



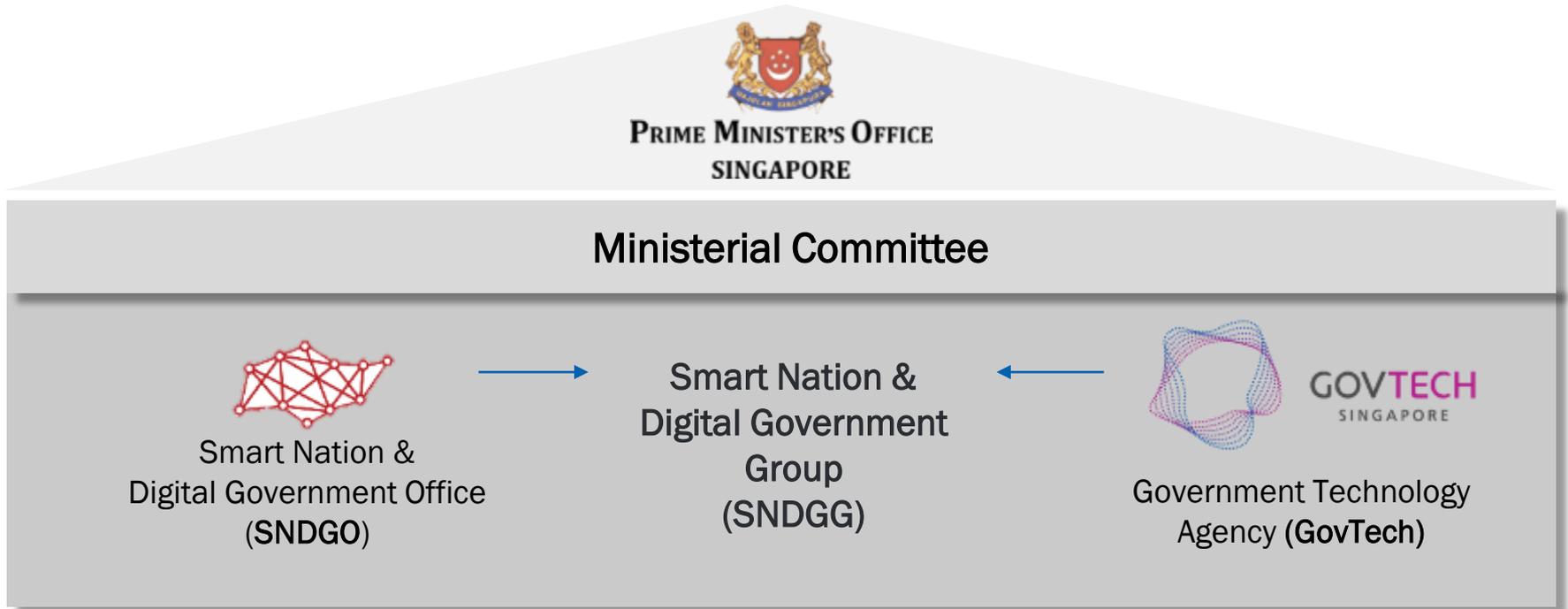
GOVTECH
SINGAPORE

Singapore's Digital Government Approach during COVID-19

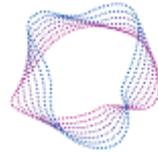
Government Technology Agency | 2021

Bringing Smart Nation front and centre

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



Engineering Digital Government, Making Lives better



GOVTECH *Almost 3,000 strong*
SINGAPORE

Governance

Governance

- Sets ICT policies covering whole of Government

Cyber Security

- Chief Information Security Officer for Government sector

Services

Agency IT

- CIO & technology officers in 60 government agencies

Products

Products Management

- **Strategic national products**
 - National digital identity
 - Smart nation sensors platform
 - LifeSG
 - CODEX
 - Digital workplace

Product Engineering

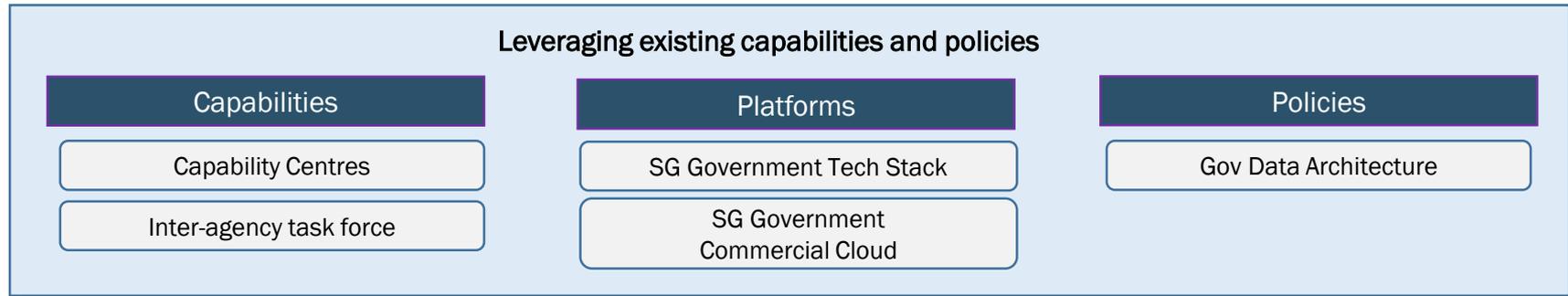
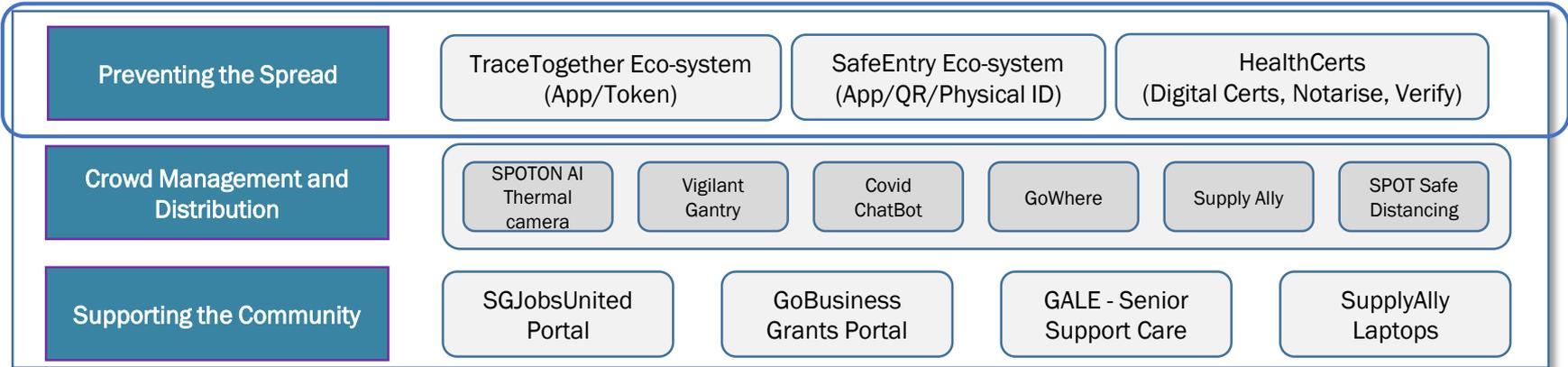
- **Capability centers**
 - Govt digital service
 - Data science and AI
 - Sensors and IOT
 - Cyber security
 - Infrastructure and cloud
 - Geospatial M&S

Technology played a significant role during the crisis

Our guiding principles were :

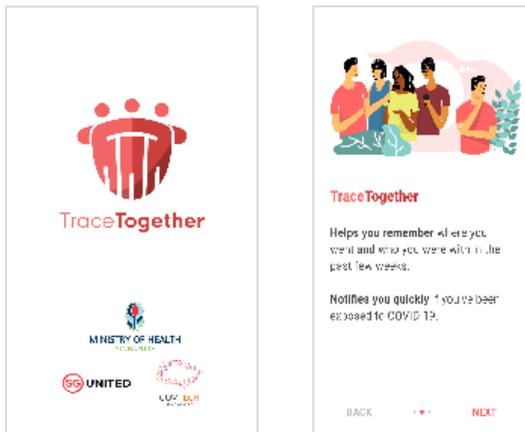
- 1. Technology must be based on sound public health principles and** respect the central role of public health authorities, and be used to support it.
- 2. Technology must preserve and uphold public trust.** Second, the government needs to be transparent in what data we collect, how we use the data, and be accountable to the public.
- 3. Technology cannot be the only option available.** During this COVID-19 crisis alternatives must be provided for the digitally excluded and under-served segments

Rising to the occasion during the pandemic



Preventing the spread - TraceTogether

TraceTogether Mobile App



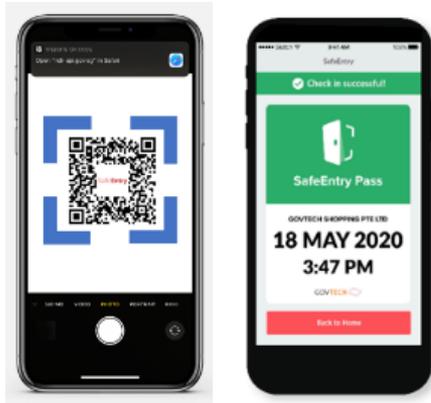
- Privacy-preserving contact tracing app
- Log close contacts via BlueTooth
- First national deployment of Bluetooth-based digital contact tracing

TraceTogether Token

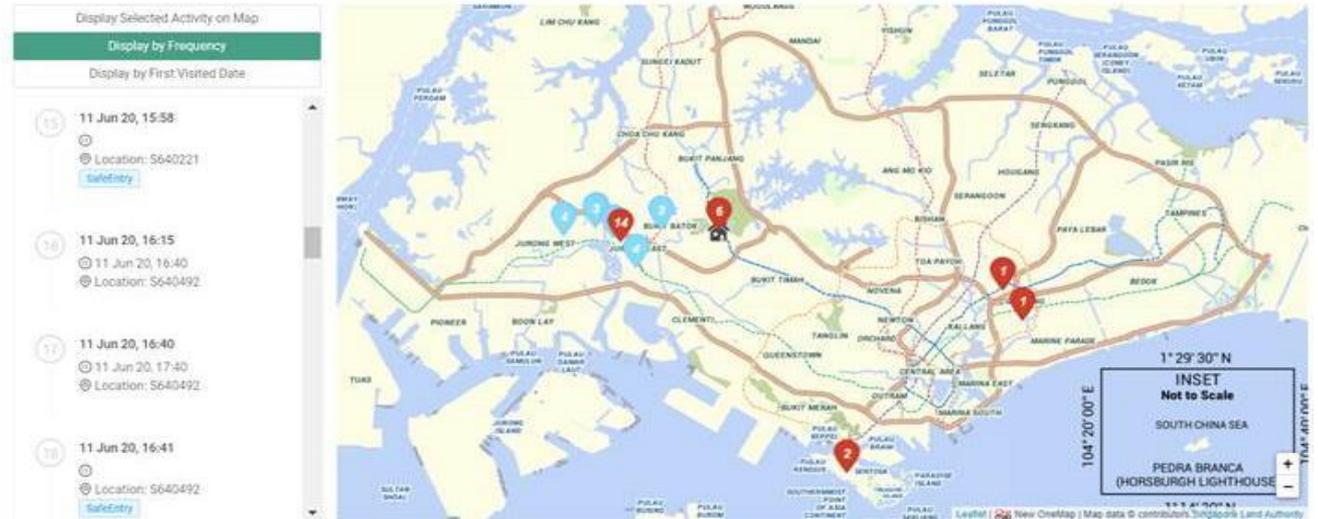


- **TT Tokens** for digitally excluded and possibly overseas visitors

Preventing the spread - SafeEntry



- National check-in system that **logs visits by individuals to hotspots and venues**
- **Digital and Non-digital check-in** using mobile devices OR physical identity card
- Data collected can create a **base activity map for activity mapper to start their work in tracing the infected person's contacts.**



Preparing for safe travel



[HealthCerts](#) is a set of digital standards and schema for issuing digital COVID-19 test results certificates that are in line with international standards such as [Fast Healthcare Interoperability Resources](#) (FHIR) and the Singapore Government's requirements.

Contains data such as identity details (name, NRIC, date of birth, gender, nationality), COVID-19 test details (test type, status, test date, clinic details)

To enable an interoperable, verifiable, and tamper-proof solution for ...

Medical institutions



Travellers



Immigration authorities



www.healthcerts.gov.sg

www.notarise.gov.sg

www.verify.gov.sg



HealthCerts

A set of **digital standards and schema** for issuing digital certificates



Notarise

A platform for **digital documents** to be officiated by the **Government**

Verify

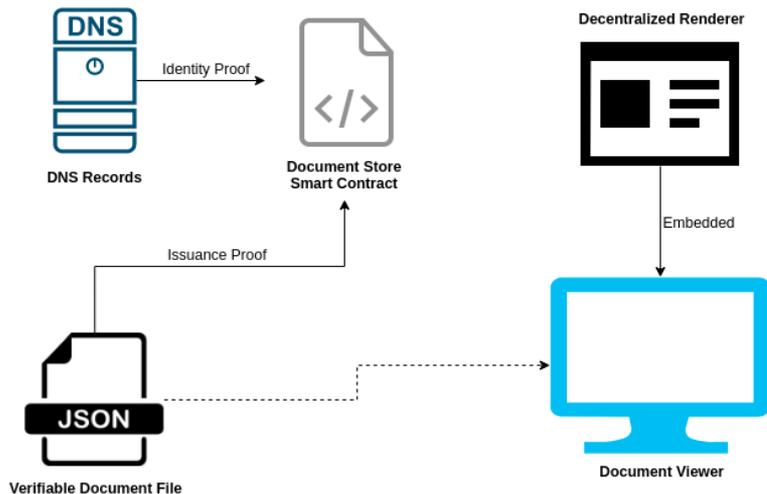
A platform for authorities to **confirm that the certificates have not been tampered with** and authenticated & endorsed by a recognised entity.

HealthCerts is powered by [OpenAttestation](#), framework we open-sourced in 2018 which uses blockchain to issue cryptographically trustworthy documents which can be verified independently without the need for proprietary software equipment. OpenAttestation has powered a number of products across sectors including OpenCerts, used to verify certificates and TradeTrust, which allows the exchange of electronic trade documents across digital platforms.

Verifiable Document

A verifiable document (or verifiable credential) is a tamper-evident document that cryptographically proves who issued it. They are the electronic equivalent of the physical documents that we all possess today, such as: plastic cards, passports, driving licences, qualifications and awards, etc

- Known issuer
- Valid certificate hash
- Issued on Ethereum network
- Not been revoked

 **OpenAttestation**

10 providers

~30 locations

Eg Canada, Denmark, Hong Kong, Indonesia and Malaysia

420 institutions



Verify

A platform for authorities to confirm that the certificates have not been tampered with and authenticated & endorsed by a recognised entity.

- Verify's open-sourced information can be found at <https://go.gov.sg/overify>
- Verify checks that
 - ✓ certificate is issued by an authority (eg Public Health Ministry)
 - ✓ is valid and not revoked
 - ✓ has not been tampered with
- Existing private sector use case :
 - **Affinidi Unifier web app** or **IATA's Travel Pass** provides document verification services similar to Verify

HealthCerts Sample QR Code

Scan and try it out!



HealthCerts is/can be shared via:

- email or print-out which contains the memo and QR code
- Or from e-wallet which generates dynamic QR for one-time read
- QR can be read by a generic QR code reader

Integration and Interoperability

To create HealthCerts, you can either:

- o **Self develop using open standards and schema**

- available at <https://go.gov.sg/dphealthcerts>

- governments can reference their set of approved medical institutions

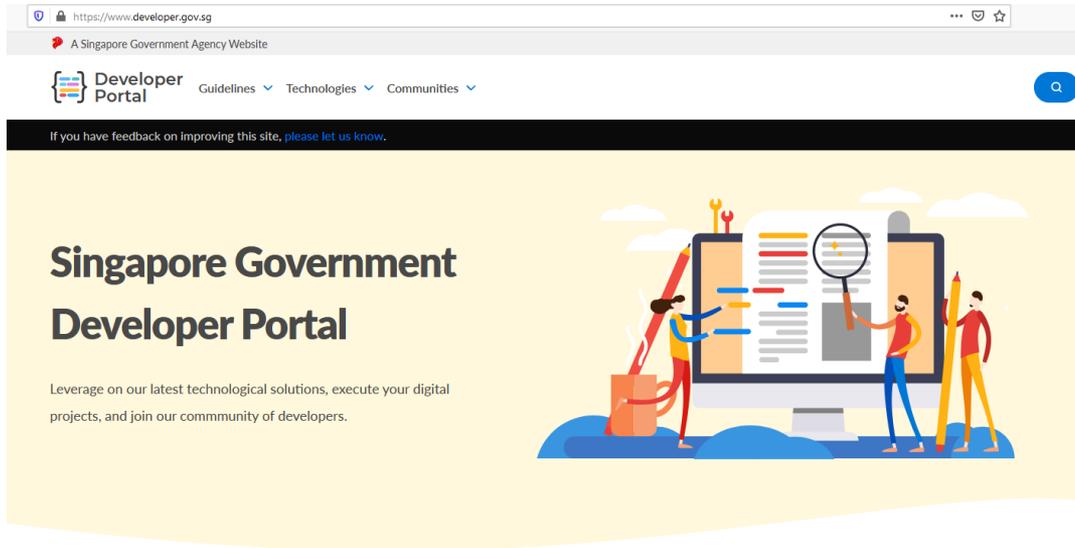
- put up a request to GovTech to change data fields based on your requirements, if required

- Create a verifier (Verify.gov.sg or equivalent) for immigration authorities' use

- o **Select a private vendor from a group of HealthCert accredited partners** (available at

- <https://go.gov.sg/hcproviders>

Building with the community – Singapore Government Developer Portal (www.developer.gov.sg)



Discover a wide range of products

Access documentation to use and integrate

Engage with the community through events and volunteering opportunities

Start Building with our Developer Portal

Build your next digital service with using the Government's technological solutions, project guidelines, and find new opportunities in our developer community.

Building with the community – STACK-X

Join our *STACK-X Meet-up page and Telegram chat*

Be informed of events

<https://go.gov.sg/stackxmeetup>



- **Tech deep dive sessions** on areas such as Agile, Cloud, Cybersecurity, and Machine Learning.
- **GovTech and private sector professionals** share perspectives on digital disruption and acceleration.

Keep in touch & Chat with us

Join our telegram chat



Thank you

For more info, please contact karen_kee@tech.gov.sg