</li> </ul> |

<sup>1</sup> While there is limited focus on sustainable urbanisation to date, these DPs have strong focus and experiences in relevant topics, such as education and disaster management with a non-urban focus.

SOURCE: Annual reports of respective development agencies; Study's stocktake of existing sustainable urbanisation actions in ASEAN; interviews with government officials and aid agencies; Team analysis

# ASEAN Smart Cities Governance Workshop

## 22 to 25 May 2018, Singapore

- Attended by 75 delegates from 10 ASEAN Members States
- More than 130 representatives from external partners and solution providers
- 25 smart city action plans and 50 projects
- Networking session between ASCN member cities, external partners and solution providers



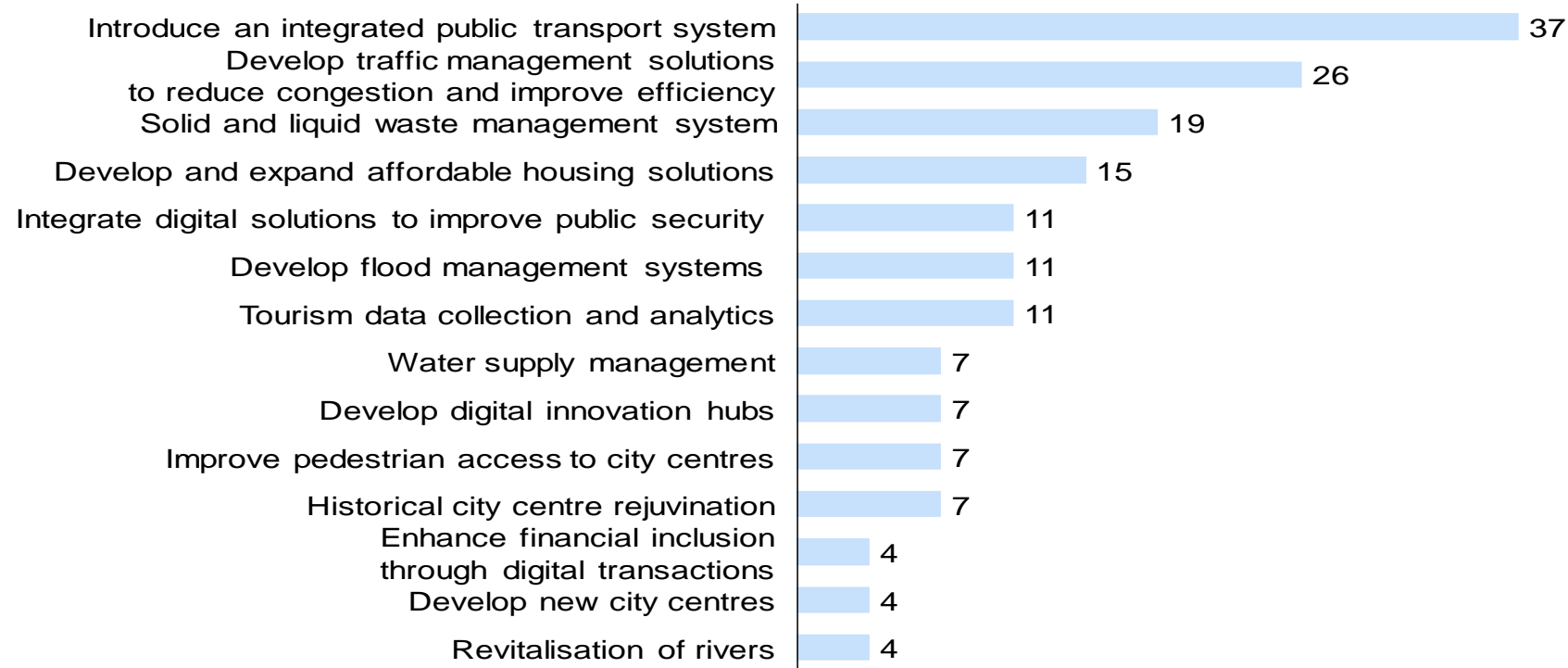
# Distribution of the Types of Smart City Projects

Criterion 2: Relevance

**Cities surveyed placed a strong emphasis on these actions**

**ASCN member cities who have indicated the action is a priority in their city**

Percent



Source: ASEAN Smart Cities Network survey

Transport  
Waste Management  
Public Housing  
Public Security  
Flood Management  
Water Management  
Digital Innovation  
Smart Mobility  
Financial Technology  
Nature Protection



# Examples of Smart Cities Project

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- **Phuket, Thailand**
  - Tourism management using big data.
- **Battambang City, Cambodia**
  - Upgrading parking systems and relocating street vendors to sheltered structure
- **Nay Pyi Taw, Myanmar**
  - Building 44390 feet long pipe line for distribution, water tank for storage, and extending electricity grid line



# Inaugural ASEAN Smart Cities Network Meeting

## 8 July 2018, World Cities Summit, Singapore

### Objectives

- Endorsed the draft ASEAN Smart Cities Framework
- Shared member cities' action plans
- Five mutually-beneficial partnerships were signed among some ASCN cities, solution providers, and external partners





# Shared Member Cities' Smart City Action Plan

## Singapore

**Land Area:**  
721.5 km<sup>2</sup>

**Population:**  
5.61 million

**Density:**  
7,804 /km<sup>2</sup>



### Smart City Action Plan

#### VISION

To transform Singapore through technology.

#### FOCUS AREAS

**Digital Government**

**Digital Economy**

**Digital Society**

#### STRATEGIC TARGETS

Develop next-generation digital infrastructure

Maximise the value of data

Build a digitally-ready workforce

Build digitally-ready industries and a strong Info-communication sector

Deepen investment in research and innovation

Ramp up our cybersecurity efforts



# Smart City Projects Singapore

## Why e-payments?

### Experience



- Customer convenience
- Choice for individuals and businesses

### Efficiency



- Improve business productivity
- Estimated savings of up to 0.5% of GDP (KPMG)

### Enterprise



- End-to-end business process digitisation
- Basic infrastructure for digital economy



## E-Payments

### OVERVIEW

Providing seamless, secure, and integrated e-payment platforms, options for cashless payments, and integrating e-payments into business processes from end to end.

It will result in:

- Reduced business costs associated with handling cash and cheques
- Increased daily transactional convenience to consumers
- Potentially new and innovative services riding on e-payments platforms.

### SUPPORT REQUIRED

Cross-border collaboration and linkages for e-payments systems

# Smart City Projects Singapore

## National Digital Identity (NDI)

### OVERVIEW

The National Digital Identity (NDI) will be a nationally-available means for an individual to prove his legal identity in the digital realm. It will be issued to all residents and can be used for seamless and secure transactions with both the public and private sector.

It is planned to be operational in 2020, with progressive trials for digital signatures to facilitate paperless transactions. We want to explore cross-border collaboration and recognition of digital signatures.



The SingPass website banner features a cityscape background. At the top left is the SingPass logo, and at the top right is the Singapore Government logo with the tagline 'Integrity · Service · Excellence'. Navigation links include 'Contact Us', 'Feedback', 'Sitemap', and 'FAQ'. A red 'Login' button is prominently displayed. Below the cityscape, four red circular icons represent different services: a person, a map, a building, and a bar chart. Below these icons, statistics are listed: 'Personal digital identity', 'Launched in 2003', '>80 Agencies', '3.8M Users', '>300 Digital services', and '>80M Logins/year'. The main headline reads 'A Single Digital Identity for Singapore Residents > 15'.

Singapore Personal Access  
**SingPass**

Singapore Government  
Integrity · Service · Excellence

Contact Us | Feedback | Sitemap | FAQ

Login

Personal digital identity  
Launched in 2003  
>80 Agencies  
3.8M Users  
>300 Digital services  
>80M Logins/year

A Single Digital Identity for Singapore Residents > 15



The bottom section contains two website banners. The left banner is for CorpPass, featuring a hand holding a smartphone. It includes the CorpPass logo, the Singapore Government logo, and navigation links. The headline is 'Welcome to CorpPass'. Below it, text states: 'From December 2017, CorpPass will be the required login method for G2B online transactions. IRAS' digital services will be made available from mid 2018. Use CorpPass to access digital services to find out more.' Statistics listed include 'Corporate digital identity', 'Launched in May 2016', '>60 Agencies', '>400k Businesses', '~150 Digital services', and '~30M Logins/year'. The headline at the bottom is 'Your Identity and Roles in Entities you represent'. The right banner is for MyInfo, featuring a family photo. It includes the MyInfo logo, the Singapore Government logo, and navigation links. The headline is 'MyInfo YOUR PERSONAL DATA PLATFORM for faster, easier online transactions'. Below it, text states: 'Launched in 2016 Extended to private sector in 2017'. Statistics listed include 'Personal & corporate verified profile', '>100 Agencies and businesses', '3.8M Users', '>24M Retrievals/year', and '>400 Digital services'. The headline at the bottom is 'A Verified Data Profile for digital transactions'.

Singapore Corporate Access  
**CorpPass**

Singapore Government  
Integrity · Service · Excellence

Contact Us | Feedback | Sitemap | FAQ

Welcome to CorpPass

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Corporate digital identity  
Launched in May 2016  
>60 Agencies  
>400k Businesses  
~150 Digital services  
~30M Logins/year

Your Identity and Roles in Entities you represent

MyInfo

Singapore Government  
Integrity · Service · Excellence

Contact Us | Feedback | Sitemap | FAQ

MyInfo YOUR PERSONAL DATA PLATFORM for faster, easier online transactions

Launched in 2016  
Extended to private sector in 2017

Personal & corporate verified profile  
>100 Agencies and businesses  
3.8M Users  
>24M Retrievals/year  
>400 Digital services

A Verified Data Profile for digital transactions





**IBM and IFC**



**JETRO and UNDP**



**Phuket (Thailand) and UNDP**



**Banyuwangi (Indonesia) and John Wiley & Sons, Inc**

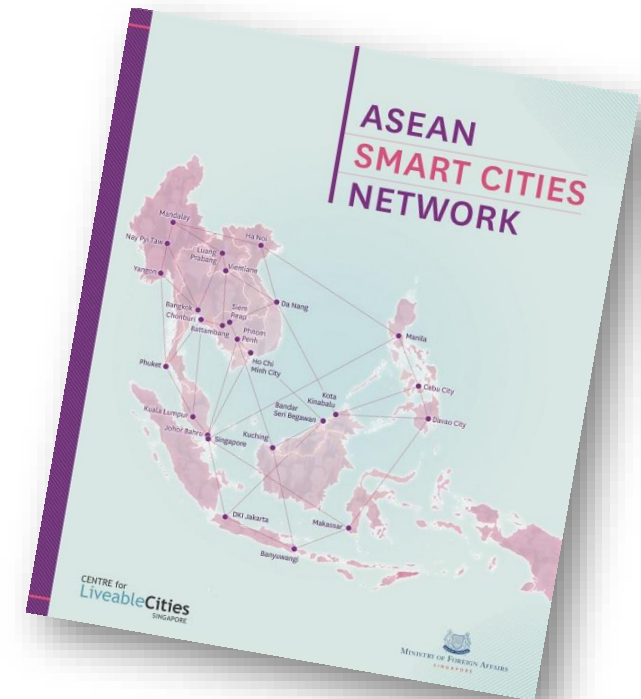
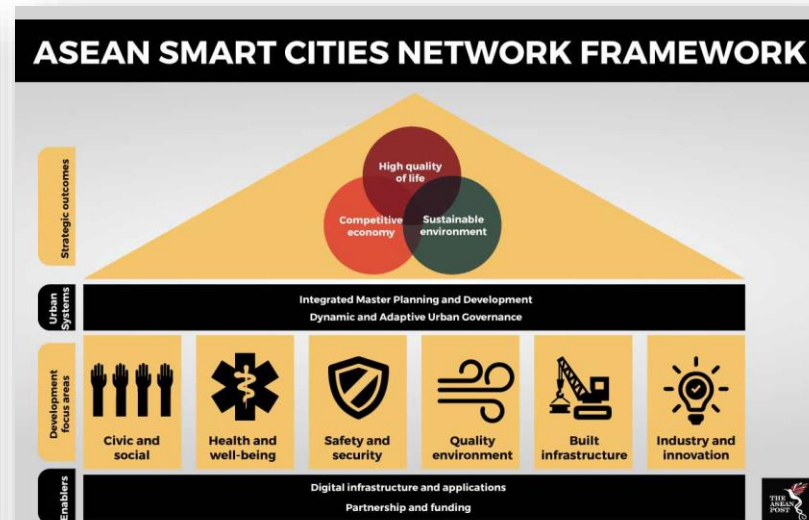


**Chonburi (Thailand) and Yokohama Urban Solution Alliance**

# 33<sup>rd</sup> ASEAN Summit

## 11 to 15 November 2018, Singapore

- Adopted the ASEAN Smart Cities Framework
- Noted a list of 33 mutually-beneficial partnerships signed among some ASCN cities, solution providers, and external partners as well as smart city action plan of 26 member cities
- Noted the East Asia Summit Leaders' Statement on ASEAN Smart Cities to highlight the external partners' political support for the ASCN





# ASCN Annual Meeting

## 23 August 2019, Bangkok

- Adopted the ASCN Terms of Reference to be submitted for notation by the ASEAN Leaders at the 35th ASEAN Summit in November 2019
- Discussed the development of a Monitoring and Evaluation (M&E) framework and modalities for engagement with external partners
- Elected Singapore to be the ASCN Shepherd for the next two years. Singapore continues to work closely with ASEAN Member States and successive ASEAN Chairs to enhance smart city projects in the region.
- Next ASCN Annual Meeting to be held in Vietnam in 2020.

ASCN Terms of Reference  
FINAL (Adopted)



TERMS OF REFERENCE

ASEAN Smart Cities Network (ASCN)

### Establishment of the ASEAN Smart Cities Network (ASCN)

1. The ASCN was established by the Leaders at the 32<sup>nd</sup> ASEAN Summit held on April 2018 in Singapore. It was created as a platform for ASEAN cities to share experiences and expertise in tackling urbanisation through innovative approaches, including technological and non-technological solutions. The ASCN aims to synergise development efforts, share best practices, catalyse opportunities for sustainable development, and capacity-building.
2. The ASCN convened its inaugural meeting in July 2018 in Singapore, during which the Network endorsed the ASEAN Smart Cities Framework (ASCF), which was adopted by the Leaders at the 33<sup>rd</sup> ASEAN Summit in November in Singapore.

### Scope of Work





# ASCN Engagement with External Partners

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- The U.S.-ASEAN Smart Cities Partnership Symposium , July 2019.  
Washington DC, USA
- Finalized ASEAN-China Leaders' Statement on Smart City Cooperation
- ASEAN-Japan ASCN High-Level Meeting, 8-11 Oct 2019, Yokohama, Japan
- ASEAN-ROK High-Level Dialogue on Infrastructure and ASEAN-ROK Smart Cities Forum. September 2019, Seoul, Republic of Korea
- Singapore-US Third Country Training Programme (TCTP) on smart cities development, December 2019, Singapore
- Project partnerships have been agreed on between organisations like the UNDP, UNESCAP, and World Bank with Phuket, Battambang, and Yangon respectively

# Smart Nation Initiative



# Smart Nation is our next-gen nation-building effort

“Smart Nation is about Singapore taking full advantage of IT.

Using IT comprehensively to create new jobs, new business opportunities, to make our economy more productive, to make our lives more convenient.

**To make Singapore an outstanding city in which to live, work and play.”**

– Prime Minister Lee Hsien Loong at the National Day Rally on 20 Aug 2017

“Many countries and cities have similar ambitions to become smart nations or smart cities. The concepts and ideas vary. For us, being a smart nation is not about flaunting glitzy technology, but it is about **applying technology to solve real world problems** that will make a difference to people’s lives, and across the whole of society.”

– Prime Minister Lee Hsien Loong at the Smart Nation Summit on 26 Jun 2019





# WHAT is Smart Nation?

Using technology to achieve significant transformation in the areas of Economy, Government and Society

#1

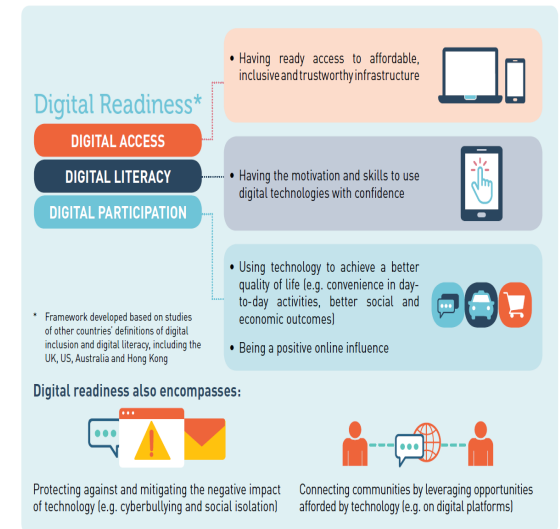
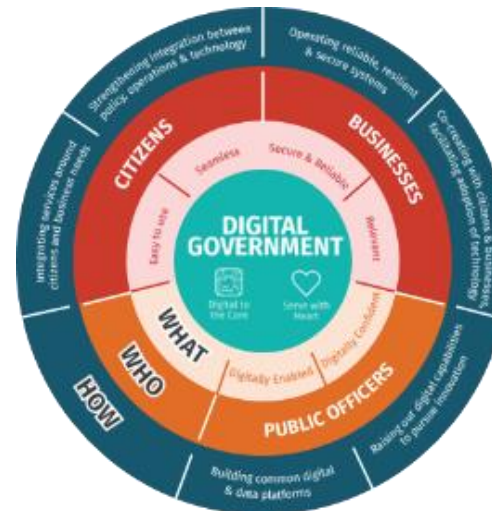
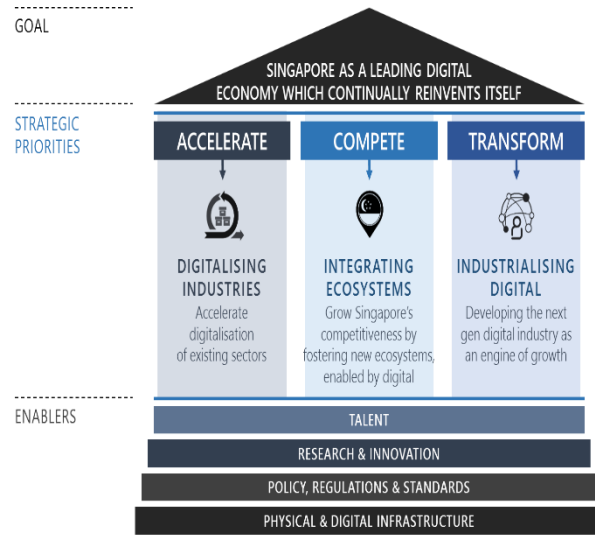
DIGITAL ECONOMY

#2

DIGITAL GOVERNMENT

#3

DIGITAL SOCIETY





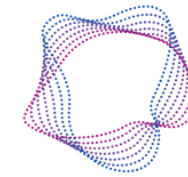
# The Smart Nation Digital Government Group was formed in May 2017



## SMART NATION & DIGITAL GOVERNMENT GROUP



**SMART NATION**  
&  
DIGITAL GOVERNMENT OFFICE



**GOVTECH**  
SINGAPORE

*Before  
May  
2017*

Digital  
Government  
Directorate

**MOF**  
MINISTRY OF FINANCE  
SINGAPORE

Government  
Technology Policy  
Department



Smart Nation  
Programme  
Office



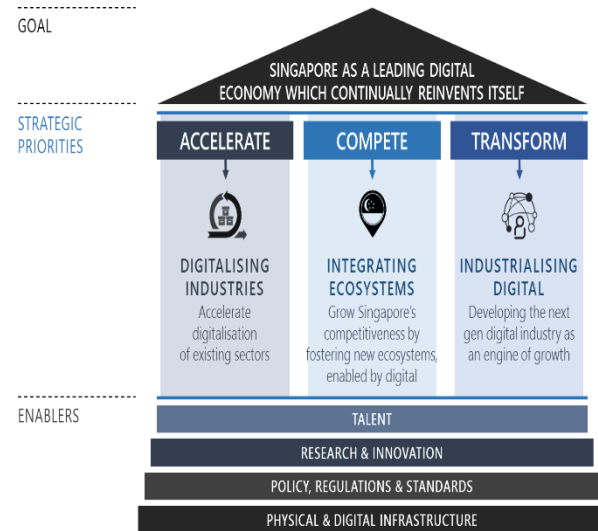
Government  
Technology  
Agency (GovTech)



# Develop Blueprints

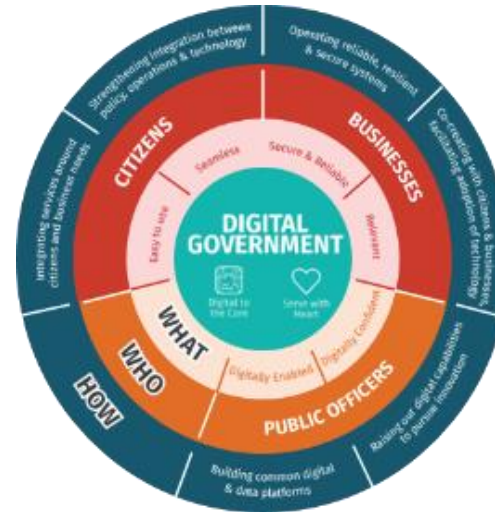
## #1

### DIGITAL ECONOMY



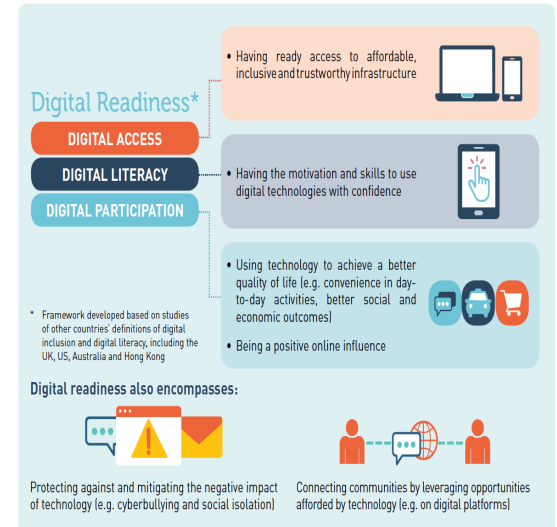
## #2

### DIGITAL GOVERNMENT



## #3

### DIGITAL SOCIETY

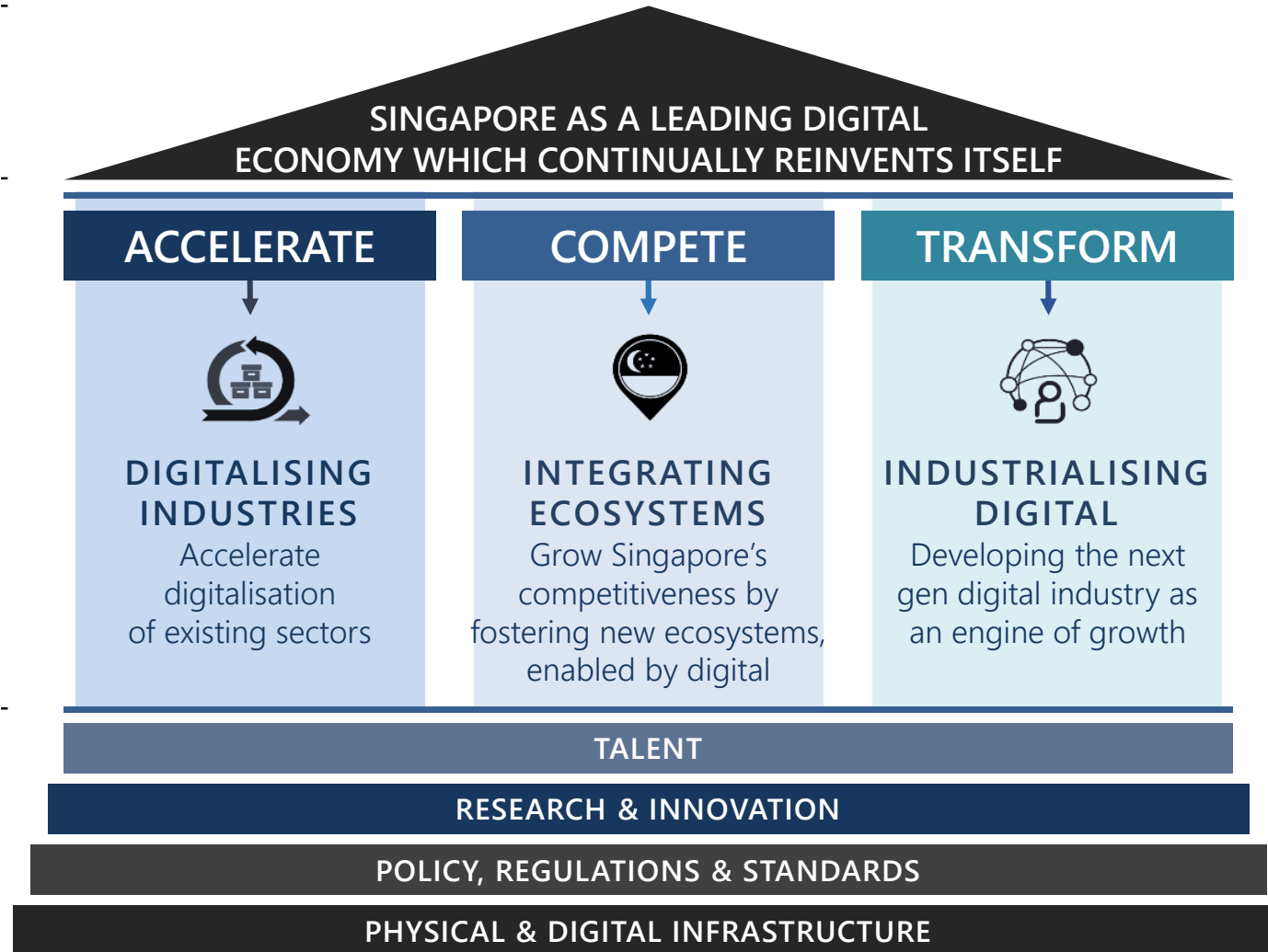


# A Digital Economy Framework for Action to drive industry transformation

GOAL

STRATEGIC PRIORITIES

ENABLERS



**SCAN TO ACCESS**  
**Digital Economy**  
**Framework for Action**





# Digital Government Blueprint (2018-2023):

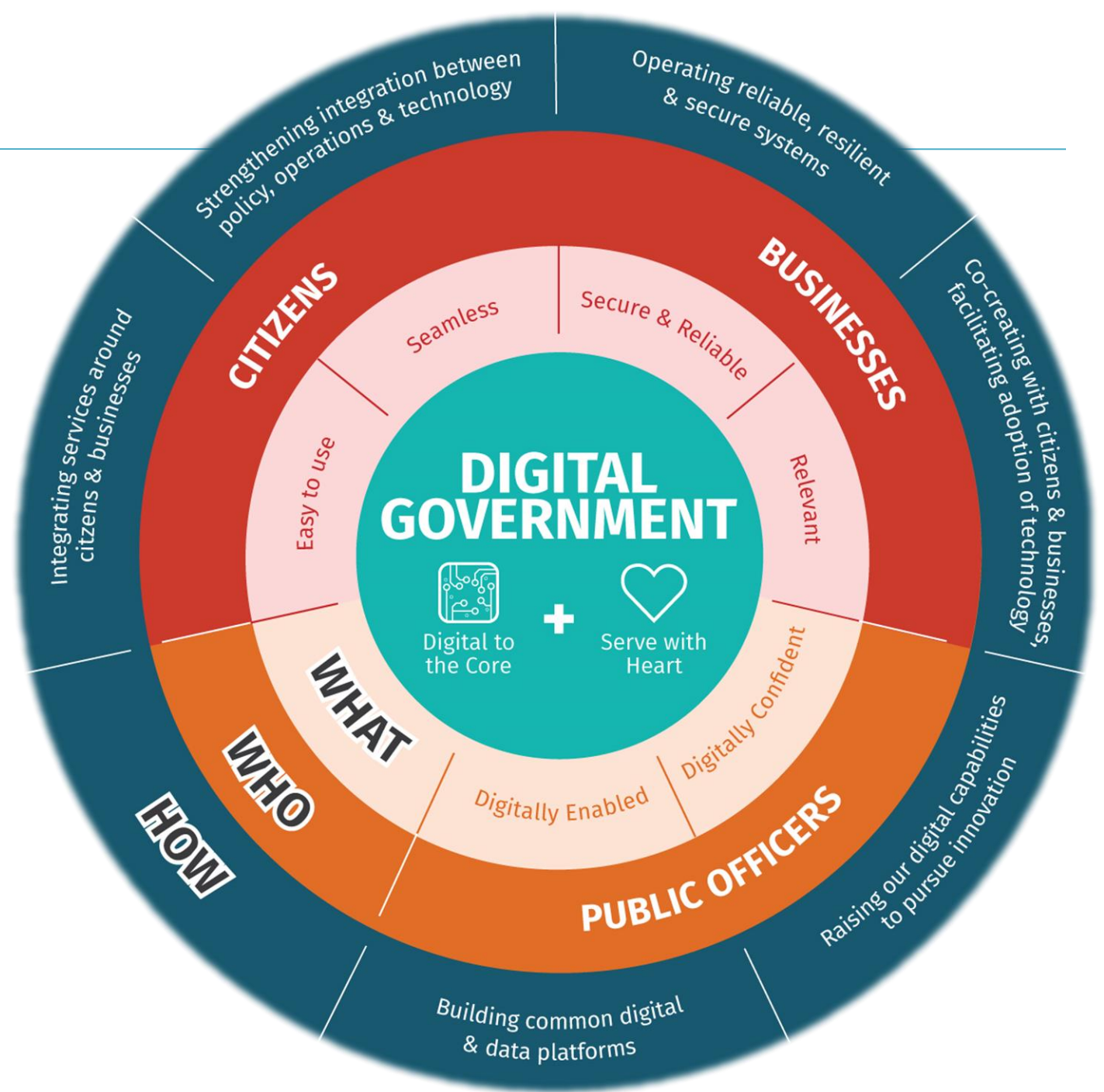
**2** PRINCIPLES

**3** STAKEHOLDERS

**6** OUTCOMES

**6** STRATEGIES

Find out more:  
[go.gov.sg/dgb](https://go.gov.sg/dgb)



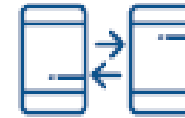
# Some Digital Government targets to be achieved by 2023



**All Government services to have end-to-end digital options**



**All public officers to have basic digital literacy, with 20,000 trained in data science**



**Cross-agency data fusion to take less than 10 days**

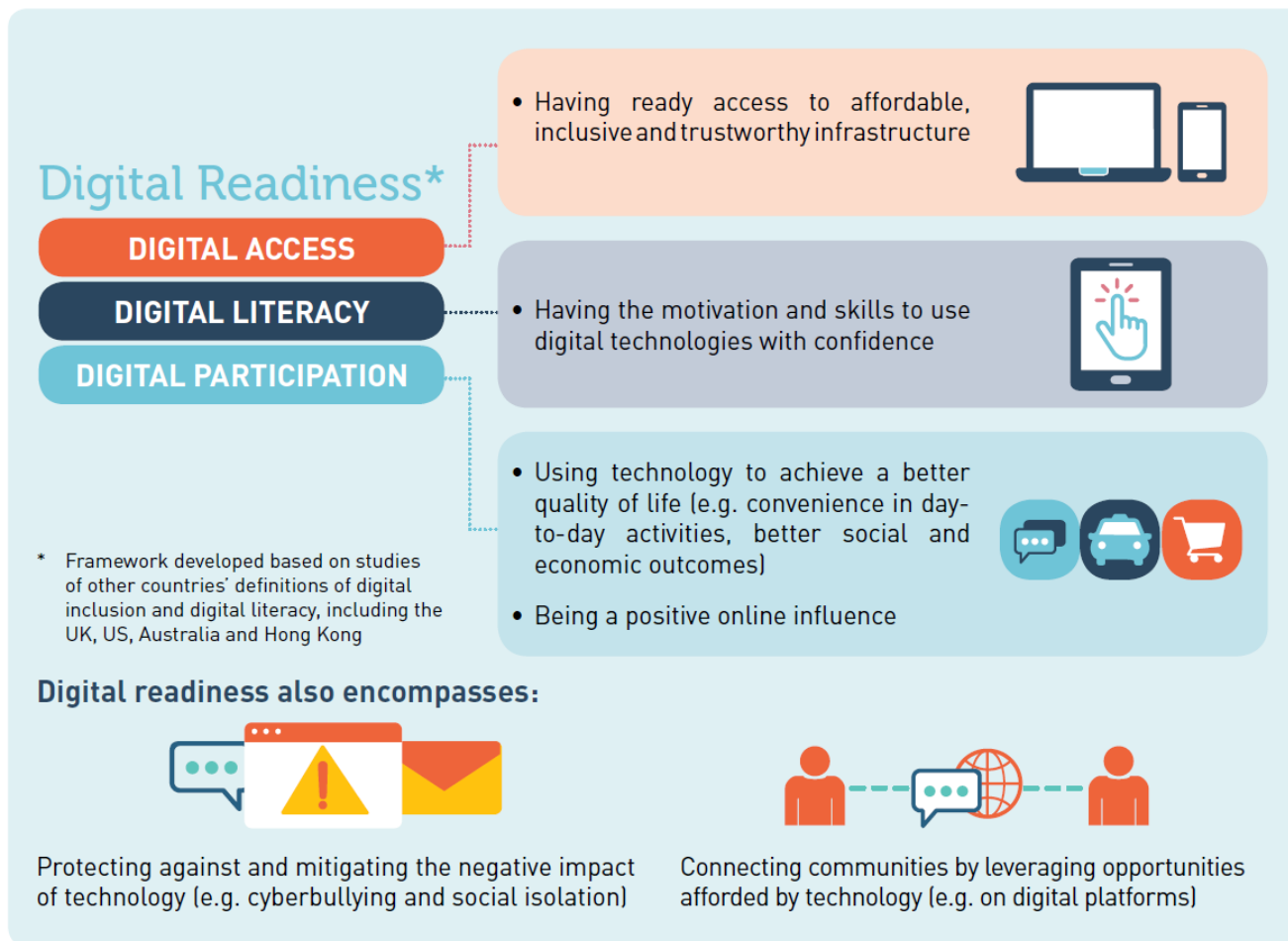


**30 to 50 transformative digital projects across Government**



**All Ministry Families to have at least 1 Artificial Intelligence project for service delivery or policy making**

# Digital Readiness Blueprint – A Smart Nation for all Singaporeans

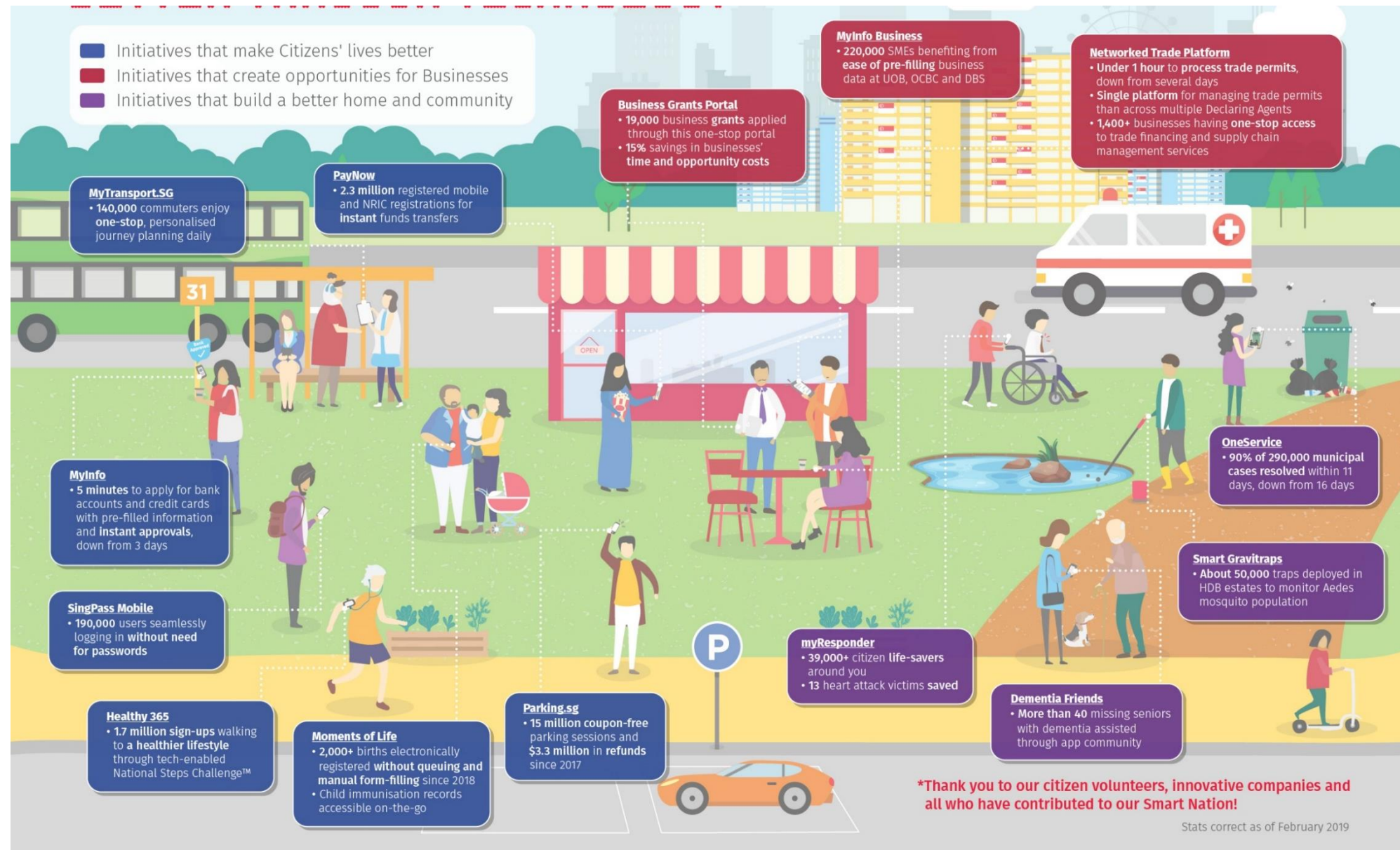


**SCAN TO ACCESS**  
Digital Readiness  
Blueprint Info Booklet

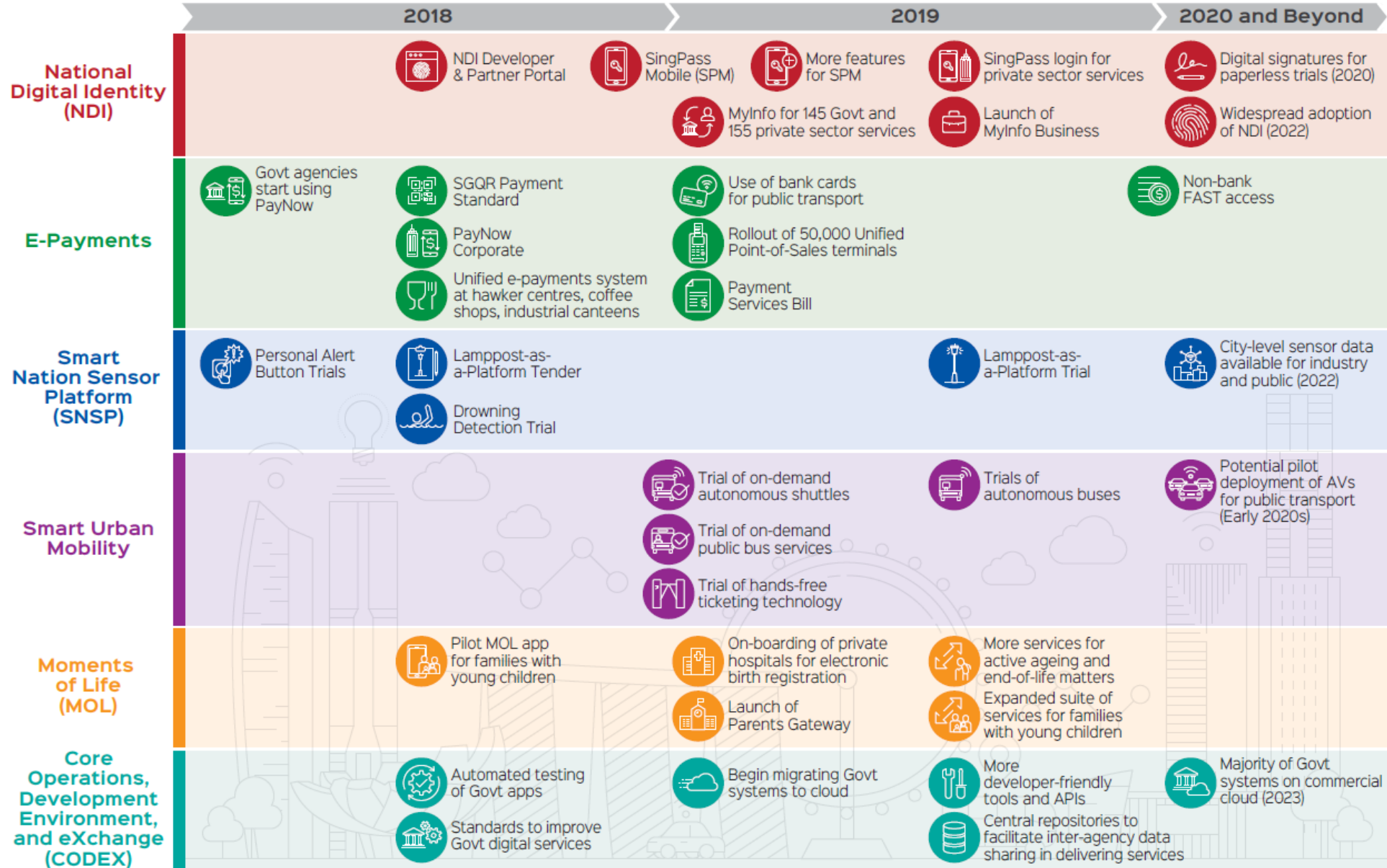




# Serving Citizens and Business Better Through Technology



# Strategic National Projects





SEE YOU AT

# WORLD CITIES SUMMIT 2020

Liveable and Sustainable Cities:  
Adapting to a Disrupted World

5-9 JULY 2020

Sands Expo and Convention Centre  
Marina Bay Sands, Singapore





# AUGP

## Advanced Urban Governance Programme

Be part of our unique leaders' retreat

**15 June - 4 July 2020**  
**Singapore**

The AUGP will culminate in the participation  
at the World Cities Summit on 5-9 July 2020

SCAN  
for more  
information







CENTRE for  
**LiveableCities**  
SINGAPORE

A division of



# Thank You!

[www.clc.gov.sg](http://www.clc.gov.sg)



# Additional Information on Strategic National Projects







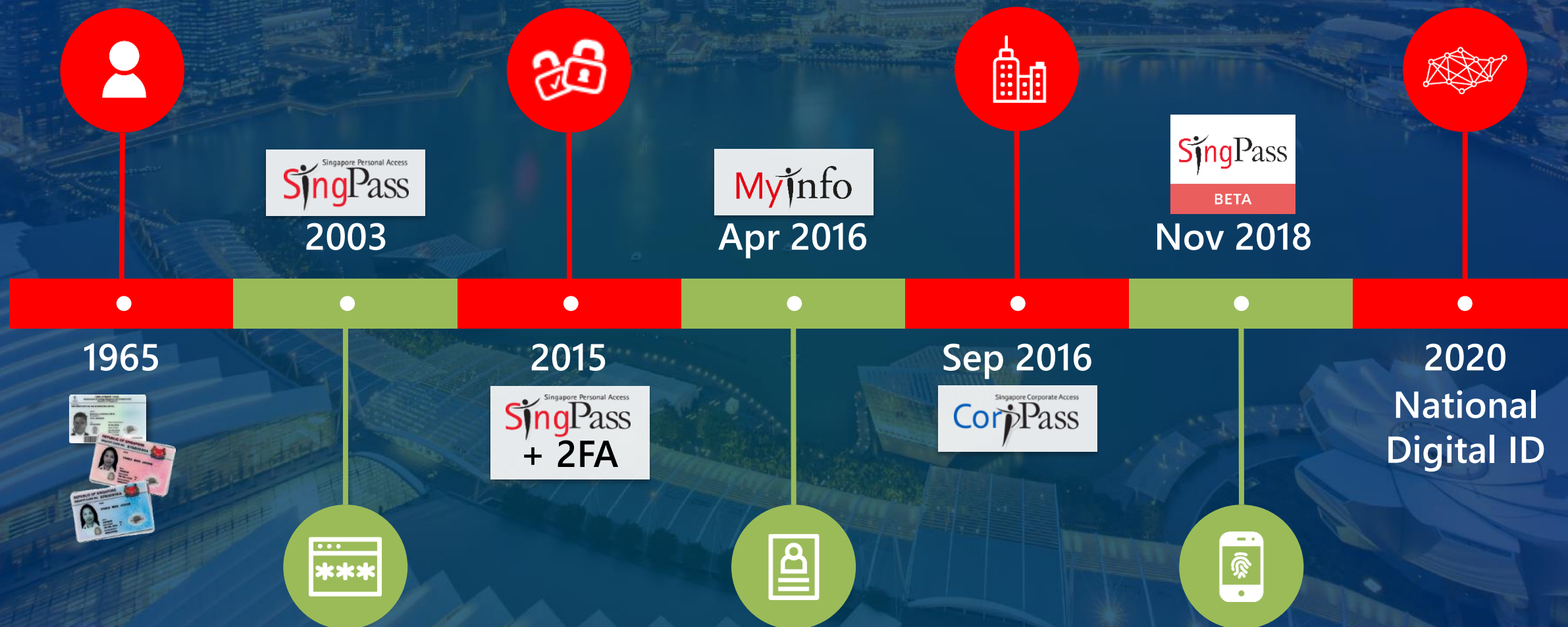
**National  
Digital  
Identity**

**A unique  
digital identity  
for every  
Singaporean**





# Evolution of National Digital ID in Singapore





Login 



Personal digital  
identity



Launched in 2003



>80 Agencies  
>300 Digital services



3.8M Users  
>80M Logins/year



A **Single Digital Identity** for Singapore Residents > 15



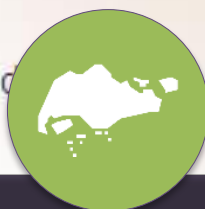
# Welcome to CorpPass

From December 2017, CorpPass will be the required login method for G2B online transactions. IRAS' digital services will be made available from mid 2018.

Use CorpPass to access digital services too.  
[Find out more.](#)



Corporate digital  
identity



Launched in  
May 2016



>60 Agencies  
~150 Digital services



>400k Businesses  
~30M Logins/year

## Your Identity and Roles in Entities you represent





Myinfo

YOUR PERSONAL DATA PLATFORM  
for faster, easier online transactions

LOG IN

SingPass

continuing to use this service, you agree to our [Terms of Use](#) and [Privacy](#)

Personal & corporate  
verified profile



Launched in 2016  
Extended to private  
sector in 2017



>100 Agencies and  
businesses  
>400 Digital services



3.8M Users  
>24M Retrievals/year

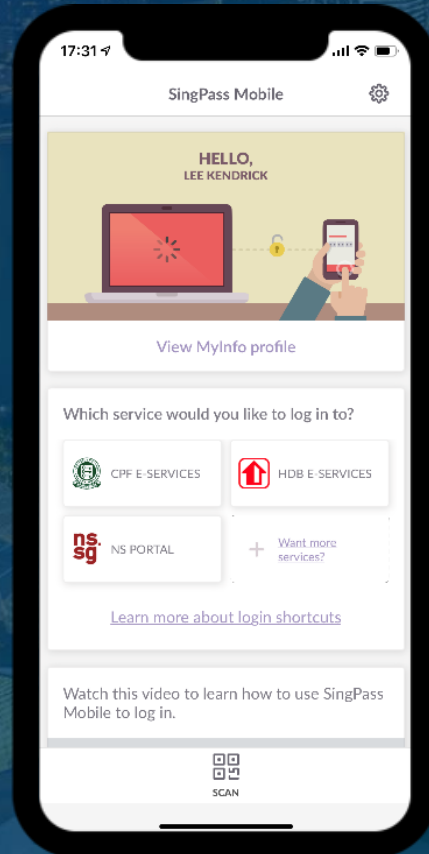
A **Verified Data Profile** for digital transactions



# Singapore's National Digital Identity (NDI)



National IDs



SingPass Mobile

For all citizens and residents,  
extend to foreigners in future

For government and private sector,  
online and physical, transactions

Crypto-based, stored in secure enclave –  
non-replicable, tamper-proof, non-repudiable

More secure and more usable than  
user name/password and OTP



# NDI Go-To-Market Products

MYINFO



Acquiring customers online

Acquire customers and perform eKYC easily using trusted data from government

AUTHEN



Enabling access to digital services

Offers a more convenient way of accessing digital services without the need for passwords

VERIFY



Acquiring/verifying customers offline

Enables secure identity verification via QR scanning and backend transfer of data

AUTHZY



Obtaining authorisation, even remotely

Facilitates paperless transactions that require high level of assurance (e.g. confidential)

DSIGN



Digitally signing documents

Seek and receive consent digitally, removing the need for physical presence and paper-based signing

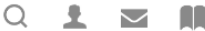

FACE



Facial recognition as-a-service

Verify identity using facial recognition, for added assurance and/or proof of presence


# Digital Trust Benefits Businesses and Residents





News


## GrabPay e-wallet is now more secure with its integration with MyInfo, GovTech's digital identity service


By **Wong Chung Wee** - on 7 Jun 2019, 5:56pm


4:57  43%


GrabPay 


SGD 4.25 



 30,068 Points >

 Pay

 Request


 Top Up



 Rewards






NEWS READER


## No More Dodgy Deals: Carousell Partners GovTech To Let Users Verify Accounts With MyInfo

 **Melissa Chan**  
2019-07-02 13:31:34




 DOLLARS AND SENSE 

Welcome



Start paying overseas with no fees in 150+ currencies with the YouTrip Mastercard®. It's the new way to pay for travellers with no income requirement and no annual fees.

 Free shipping: 7 - 12 business days

Get a YouTrip Card for FREE

**Step 4:** If you're a Singaporean, the simplest way to sign-up is to use SingPass MyInfo, where you don't need to upload any further documents. The process is pretty seamless, and sets a high bar for other apps' sign-up and verification processes.

[Pricing](#) [Blog](#) [Get Started](#)

[Osome](#) / [Osome Blog](#) / [Incorporation](#)

## 70% of Entrepreneurs Prefer to Check in via MyInfo for Incorporation and Secretarial Services



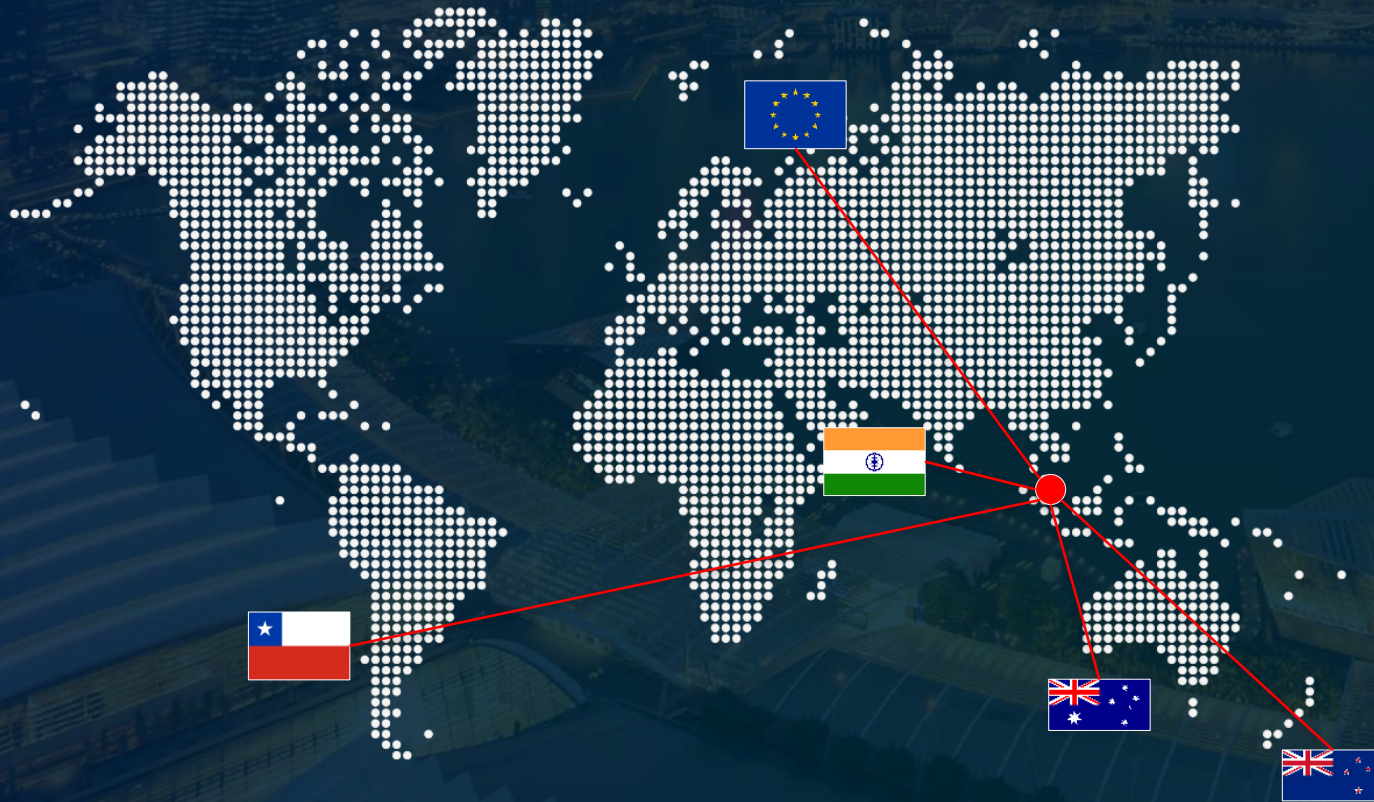
Osome has integrated MyInfo to provide SingPass holders with a one-step business formation process, and two-thirds of their clientele use the new feature



# Extending NDI to Cross Border

Potential pilot projects which develop the digital economy:

- Digitalise cross-border flows of people, services or goods
- Interoperate corporate/personal identity schemes
- Integrate digital marketplaces
- Connect international business registries and credit bureaus



Digital partnerships announced





## Private Sector

107 Partners

183 "Live" services

105 "Instant" services

91 Pipeline services

As at 15 May 2019.

# Partners

- On-board business and services
- Digitalises, simplifies & automates customer interactions

# Developers

- Provides access to sandbox APIs, source code and technical documentation
- Get started quickly using working demo app



23:40 Fri 17 May

ndi-api.gov.sg

**NDI {api}**  
BETA

Singapore Government  
Integrity · Service · Excellence

Contact Info Feedback

Home About API Library How It Works

Login with CorpPass

## Let's build a Smart Nation together.

Integrate your apps with National Digital Identity APIs to build an efficient, secure and transparent ecosystem that saves time and money.

Learn How

### National Digital Identity APIs, in one place

**Trusted Data →**

Consent-based data retrieval service, bringing convenience to residents and increasing productivity to organisations.

**Trusted Identity →**

A unique and secure national digital identity for every Singapore Citizen and Permanent Resident.

# Why e-payments?

## Experience



- Customer convenience
- Choice for individuals and businesses

## Efficiency



- Improve business productivity
- Estimated savings of up to 0.5% of GDP (KPMG)

## Enterprise



- End-to-end business process digitisation
- Basic infrastructure for digital economy



# Singapore's approach to digital payments is based around interoperability and choice

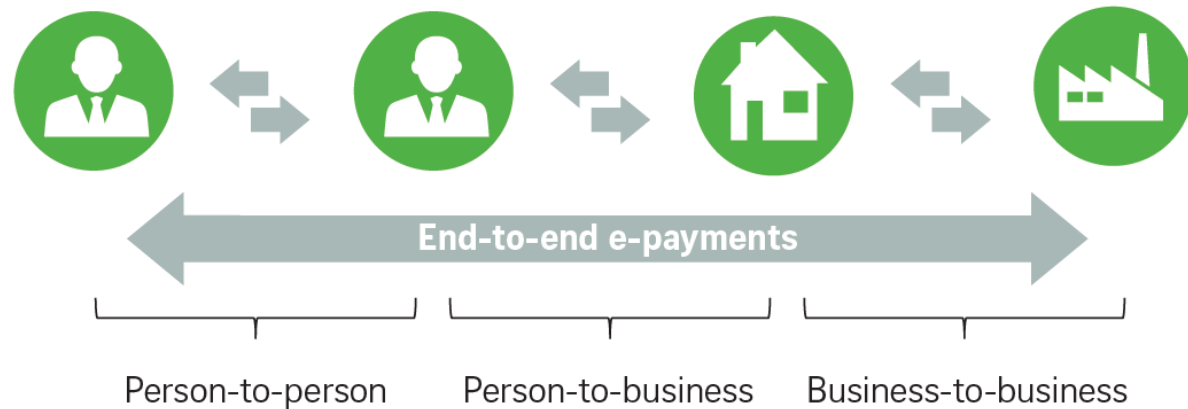


"Our basic approach is different from say, China. **We did not let the ecosystem evolve organically and be led solely by commercial players.** We made a conscious decision to undertake a slower but more deliberate process – we designed an ecosystem that is **both competitive and interoperable**, planned it around the existing financial system, and **built up the necessary infrastructure and features** to support that desired outcome."

– Minister Ong Ye Kung

# Government and Banks have worked closely to promote interoperable digital payments

## Differentiated strategies



**PAY  
NOW**

1 Seamless payments in real time using only mobile or NRIC numbers



2 Unified Point-of-Sale and QR code initiatives to accept e-payments at retail and F&B outlets



3 Business-process transformation



# Smart Nation Sensor Platform

① ② ③ ④ ⑤ ⑥

Facilitates Government agencies in exploiting sensors and analytics to improve agencies' service delivery and citizen's daily lives.

## SNSP STACKS



IoT Security



Video  
Analytics



Data  
Fusion



Sensors.gov.sg



Data  
Visualisation

## USE CASES



Municipal



Transport



Security



Citizen  
Homes

.....

Others



**Sensor Data Exchange** Seamless data sharing and distribution



**Communications** High and low bandwidth connectivity for data transmission



**Sensors & IoT** Centralised sensor deployment & management platforms

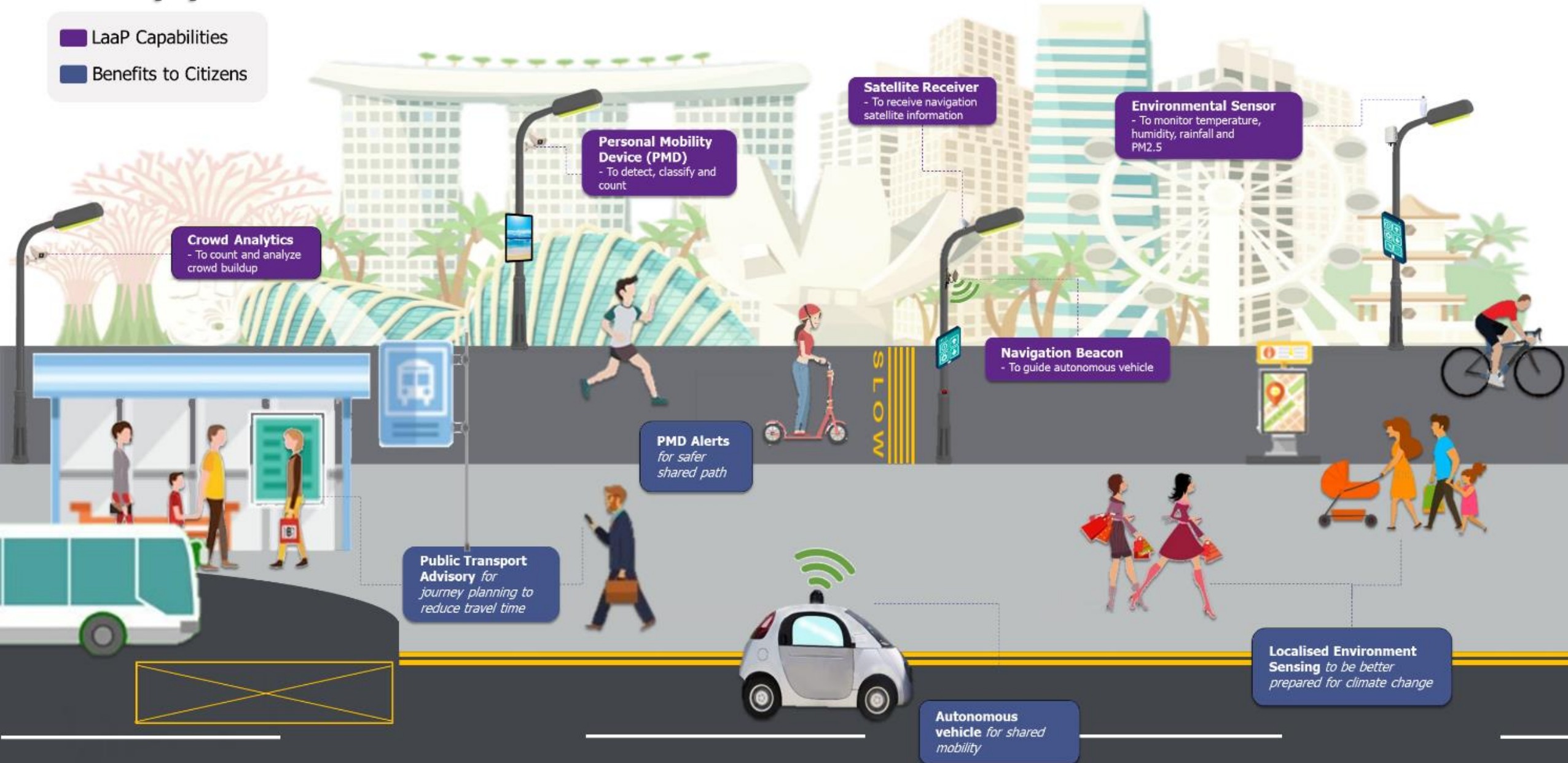


# Lamppost-as-a-Platform

① ② ③ ④ ⑤ ⑥

LaaP Capabilities

Benefits to Citizens





# Smart Urban Mobility:

## Optimize transport networks and empower commuters

### ABOUT SINGAPORE



720sq km

Land Area



5.61m

Population



0.96m

Vehicles

### URBAN MOBILITY SOLUTIONS

#### Data

Empowering commuters



#### Business model innovation

On-demand shared transport



#### Analytics

Optimising network



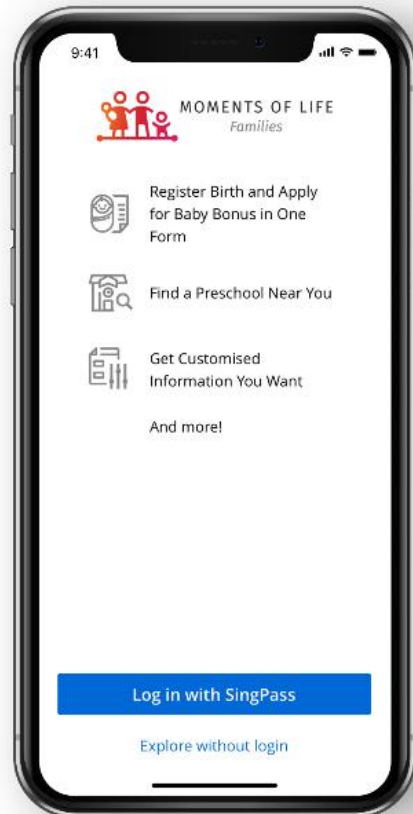
#### New technologies

Self-driving vehicles

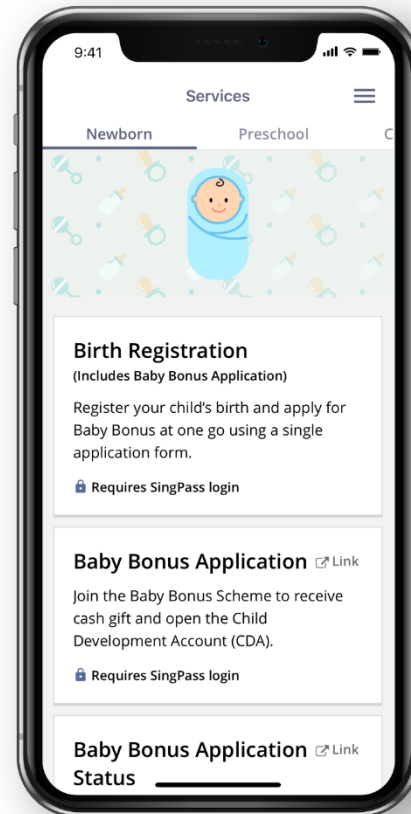


# Started with Moments of Life for Families

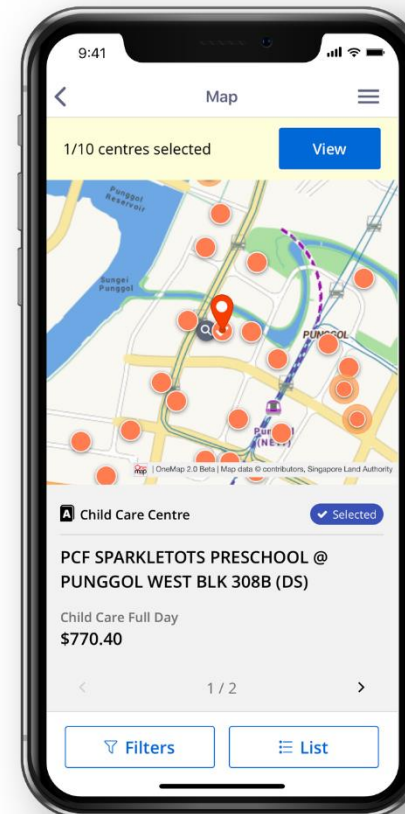
**Moments of Life (Families)**  
supports you on  
your parenting journey



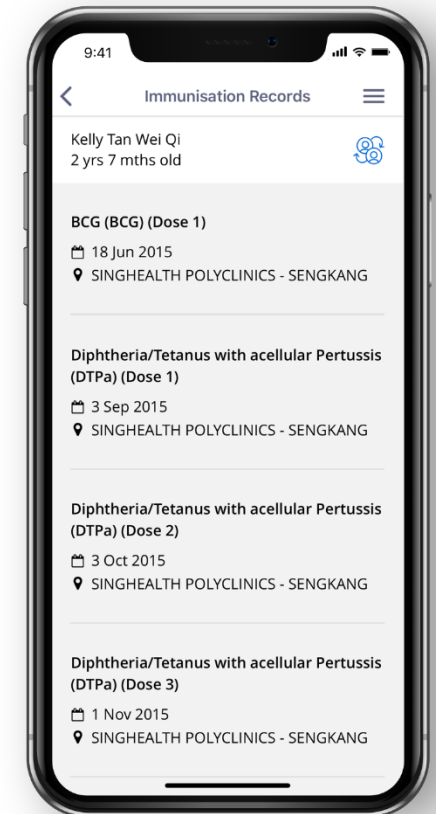
**Register your child's birth and  
apply for Baby Bonus online  
in a single form**



**Locate child care centres or  
preschools near you**



**Easy access to your child's  
immunisation records and  
medical appointments**





# CODEX: A MODERN DIGITAL BACKBONE

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## COMMERCIAL CLOUD

- Most Govt systems on cloud
- Access to best-in-class tools and services



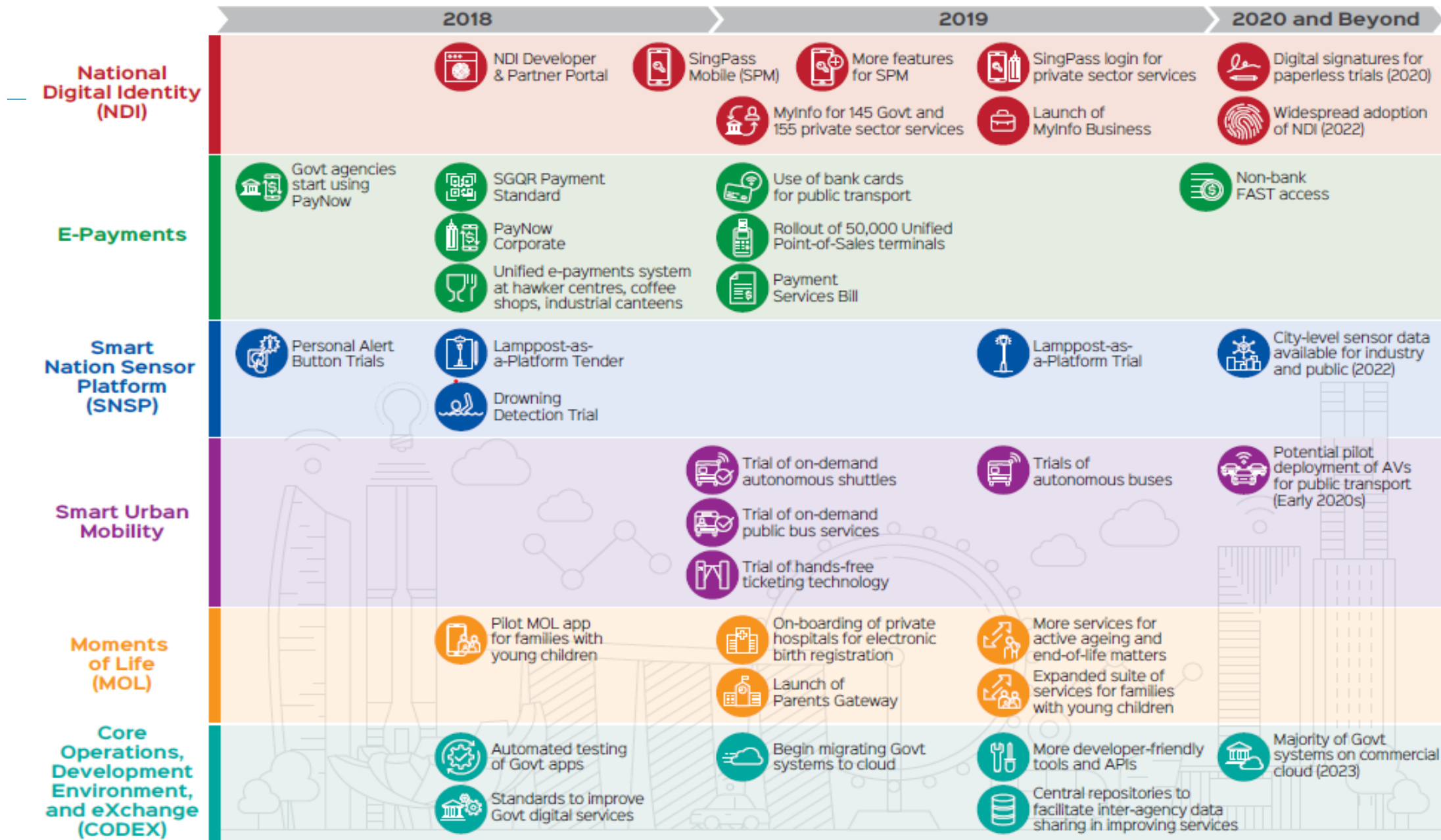
## GOVT DATA ARCHITECTURE

- Standards and tools to accelerate data sharing
- Set up of Government Data Office and Trusted Centres



## GOVT TECH STACK

- Reusable common components
- Better, cheaper, faster app development





# **Key Enablers** to build a Smart Nation and Digital Government



## Getting data to flow

- Regulation
- Policies
- Data protection
- Technical architecture and platforms
- Use cases

# Rebuilding in-house engineering capabilities

- ICT&SS Centre of Excellence







## Citizen engagement in the digital age

- Smart Ahma, My Friend  
Tell Me One videos
- Smart Nation  
Ambassadors, including  
Tech Kakis
- SCOPE

# The next bound of Smart Nation: **Artificial Intelligence**

# Building strong foundations in AI



## Digital Transformation

- National digitalisation effort through Smart Nation
- Development of key digital infrastructure (National Digital Identity; Sensor Platform)



## AI Singapore

- AI Research
- 100 Experiments
- Grand Challenges
- Talent development (e.g. AI Apprenticeship Programme)

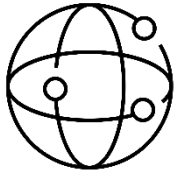


## AI Governance

- Advisory Council on the Ethical Use of AI and Data
- Model AI Governance Framework
- Research Programme on Governance of AI and Data Use



# Going forward with AI



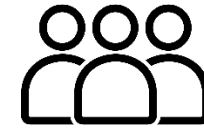
## International

Global hub to develop, test-bed, deploy and scale AI solutions



## National

Deep and broad use of AI to generate economic value and improve lives



## Individuals

Workforce with necessary competencies, and society that trusts and understands the technology

This builds on the data & digitalisation work of Smart Nation, and will be carried by talent & capabilities in digital technology and engineering