

# SINGAPORE'S DIGITALISATION JOURNEY



# Smart Nation and Digital Government Group (SNDGG)

Reporting under the Prime Minister's Office since 1 May 2017

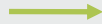


PRIME MINISTER'S OFFICE  
SINGAPORE

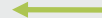
MINISTERIAL COMMITTEE



SMART NATION  
&  
DIGITAL GOVERNMENT OFFICE



SMART NATION &  
DIGITAL GOVERNMENT GROUP



GOVTECH  
GOVERNMENT TECHNOLOGY  
AGENCY OF SINGAPORE





## SNDGG is overseen by an Inter-Ministerial Committee



SENIOR MINISTER  
**TEO CHEE HEAN**

Chairman



MINISTER  
**DR VIVIAN BALAKRISHNAN**

Member

Minister-in-charge of  
Foreign Affairs



MINISTER  
**JOSEPHINE TEO**

Member

Minister-in-charge of Smart Nation  
Initiative and Cyber Security Agency  
& Minister of Communications  
and Information



MINISTER  
**CHAN CHUN SING**

Member

Minister in-charge of  
Public Service



SENIOR MINISTER OF STATE  
**DR JANIL PUTHUCHEARY**

Member

Minister in-charge of  
GovTech

# Overview of the Government Technology Agency



**Over 3,400 strong**

*Engineering Digital  
Government, Making Lives  
Better*



## PRODUCTS & ENGINEERING

### Infrastructure

- WOG hosting infrastructure & networks

### Products & Capabilities

- Products and services for whole of Government
- Digital Services, Sensors & IoT, Data Science & AI, Cybersecurity, Infrastructure capabilities

### Strategic National Projects

- Implement Strategic National Projects



## SERVICES

### Agency IT

- CIO & technology officers in 60 % of government agencies



## GOVERNANCE

### Governance

- Sets ICT policies covering whole of Government

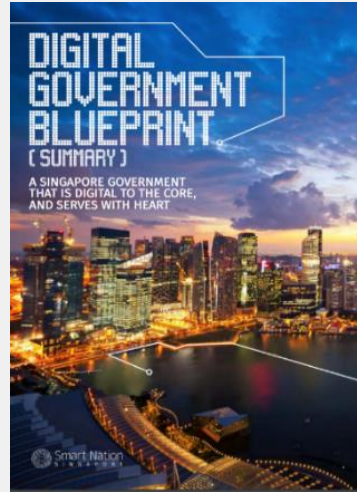
### Cyber Security

- Chief Information Security Officer for Government sector

# Smart Nation vision through a Whole-of-Government approach



**DIGITAL ECONOMY  
FRAMEWORK**



**DIGITAL GOVERNMENT  
BLUEPRINT**



**DIGITAL READINESS  
BLUEPRINT**

# Digital Government Blueprint (2018 – 2023)

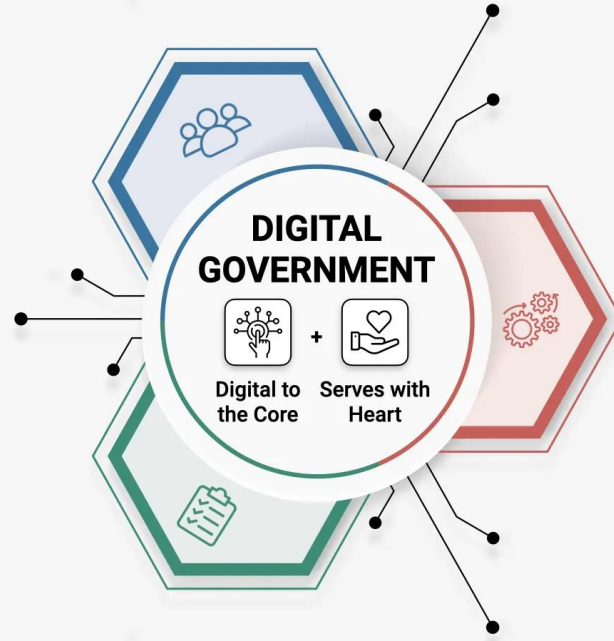
**A government that is digital to the core, and serves with heart**

## Who does a Digital Government serve?

- ▶ Citizens
- ▶ Businesses
- ▶ Public Officers

## What are the elements of a Digital Government?

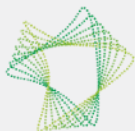
- ▶ Services that are easy to use, reliable and relevant
- ▶ Seamless digital transactions
- ▶ Systems and data that are secure
- ▶ A digitally confident public service workforce
- ▶ A digitally enabled public service workplace



## How do we become a Digital Government?

- ▶ Strengthening integration between policy, operations and technology
- ▶ Re-engineering the Government's ICT infrastructure
- ▶ Operating reliable, resilient and secure systems
- ▶ Raising our digital capabilities to pursue innovation
- ▶ Integrating services around citizen and business needs
- ▶ Co-creating with citizens and businesses, and facilitating adoption of technology

<https://www.tech.gov.sg/digital-government-blueprint/>



## Digital Government Blueprint - Key Achievements

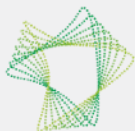
- **85%** of citizens and **76%** of businesses rated 5 & above on Gov digital services
- **94%** of government services can be **completed digitally end to end**
- **96%** of government services provides **E-payment options**
- **20,000** officers have been **trained in data analytics and data science**
- **Over 60%** of relevant systems have been migrated to the commercial cloud
- **All 20** ministries have submitted plans to use artificial intelligence

## Coordinating through **Ministry Family Digitalisation Plans**

- Appointed Chief Digital Strategy Officers of sufficient seniority tasked to develop MFDPs focused on transformative projects
- Intensive training on digitalisation methodology and user journey
- Focus on getting Ministry Families to:
  - Institutionalise MFDP with agency work planning cycles
  - Define their digital ambition specifically in digitalisation strategy, data & capability development
  - Over 100 transformational projects identified







## Building products with nation-wide strategic significance

# Strategic National Projects

Build digital infrastructure to enable transformation across Government and the nation



National Digital Identity



E-Payments



CODEX: Re-engineering Government

Leverage technology to create tangible improvements in citizens' experiences



Smart Nation Sensor Platform



Smart Urban Mobility



Smart & Sustainable Punggol

Reengineering Government processes to better serve citizens and businesses



LifeSG



GoBusiness

Build digital infrastructure to enable transformation across Government and the nation

- 1. National Digital Identity**
- 2. CODEX**

Reengineering Government processes to better serve citizens and businesses

- 3. Moments of Life**

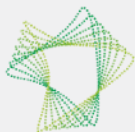
Build digital infrastructure to enable transformation across Government and the nation

**1. National Digital Identity**

2. CODEX

Reengineering Government processes to better serve citizens and businesses

3. Moments of Life



## Singpass Delivers More Value

For paperless, presence-less & instant digital transactions



**>2,700 services**  
using Singpass

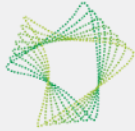
**500 million**  
transactions

**80% reduction** in  
transaction time  
for businesses

**800 organisations**  
using Singpass

**Face Verification** reduced  
waiting time at counters by  
**10 minutes**

**\$50 savings** per  
transaction using Myinfo

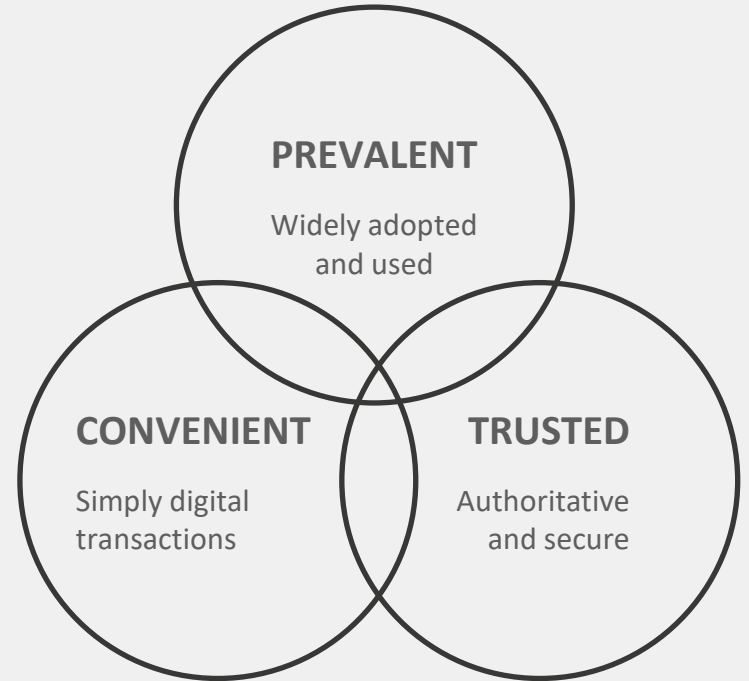


# Singpass app transacts with 4.8 million potential customers



## For individuals

- 4.1m users
- 3.2m MAU
- 85% transactions
- 4.7 App rating



Build digital infrastructure to enable transformation across Government and the nation

1. National Digital Identity
2. **CODEX**

Reengineering Government processes to better serve citizens and businesses

3. Moments of Life

## **CODEX** - Re-engineering the Government through a modern Digital Backbone

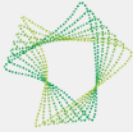


Government  
Data Architecture



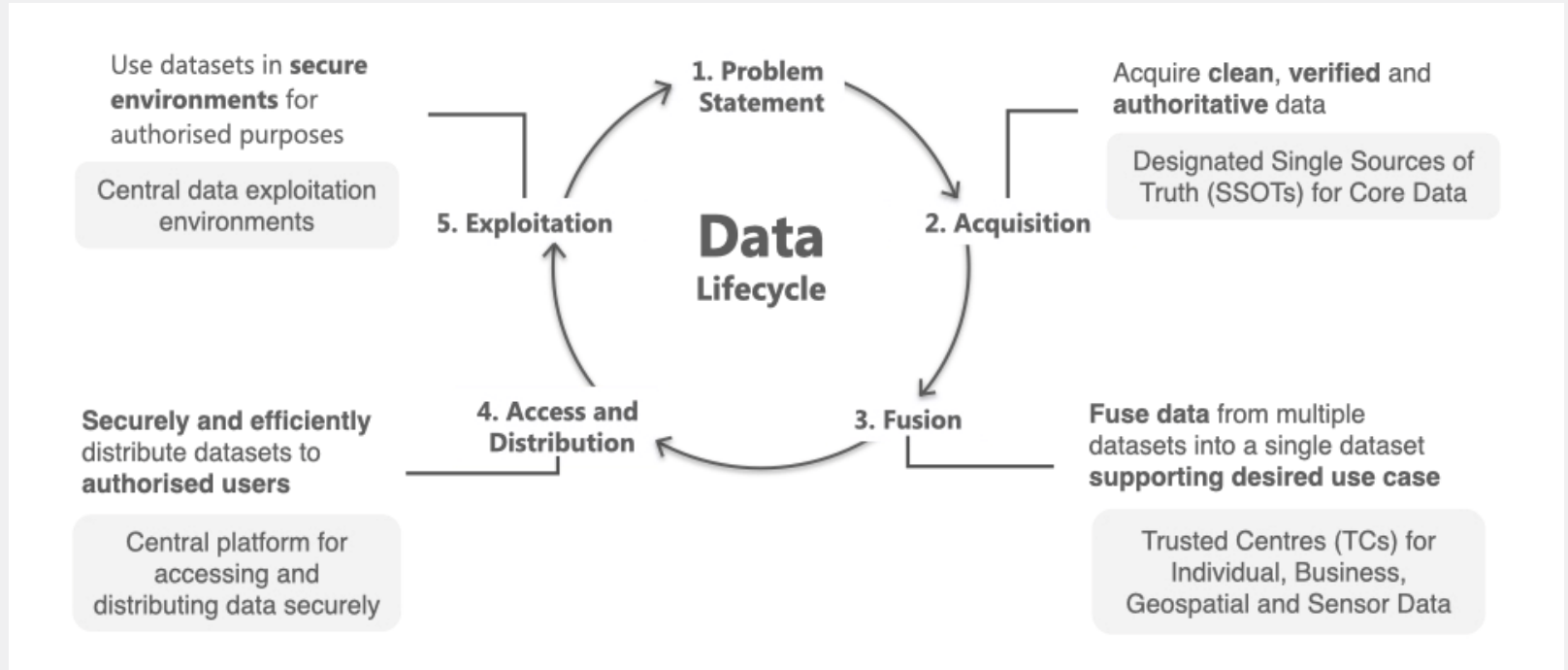
Government Technology Stack  
& Government on Commercial  
Cloud

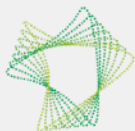




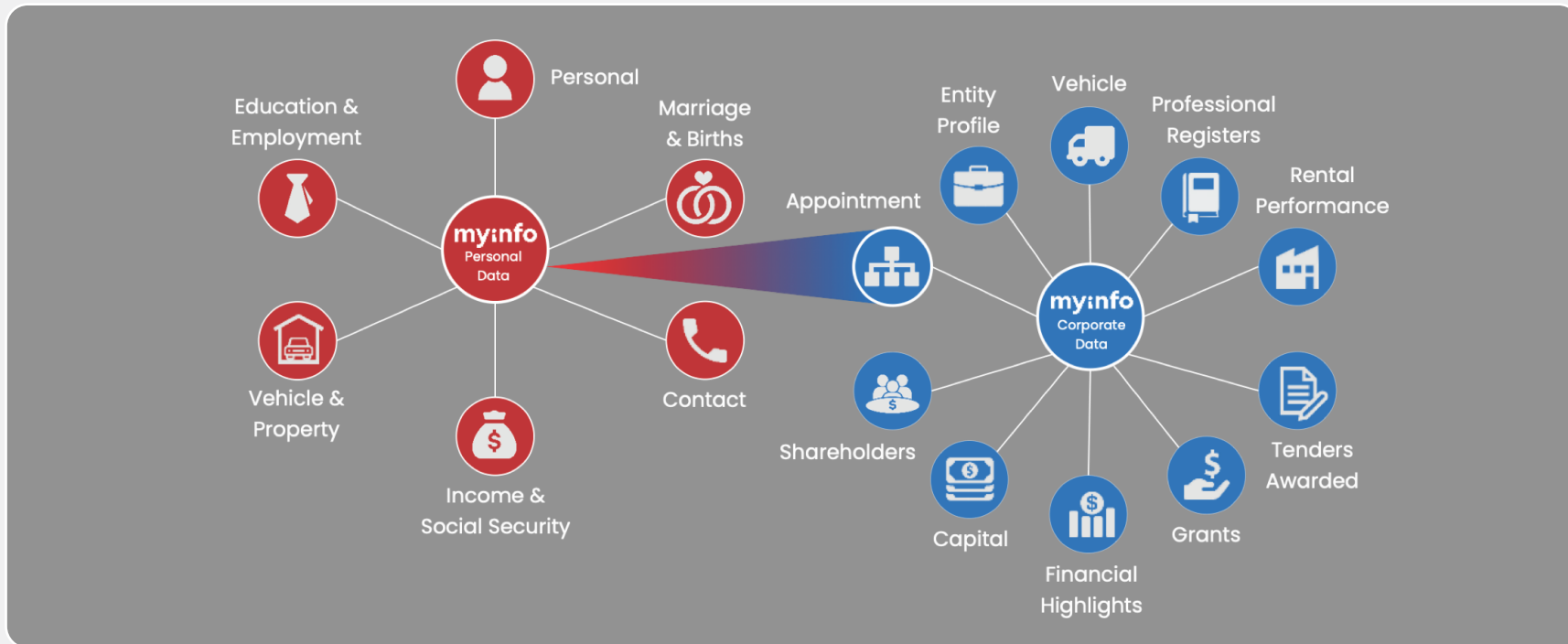
The **Government Data Architecture** is designed around the data lifecycle, and aims to reduce time taken for cross-agency data sharing from many months to 7 days

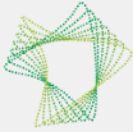
# Government Data Architecture has reduced data sharing time



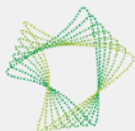


## GDA – Single Sources of Truth enabling MyInfo (“Tell us once”)



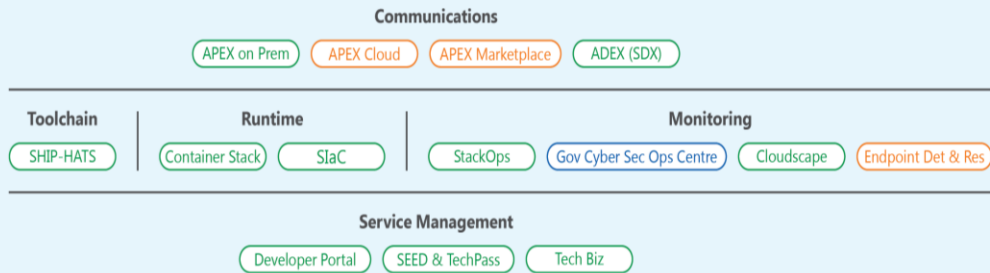
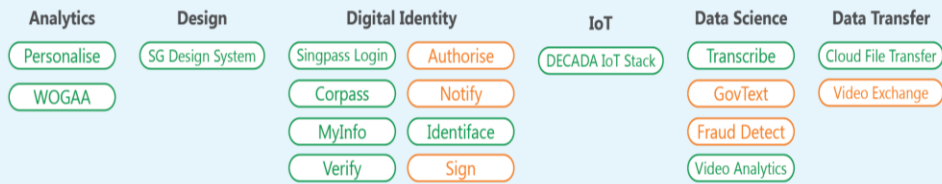


**Singapore Government Technology Stack (SGTS)** is a set of platform tools that streamlines and simplifies agencies development process



Live Work in Progress Planned

## Singapore Government Tech Stack (SGTS)



## SG Tech Stack (SGTS)



Service Layer (Reusable Components)

Base Layer (Standardised Dev Tools)

Network and Infra Services

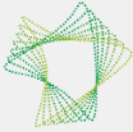
Government on Commercial Cloud (GCC)

Build digital infrastructure to enable transformation across Government and the nation

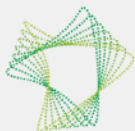
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2. CODEX

Reengineering Government processes to better serve citizens and businesses

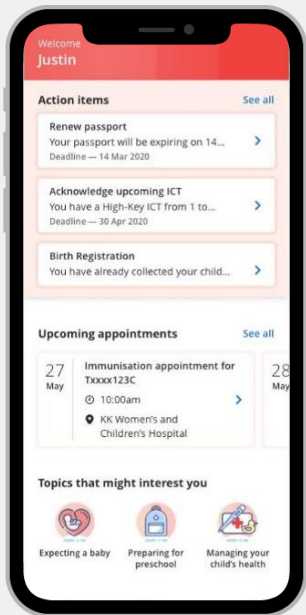
### 3. Moments of Life



**Moments of Life (MOL)** – consolidating services according to citizens and businesses life junctures and significant milestones



# MOL – Enabling a simpler way for citizens to interact through LifeSG



## LifeSG



### Having a newborn

(e.g. registering for childbirth, download of eBirth certificate)



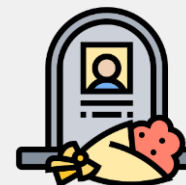
### Caregiving needs

(e.g. finding a day care centre, counselling for caregivers)



### Municipal matters

(e.g. lodge a complaint on neighbourhood facilities, booking a BBQ pit)

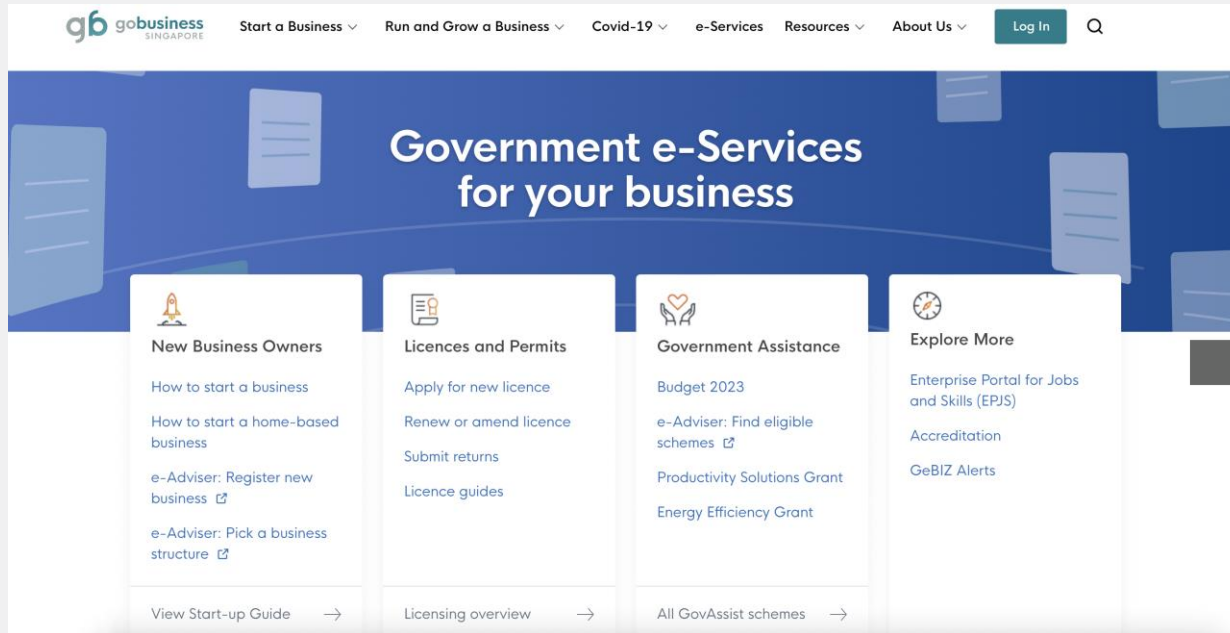


### Death of loved one(s)

(e.g. CPF nomination, booking of wake venue)



# MOL – a central platform offering streamlined services for business through **GoBusiness**



The screenshot shows the GoBusiness Singapore website. The navigation bar includes links for 'Start a Business', 'Run and Grow a Business', 'Covid-19', 'e-Services', 'Resources', and 'About Us', along with a 'Log In' button and a search icon. The main banner features the text 'Government e-Services for your business'. Below the banner are four service categories: 'New Business Owners', 'Licences and Permits', 'Government Assistance', and 'Explore More'. Each category lists specific services and includes a right-pointing arrow at the bottom.

Category	Services
New Business Owners	How to start a business How to start a home-based business e-Adviser: Register new business e-Adviser: Pick a business structure
Licences and Permits	Apply for new licence Renew or amend licence Submit returns Licence guides
Government Assistance	Budget 2023 e-Adviser: Find eligible schemes Productivity Solutions Grant Energy Efficiency Grant
Explore More	Enterprise Portal for Jobs and Skills (EPJS) Accreditation GeBIZ Alerts



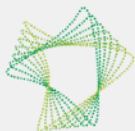


## Skills and competency development

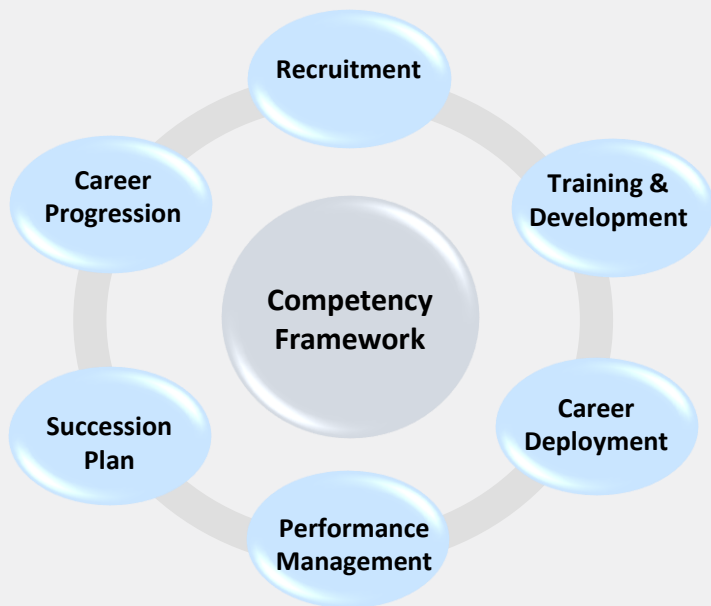
Life-time employability and not life-time employment



1. **Competency Framework** - towards being a competency-based organisation.
2. GovTech's own **4E model** – Experience, Exposure, Education, Engagement
3. **The Digital Academy** to level up the tech quotient for all Tech professionals across the public sector



Using the results of competency analysis to inform and improve the processes of performance management, recruitment and selection, employee development and employee reward.



## GovTech ICT Functional Clusters and Job Roles

Data Science and AI	Application Development	Application Management	Cybersecurity	SIOT	ICT Governance
Data Engineer	Software Engineer	Digital Services Manager	Chief Information Security Officer	Embedded Engineer	ICT&SS Policy Specialist
Computational Scientist	DevOps Engineer	Digital Business Analyst	Cybersecurity Engineer	Systems Engineer	ICT&SS Auditor
Quant Analyst	Quality Engineer	Solution Architect	Cybersecurity Policy Developer	Robotics Engineer	ICT&SS Risk Specialist
AI Engineer	Delivery Manager	Project Manager (Agile)	Red Team Engineer	R&D Engineer	ICT&SS Procurement Specialist
	UX Designer				ICT&SS Procurement (Policy)
Product Management	ICT Infrastructure	Modelling and Simulations	Applications Infrastructure	Tech Management	GIROC
Engagement Manager	Infrastructure Engineer	Geospatial Info Sys Architect	App Infra Engineer	Chief Information Officer	ICT&SS Incident Management Officer
Product Manager	Infrastructure Architect	Interactive Digital Media (AV/VR) Engineer	App Infra Architect		
		Modelling & Simulation Engineer	App Infra Manager		

12  
Functional Clusters

38  
ICT Job Roles

126  
ICT Competencies

## GovTech's Digital Academy



The Digital Academy was launched in 2021, to level up the public sector

<https://thedigitalacademy.tech.gov.sg/>

# Engaging the **tech community** through the Singapore Government Developer Portal

Developer Portal as a one-stop resource hub for government digital products and services



## Singapore Government Developer Portal

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



Provides information on Government Developed resources

1. Product Information
2. Technical documentation
3. Guidelines and Best Practices
4. Community resources

Over **100** product information and technical documentation



[go.gov.sg/all-products](https://go.gov.sg/all-products)



**Karen Kee**

International and Community Development  
Lead at GovTech Singapore



THANK YOU