

Smart Nation and Digital Government

28th May 2019



Evolving Challenges & Vulnerabilities of a Small State

Leifer (2000), Maniam (2011)

Security

basic services
(& digits in the economy)

Scarcity

cost-efficiency

Volatility

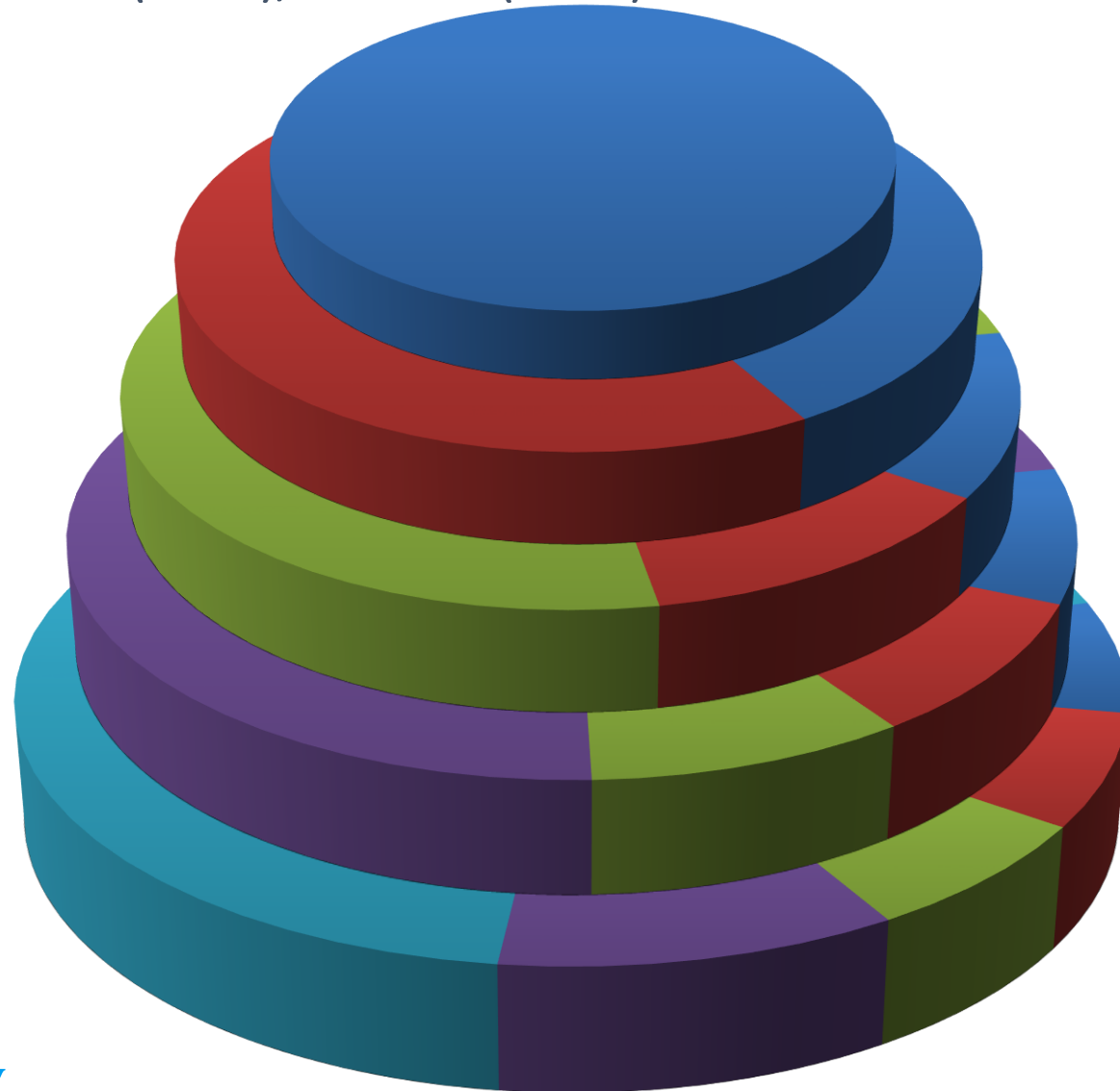
institution building

Complexity

change-readiness,
adaptivity

Diversity

citizen engagement & centrality



Singapore's efforts with technology

Automation



1980s

Automation of data, processes and systems

e-services



2000s

Delivered > 90% services online

Efficiency



2010s

Integrated service delivery, breaking down agency silos

Digitalization



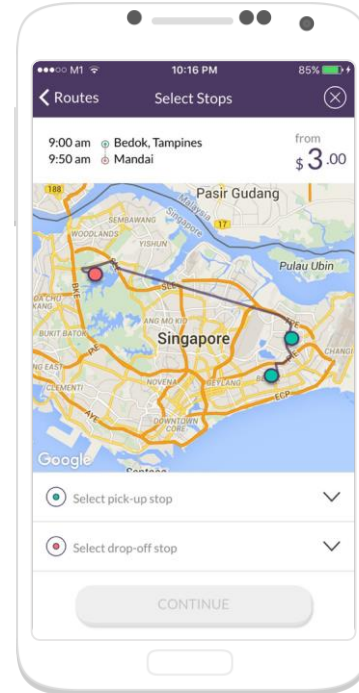
2015 - ongoing

Transformational changes with focus on the citizens (cf "needs-based holism" - Dunleavy and Margetts 2013, 2015)

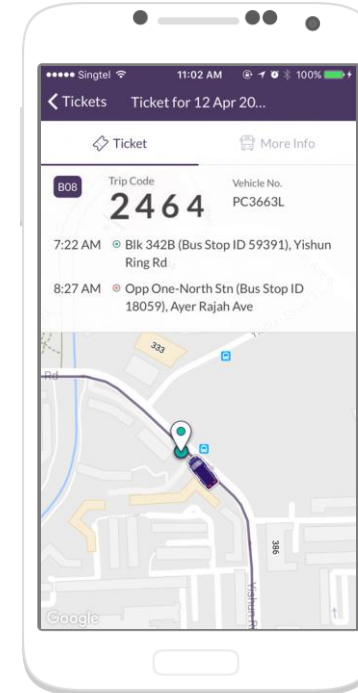
BUILDING ON STRONG FOUNDATIONS



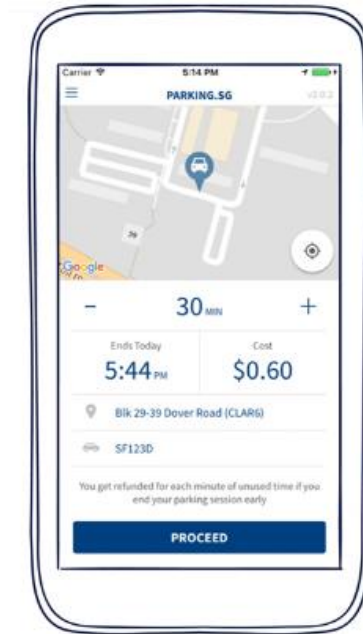
Re-imagining libraries beyond physical spaces for books



Solving daily commute woes, passing the toothbrush test



Bringing 'real-time' to citizens, anywhere in Singapore



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

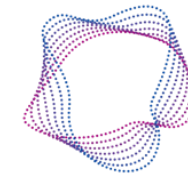
The Smart Nation Digital Government Group was formed in May 2017



SMART NATION & DIGITAL GOVERNMENT GROUP



SMART NATION
&
DIGITAL GOVERNMENT OFFICE



GOVTECH
SINGAPORE

*Before
May
2017*

Digital Government Directorate

The logo for the Ministry of Finance Singapore, featuring the letters "MOF" in a large, bold font above "MINISTRY OF FINANCE SINGAPORE".

Government Technology Policy Department

The logo for the Ministry of Communications and Information, featuring a stylized green "C" shape with a red dot.

Smart Nation Programme Office

The logo of the Prime Minister's Office Singapore, featuring the national coat of arms and the text "PRIME MINISTER'S OFFICE SINGAPORE".

Government Technology Agency (GovTech)

The logo for the Ministry of Communications and Information, featuring a stylized green "C" shape with a red dot.

SNDGG is overseen by a Ministerial Committee



Deputy Prime Minister
TEO CHEE HEAN

Chairman



Minister
DR VIVIAN BALAKRISHNAN

Member

Minister-in-charge of
the Smart Nation Initiative



Minister
S ISWARAN

Member

Minister-in-charge of
Cybersecurity



Minister
CHAN CHUN SING

Member

Minister in-charge of
Public Service



Senior Minister of State
DR JANIL PUTHUCHEARY

Member

Minister-in-charge of GovTech

Smart Nation

3 component parts

#1

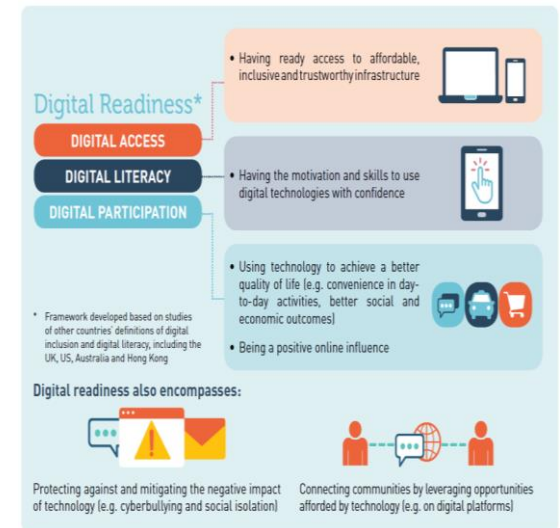
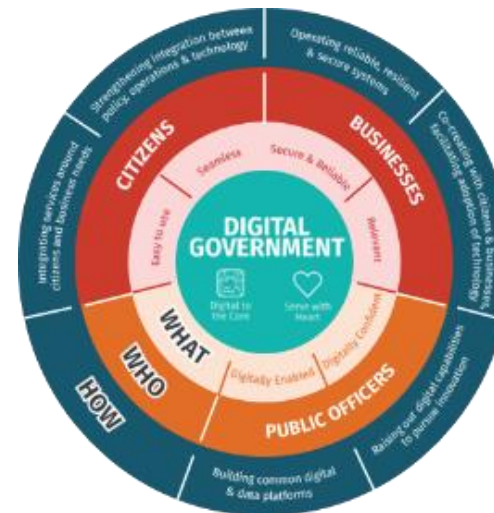
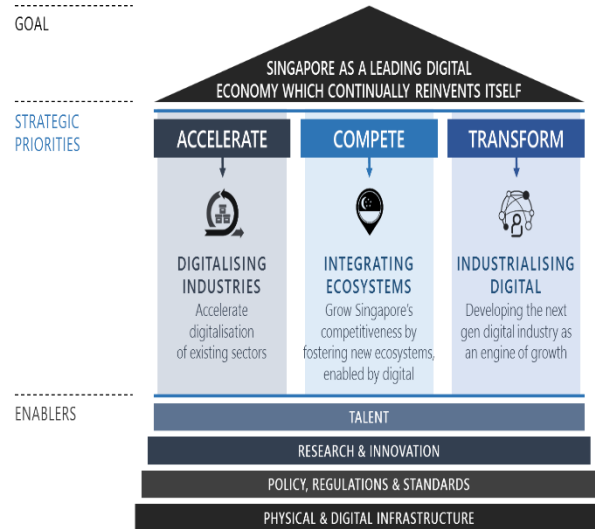
DIGITAL ECONOMY

#2

DIGITAL GOVERNMENT

#3

DIGITAL SOCIETY



A Digital Economy Framework for Action to drive industry transformation

GOAL

SINGAPORE AS A LEADING DIGITAL ECONOMY WHICH CONTINUALLY REINVENTS ITSELF

STRATEGIC PRIORITIES

ACCELERATE



DIGITALISING INDUSTRIES

Accelerate digitalisation of existing sectors

COMPETE



INTEGRATING ECOSYSTEMS

Grow Singapore's competitiveness by fostering new ecosystems, enabled by digital

TRANSFORM



INDUSTRIALISING DIGITAL

Developing the next gen digital industry as an engine of growth

ENABLERS

TALENT

RESEARCH & INNOVATION

POLICY, REGULATIONS & STANDARDS

PHYSICAL & DIGITAL INFRASTRUCTURE

SCAN TO ACCESS
Digital Economy
Framework for Action



Digital Government Blueprint (2018-2023):

2 PRINCIPLES

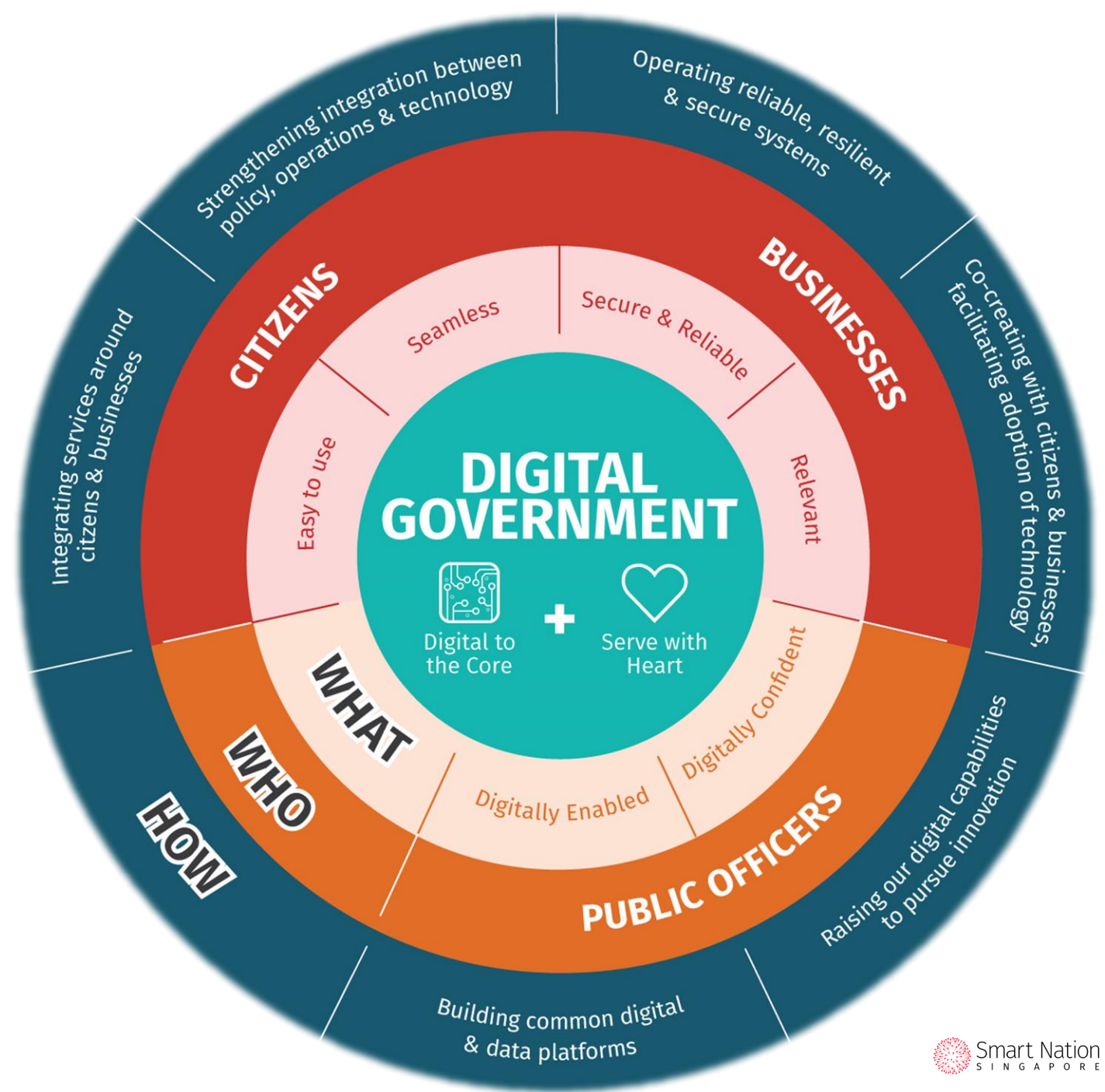
3 STAKEHOLDERS

6 OUTCOMES

6 STRATEGIES



SCAN TO ACCESS
Digital Government Blueprint



Digital Government Blueprint KPIs

STAKEHOLDER SATISFACTION



Citizen Satisfaction with Digital Services (via survey)

75-80% to rate very satisfied



Business Satisfaction with Digital Services (via survey)

75-80% to rate very satisfied

END-TO-END DIGITAL OPTIONS



Services that offer e-payment options (Inbound and outbound)

100%



Services that are pre-filled with Government-verified data

100%



Services that offer digital options for wet ink signatures

100%*

END-TO-END DIGITAL TRANSACTIONS



Percentage of transactions completed digitally from end-to-end

90-95%*



Percentage of payments (Inbound and outbound) completed via e-payments

100%*

DIGITAL CAPABILITIES



Number of public officers trained in data analytics and data science

20,000



Number of public officers with basic digital literacy

All Public Officers

TRANSFORMATIVE DIGITAL PROJECTS



Number of transformative digital projects

30-50

AI, DATA AND DATA ANALYTICS



Percentage of Ministry families that use AI for service delivery or policy making

All Ministry families to have at least one AI project



Number of high-impact data analytics projects

10 cross-agency projects per year, and 2 projects per Ministry family per year



Core data fields in machine readable format, and transmittable by APIs

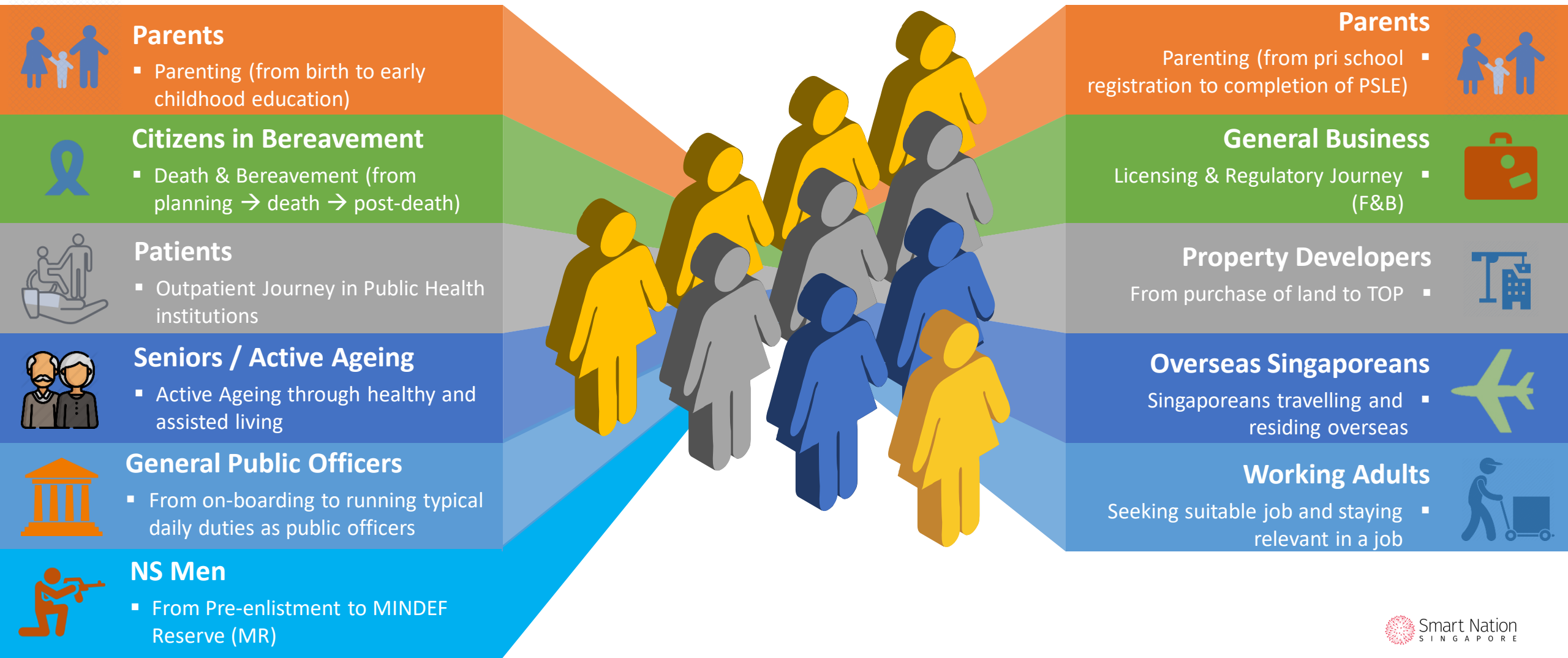
90-100%



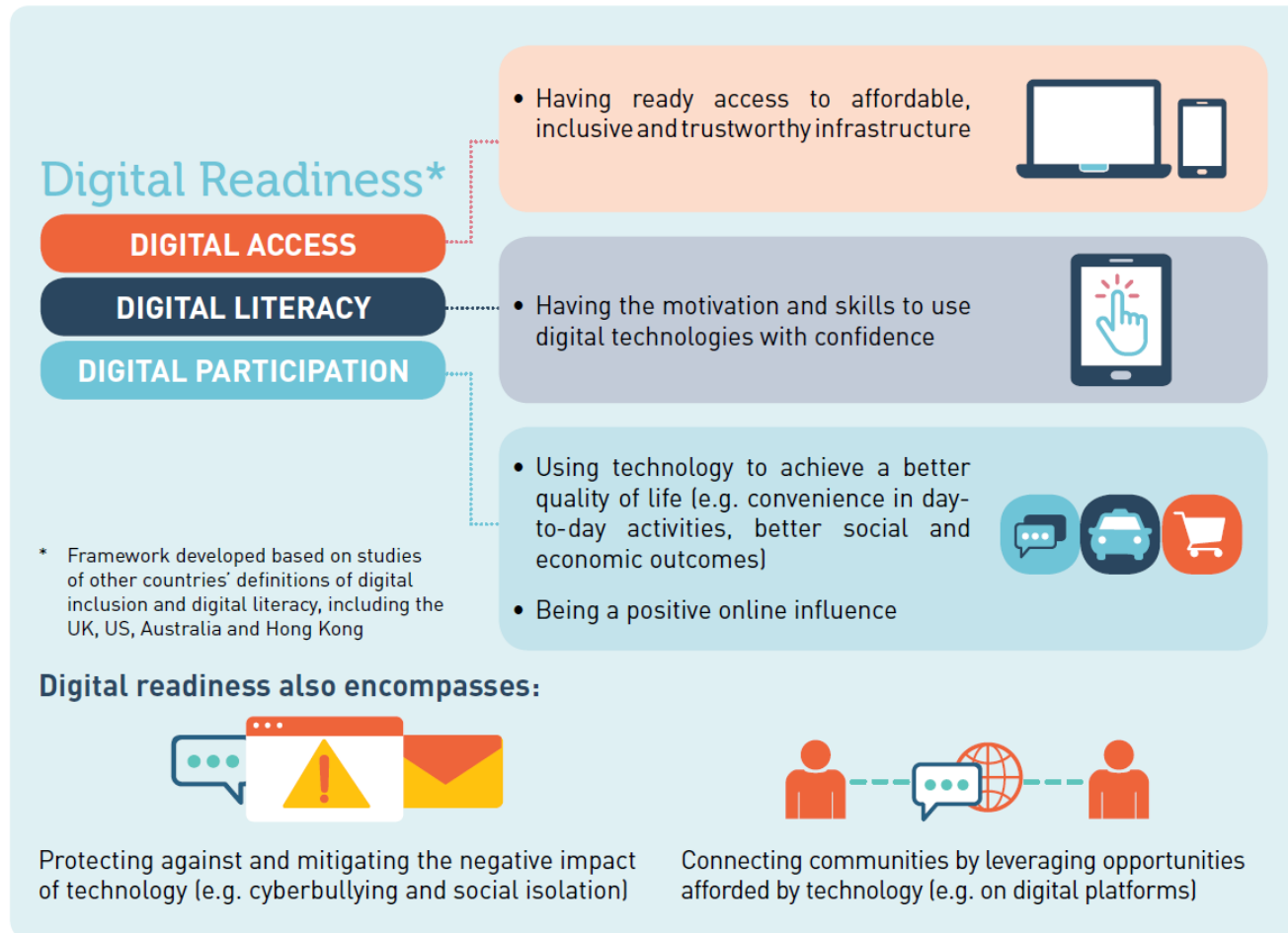
Time required to fuse data for cross-agency projects

Less than 10 days to share data for cross-agency projects

Putting the citizen at the centre – “needs-based holistic



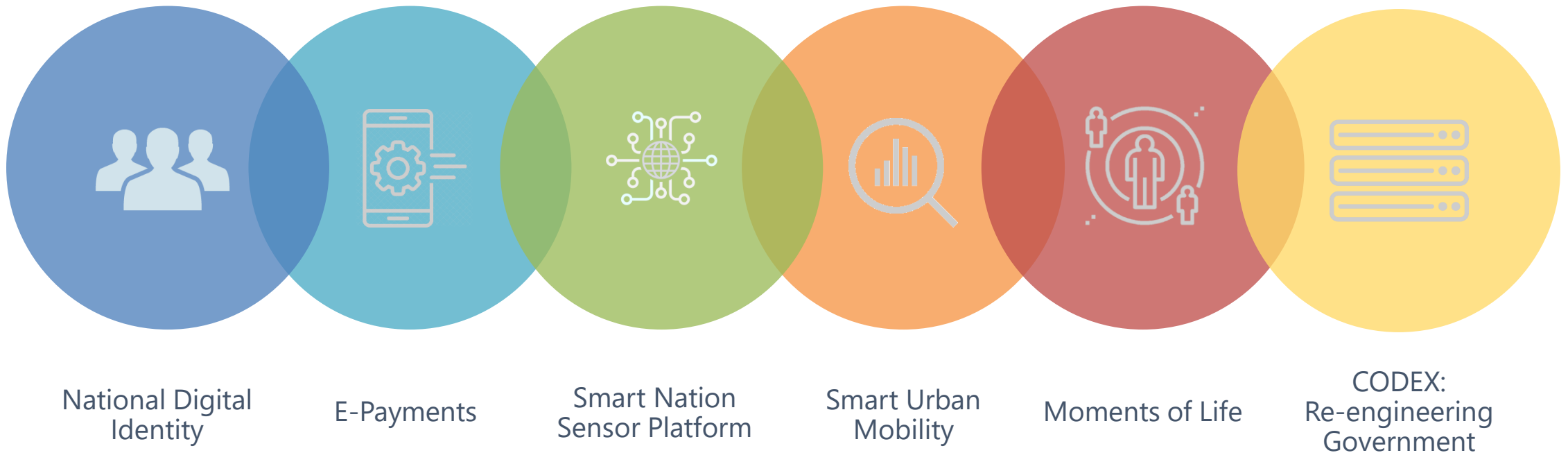
Digital Readiness Blueprint – A Smart Nation for all Singaporeans



SCAN TO ACCESS
Digital Readiness
Blueprint Info Booklet



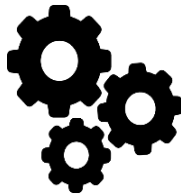
Strategic National Projects





NDI: Single digital identity to transact with Government and private sector

MyInfo



2017: Successful MyInfo bank pilot

2017: MyInfo Developers & Partners portal launched

2017: MyInfo basic profile implemented

Oct 2018: MyInfo for 110 government services and 60 private sector services

Oct 2018: SingPass Mobile

Future Plans: Platform for digital signatures

Single login for Government, banking and hospital service

E-payments: Driving interoperability, convenience and efficiency for citizens & businesses



2017: Launch of PayNow & E-payments in hawker centres

Aug 2018: PayNow Corporate

Sep 2018: Launch of Nationwide QR code standard

2019: 50,000 Unified POS terminals

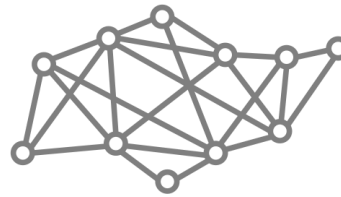
2019: Non-bank FAST access

Smart Nation Sensor Platform (SNSP): A nationwide network leveraging real-time data to improve city-level operations

Sensors & Communications



Data exchange



Analytics










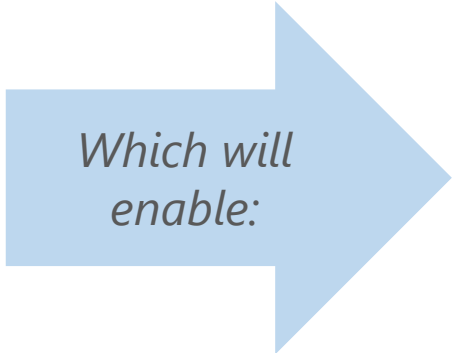
Smart Nation Sensor Platform (SNSP): Smart Lamp Posts

There are more than
95,000
lamp posts in Singapore



Data that Smart Lamp Posts can collect:

-  **Temperature**
-  **Humidity**
-  **Rainfall**
-  **Pollutants**
-  **Noise**
-  **Footfall**
-  **Personal Mobility Devices**



Which will enable:



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



Moments of life (MOL): A single, integrated platform for citizen & business needs

EXAMPLES FOR ILLUSTRATION



GOING TO SCHOOL



Ministry of Education
SINGAPORE



WORK



singapore
workforce
development
agency



GETTING MARRIED



REGISTRY OF MARRIAGES
SINGAPORE



HAVING CHILDREN



MSF
MINISTRY OF
SOCIAL AND FAMILY
DEVELOPMENT



AGEING



People's Association



MOF
MINISTRY OF FINANCE
SINGAPORE



RETIREMENT



PROVIDENT FUND BOARD
SINGAPORE

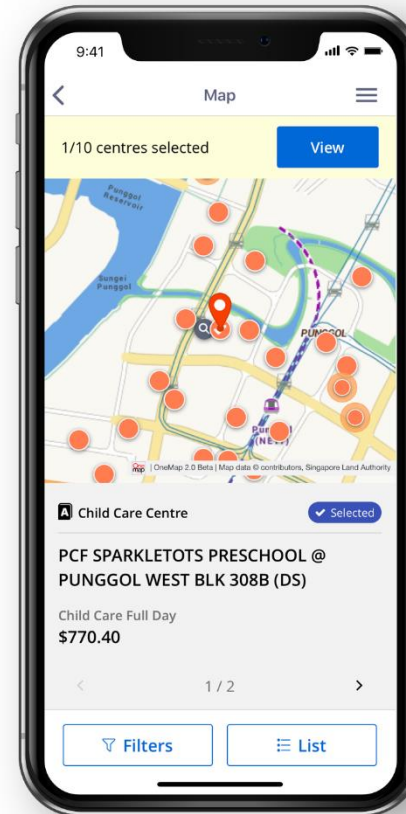
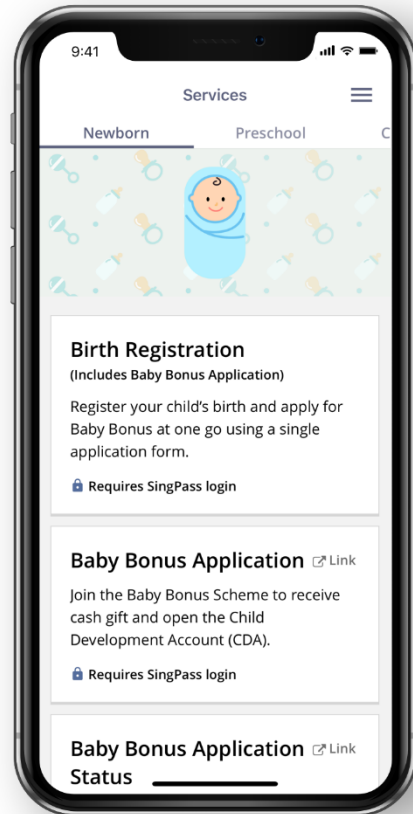
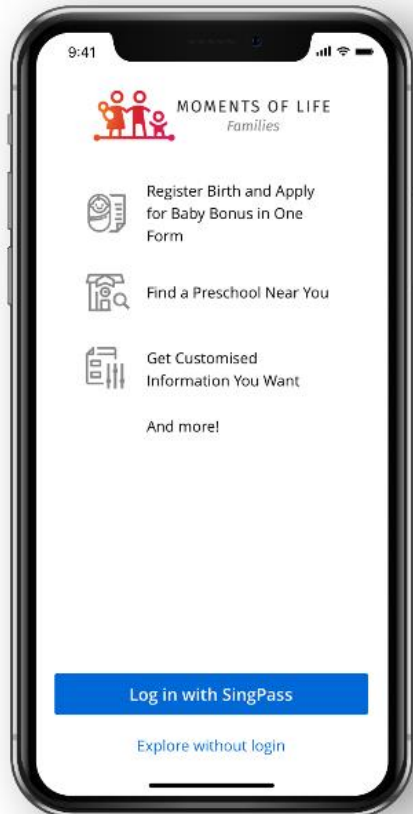
Moments of Life (Families)

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: Enabling a lean, agile and future-ready Government



GOVT DATA ARCHITECTURE

WOG data management strategy and data architecture to streamline data sharing



COMMERCIAL CLOUD

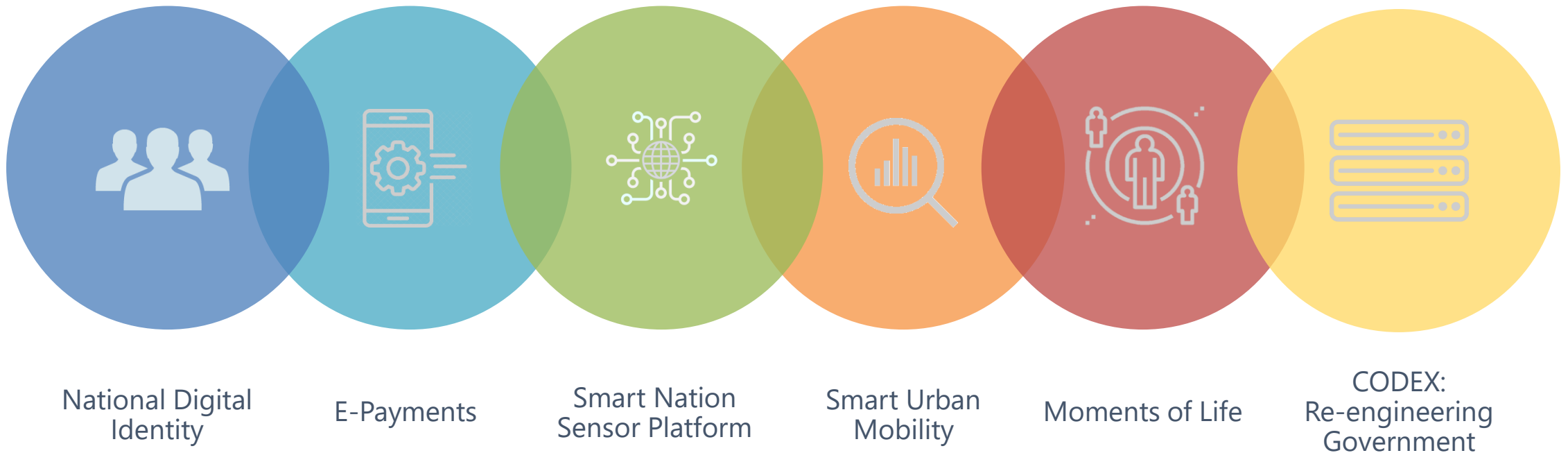
Move selected Govt systems to commercial cloud, and use best-in-class tools and services hosted on it



GOVT TECH STACK

Use of common components across WOG in developing and running digital applications

Strategic National Projects



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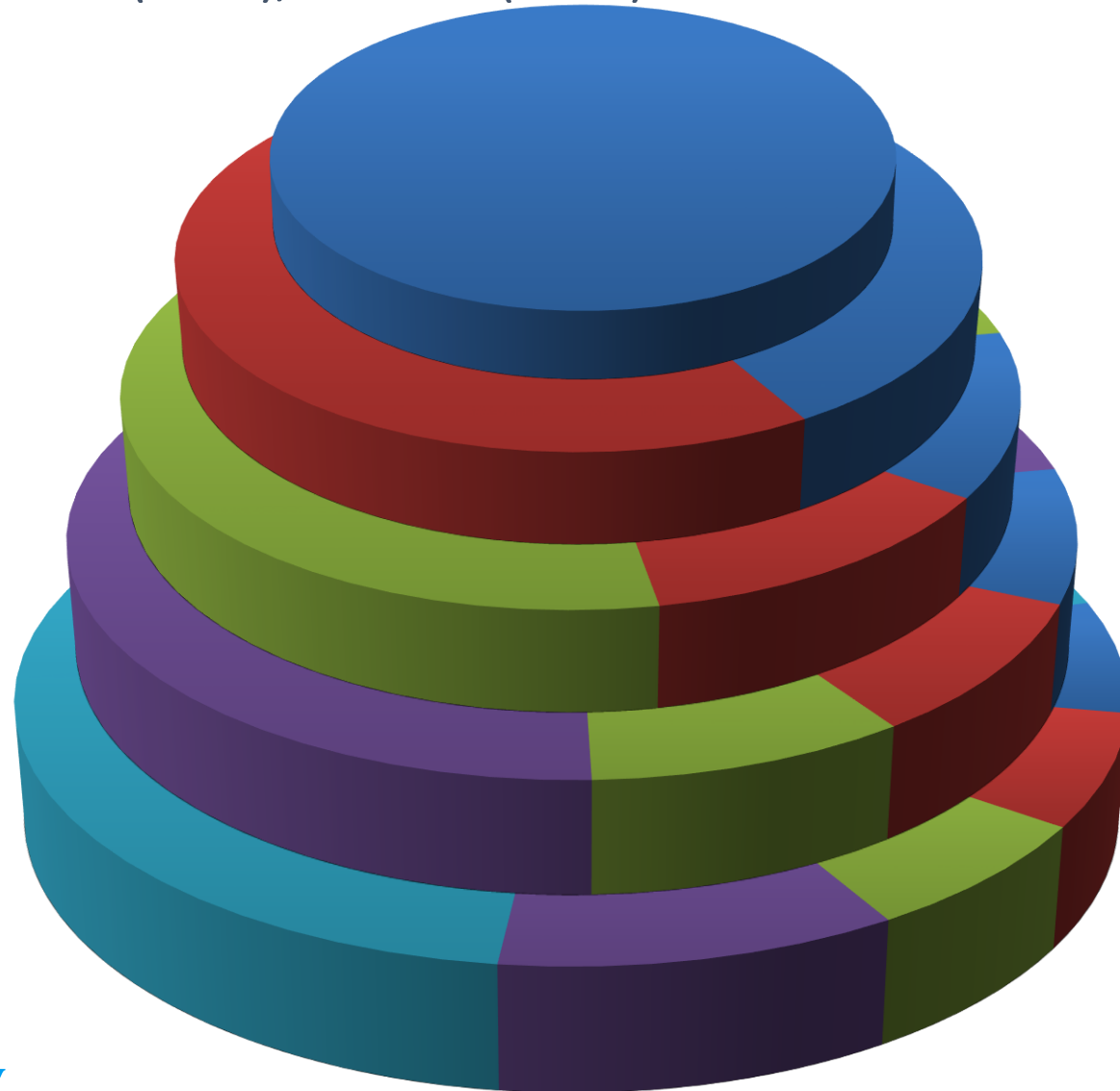
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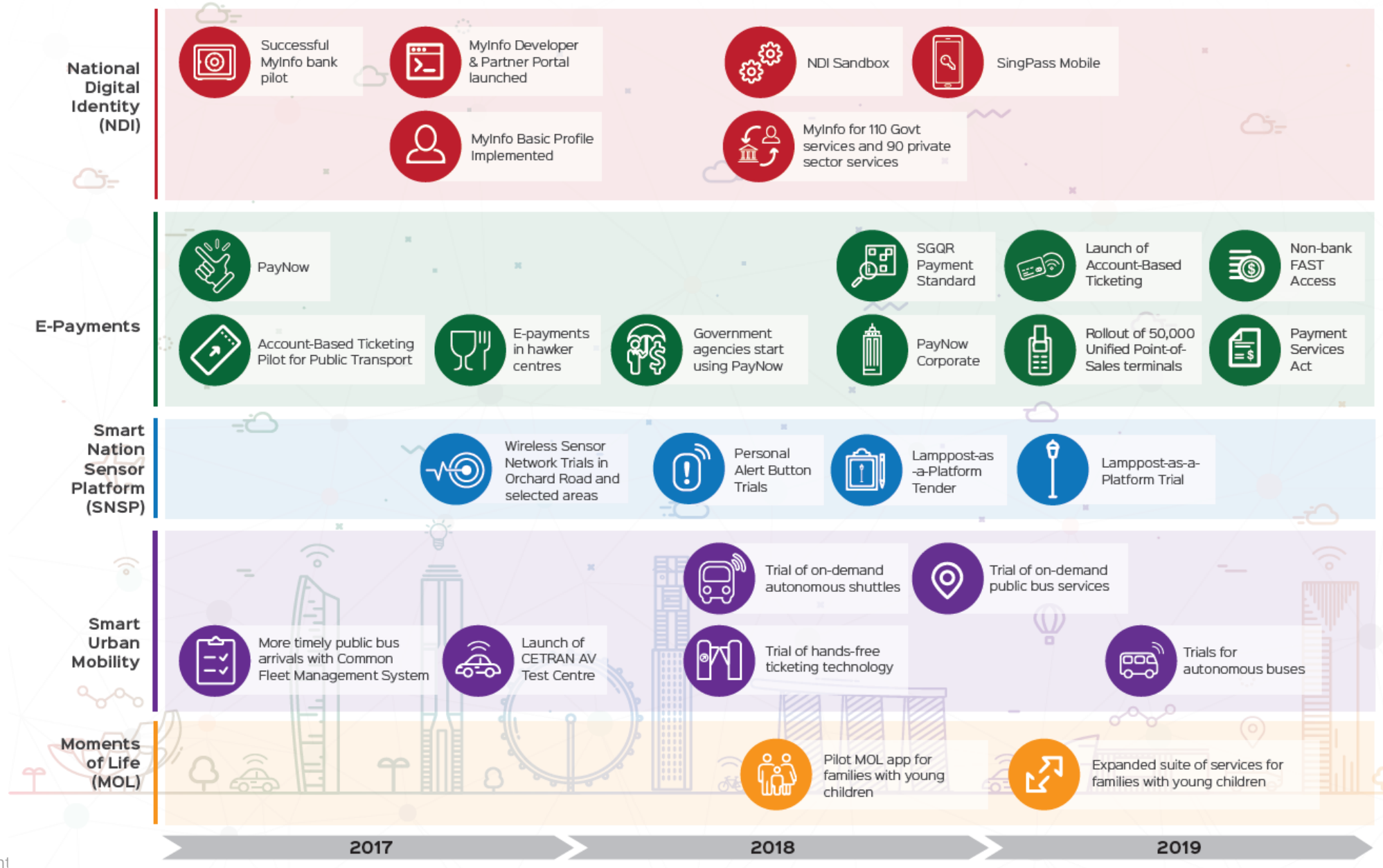


Ongoing Challenges

- Change & Transition Management
 - Internal: Bureaucracy vs Hacker-style Entrepreneurialism
 - External: Citizen expectations
- Talent & Expertise
 - Particularly engineering & coding capacity; eroded under marketisation reforms in the 1980/90s (NPM)
- Procurement
 - Linear, precedent-focused Vs agile, outcome-focused
 - Capacity-building vs outsourcing (hollow/agent/substitute/franchise states – Milward, Provan)
- Cyber & Data Security
 - Recent health data breaches
- Governance in Ordered vs Unordered Spaces
 - Experiments & probes (Snowden and Boone 2007)
- Overall – a Leadership Challenge – wicked problem, managing polarities

Questions?

UPDATED MILESTONES FOR STRATEGIC NATIONAL PROJECTS



The Cynefin Framework

Snowden & Boone (2007), HBR

