

# SINGAPORE'S DIGITALISATION JOURNEY



# 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

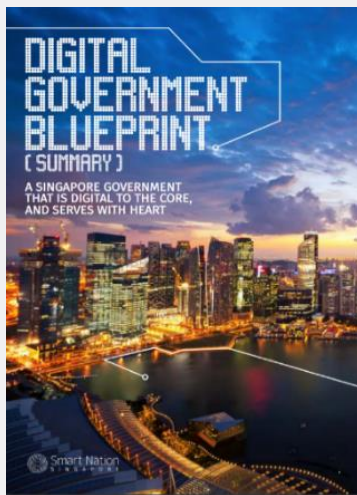
### Cyber Security

- Chief Information Security Officer for Government sector

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



**DIGITAL ECONOMY  
FRAMEWORK**



**DIGITAL GOVERNMENT  
BLUEPRINT**



**DIGITAL READINESS  
BLUEPRINT**

# Digital Government Blueprint

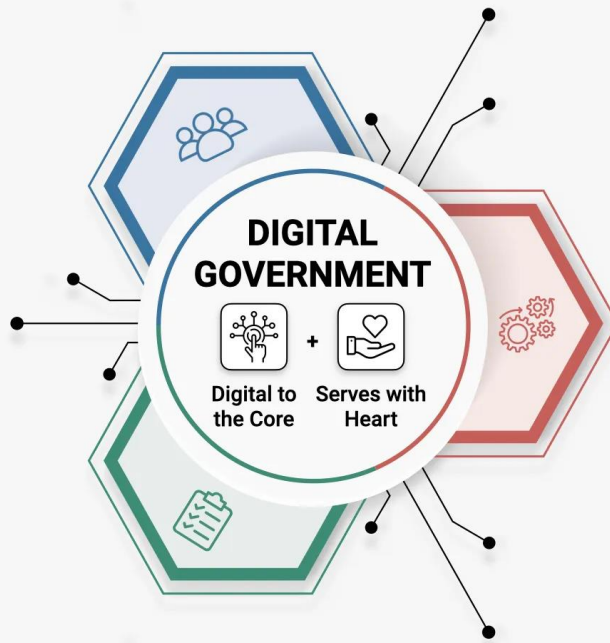
**A government that is digital to the core, and serves with heart**

## 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

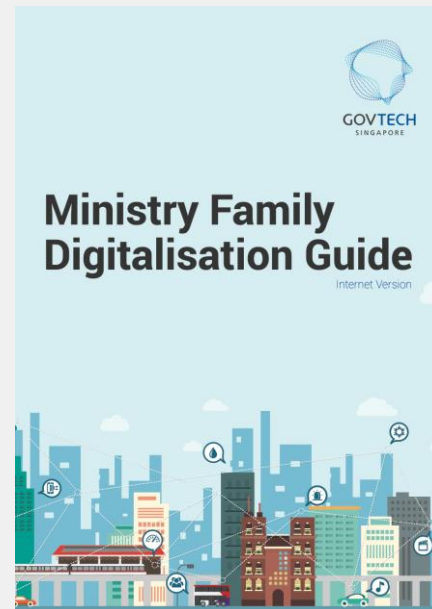
<https://www.tech.gov.sg/digital-government-blueprint/>

## 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**
- **All 20** ministries have submitted plans to use artificial intelligence
- **Over 60%** of relevant systems have been migrated to the Commercial Cloud

## 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

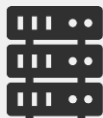
Build digital infrastructure to enable transformation across Government and the nation



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**



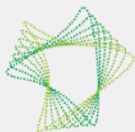
Build digital infrastructure to enable transformation across Government and the nation

## 1. National Digital Identity

## 2. CODEX

Reengineering Government processes to better serve citizens and businesses

## 3. Moments of Life



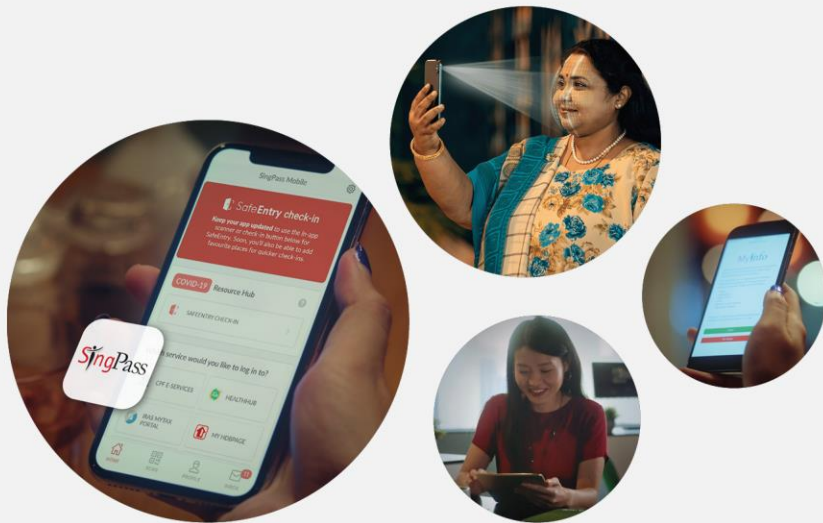
**National  
Digital  
Identity**

**A unique  
digital  
identity for  
every  
Singaporean**



## 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**

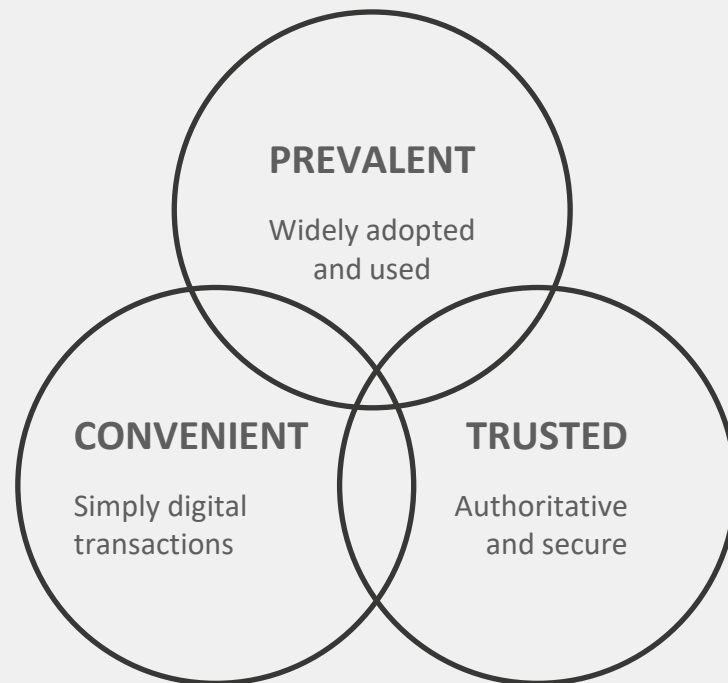
**\$50 savings** per  
transaction using **Myinfo**

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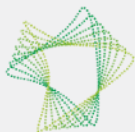
## **CODEX** - Re-engineering the Government through a modern Digital Backbone



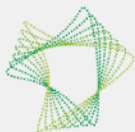
Government  
Data Architecture



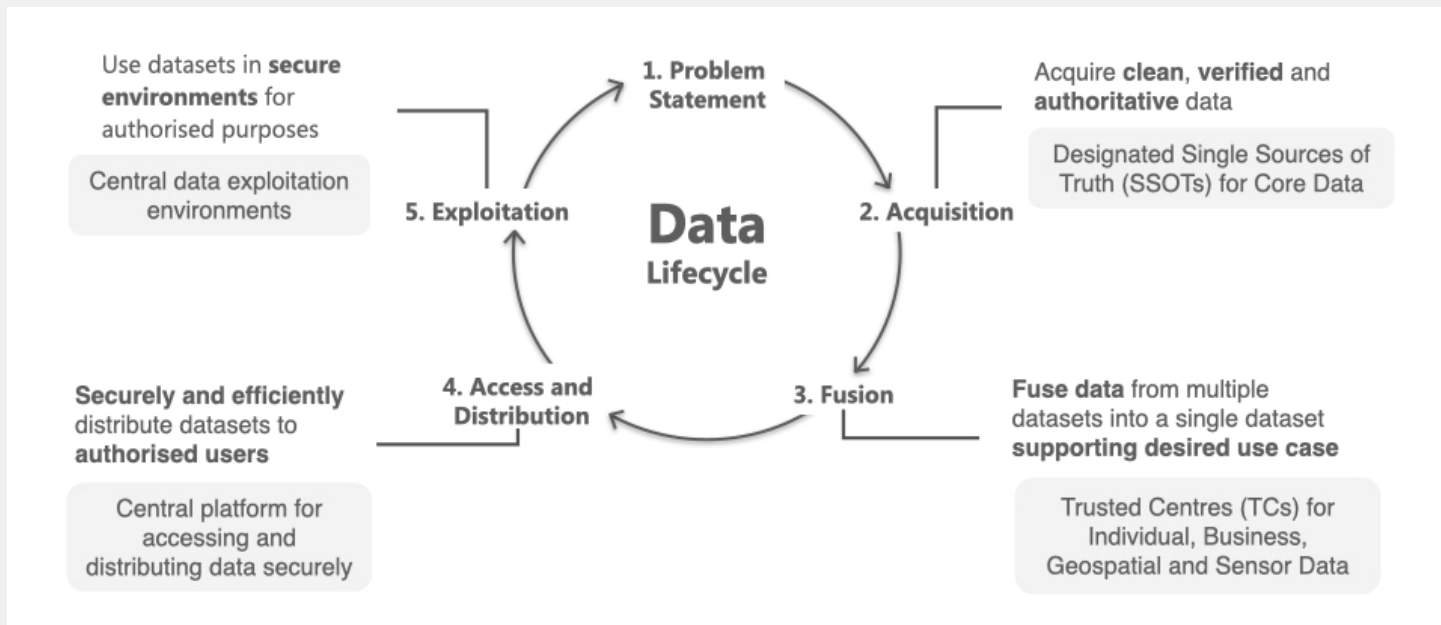
Government Technology Stack  
& Government on Commercial  
Cloud



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

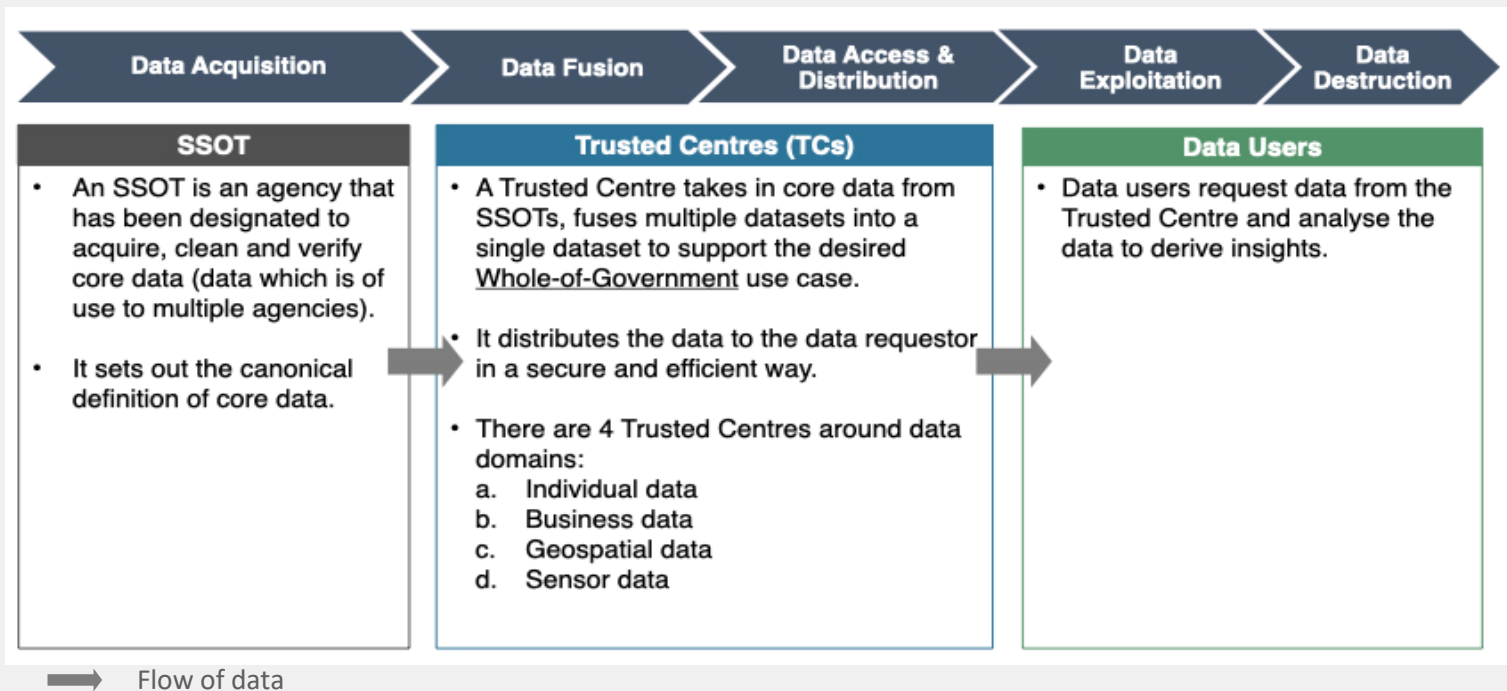


## Government Data Architecture has reduced data sharing time

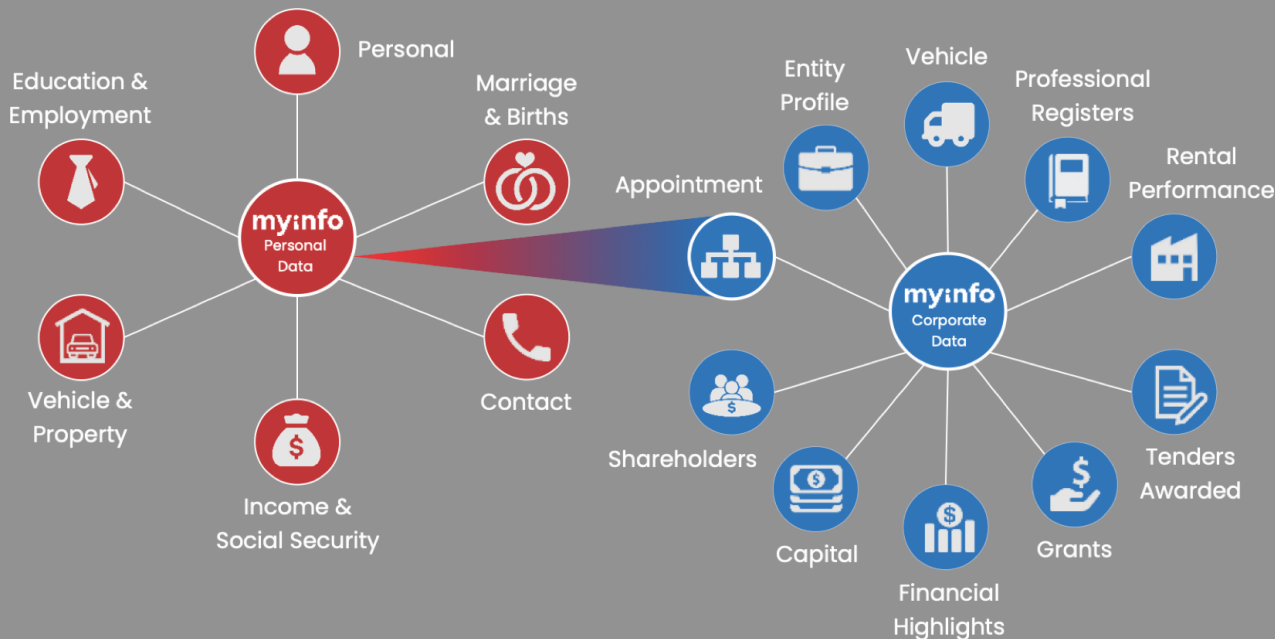




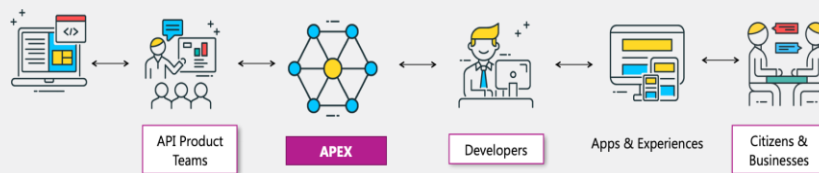
# GDA and the role of Single Sources of Truth and Trusted Centres



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



# GDA - a centralised data sharing platform for the Government through API Gateway (APEX)



**31**  
Agencies

**4,000+**  
APIs

**>100 Mil**  
Calls per month

## Benefits



Central Governance



Insights into API Usage

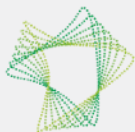


Central Discovery of APIs



Consent Driven Data Sharing

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



## SG Tech Stack (SGTS)



**Service Layer** (Reusable Components)

**Base Layer** (Standardised Dev Tools)

Network and Infra Services

Government on Commercial Cloud (GCC)

Live

Work in Progress

Planned

## Singapore Government Tech Stack (SGTS)



### Analytics

Personalise  
WOGAA

### Design

SG Design System

### Digital Identity

Singpass Login  
Corpass  
MyInfo  
Verify  
Authorise  
Notify  
Identiface  
Sign

### IoT

DECADA IoT Stack

### Data Science

Transcribe  
GovText  
Fraud Detect  
Video Analytics

### Data Transfer

Cloud File Transfer  
Video Exchange



### Communications

APEX on Prem  
APEX Cloud  
APEX Marketplace  
ADEX (SDX)

### Toolchain

SHIP-HATS

### Runtime

Container Stack  
SlaC

### Monitoring

StackOps  
Gov Cyber Sec Ops Centre  
Cloudscape  
Endpoint Det & Res

### Service Management

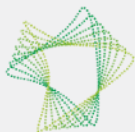
Developer Portal  
SEED & TechPass  
Tech Biz

Build digital infrastructure to enable  
transformation across Government and the nation

1. National Digital Identity
2. CODEX

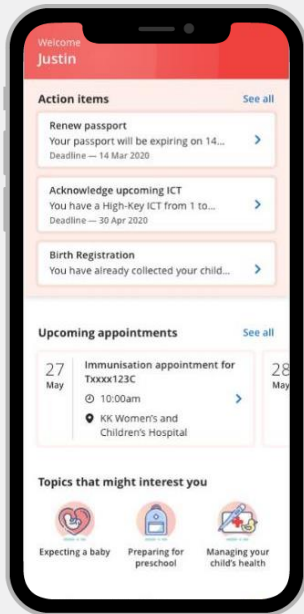
Reengineering Government processes to better serve citizens and  
businesses

### 3. Moments of Life



## **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



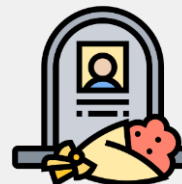
**Having a newborn**  
(e.g. registering for childbirth, download of eBirth certificate)



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



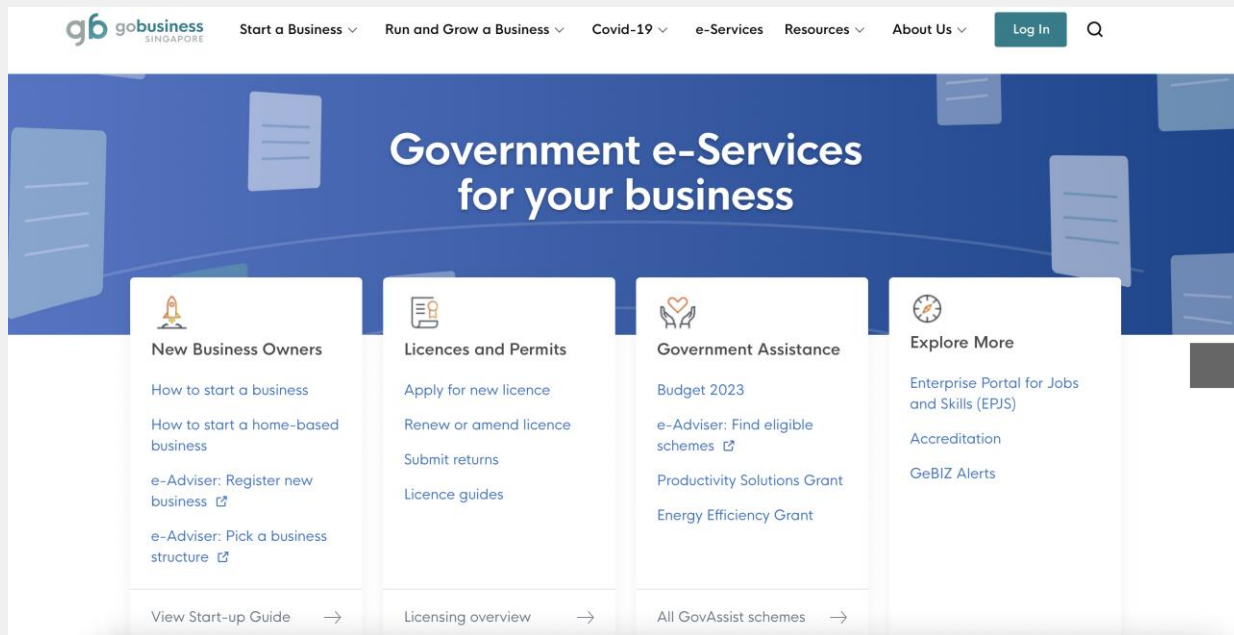
**Municipal matters**  
(e.g. lodge a complaint on neighbourhood facilities, booking a BBQ pit)



**Death of loved one(s)**  
(e.g. CPF nomination, booking of wake venue)



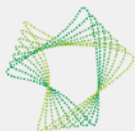
# MOL – a central platform offering streamlined services for business through **GoBusiness**



The screenshot shows the GoBusiness Singapore website. The header includes the 'gb gobusiness SINGAPORE' logo and navigation links: 'Start a Business', 'Run and Grow a Business', 'Covid-19', 'e-Services', 'Resources', 'About Us', 'Log In', and a search icon. The main banner reads 'Government e-Services for your business'. Below the banner are four service categories: 'New Business Owners' (with links for starting a business, home-based business, and e-Adviser), 'Licences and Permits' (with links for applying, renewing, and guides), 'Government Assistance' (with links for Budget 2023, e-Adviser, and grants), and 'Explore More' (with links for EPJS, Accreditation, and Alerts). At the bottom, there are links to 'View Start-up Guide', 'Licensing overview', and 'All GovAssist schemes'.



**Talent** and engaging the **Tech Community** a key enabler for  
Smart Nation



## Developing **talent** through different life stages



### Build pipeline

- PSC engineering
- Smart nation scholars
- Tech associate program



### Sustain interest and purpose

- Community development
- Stack



### Innovation culture

- White space funding
- Hackathon



### Start young

- Geek out
- Internships



### Build capabilities

- Capability centres



### Build careers

- Mentorship programme



### World class talent

- Smart nation fellows
- Community of distinguished engineers

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

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



[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)

# THANK YOU