



Member States Questionnaire (MSQ) for the United Nations E-Government Survey 2024

The objective of this questionnaire is to gather information from Member States in preparation of the United Nations E-Government Survey 2024. Please note that these responses do not directly affect the UN E-Government Development Index (EGDI), which is a composite index of the Online Service Index (OSI), Telecommunications Infrastructure Index (TII) and Human Capital Index (HCI). The United Nations Department of Economic and Social Affairs (UN DESA) assesses national portals with the assistance of independent researchers to construct the OSI, and requests data from the International Telecommunications Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) to construct TII and HCI respectively. Inputs to the MSQ will be used by the United Nations E-Government Survey 2024 team for more in-depth country analysis, fact-checking, and data quality assurance.

Refer here for a glossary of terminologies: <https://publicadministration.un.org/egovkb>

More information about the UN E-Government Survey:

<https://publicadministration.un.org/en/Research/UN-e-Government-Surveys>

For any questions about this questionnaire, please contact Madeleine Losch (email: loschm@un.org), Saae Kwon (email saae.kwon@un.org) and Enkel Daljani (email daljani@un.org)

COUNTRY NAME*

Singapore

Contact information

Your name*

Chan Cheow Hoe

Title*

Government Chief Digital Technology Officer

Organization*

Smart Nation and Digital Government Office

Email*

Chan_cheow_hoe@pmo.gov.sg

Please select whichever applies*

- I am authorized and fully knowledgeable to respond to this questionnaire.
- A group of government agencies responded to the questionnaire collectively.
- I did not have the full information to respond to this questionnaire.
- I mostly provided my own opinion/assessment rather than official information.
- Other _____

A. Institutional / Organizational Framework

1. What is the official e-government portal at the national level? If more than one exists, please list all. *

Note: E-government and digital government are used interchangeably in this Questionnaire.

www.gov.sg
www.smartnation.gov.sg
www.tech.gov.sg
www.life.gov.sg
www.gobusiness.gov.sg

2. Please provide links (Links) for portals providing specific services/features*

E-services or similar

We note that numerous other government websites also provide e-services for citizens and businesses. We note that the following 2 websites provide centralised e-services for citizens and businesses respectively:

www.life.gov.sg
www.gobusiness.gov.sg

E-participation or similar

www.reach.gov.sg

Open government data

www.data.gov.sg

Public procurement

www.singstat.gov.sg
www.datamall.lta.gov.sg

Others (if any)

www.gebiz.gov.sg
www.vendors.gov.sg

www.developer.gov.sg

The Singapore Government Developer Portal is a one-stop resource hub for government digital products and services. This is for government agencies, vendors and tech communities who are engaged in digital transformation projects

3. Please provide the name and link of the government agency/department/ministry at the national level in charge of e-government. If more than one exists, please list all. *

Smart Nation and Digital Government Office / www.smartnation.gov.sg

Government Technology Agency of Singapore / www.tech.gov.sg

4. Does your country have a national Chief Information Officer (CIO) or equivalent to manage its national e-government strategies/programmes? *

Yes No

If yes, please provide contact information of national Chief Information Officer (CIO) or equivalent:

Name*

Chan Cheow Hoe

Title*

Government Chief Digital Technology Officer

Organization*

Smart Nation and Digital Government Office

Email*

chan_cheow_hoe@pmo.gov.sg

5. Are there sectoral/line-ministry/local CIOs or equivalent positions across Government agencies/departments/ministries/jurisdictions? *

Yes No

If yes, please provide links and details on the above, including coordination/integration among national and sub-national levels on e-government strategies/programmes.

The Government Technology Agency (GovTech)'s mandate is to develop technology for the Government and works closely with the Smart Nation and Digital Government Office (SNDGO) which leads policy and governance matters. Both agencies form the Smart Nation and Digital Government Group (SNDGG) which is under the Prime Minister's Office (PMO) and Minister Josephine Teo is currently the Minister-in-charge of the Smart Nation initiative, Cybersecurity, and Ministry of Communications and Information. SNDGG also reports to an inter-ministerial committee chaired by the Senior Minister Teo Chee Hean together with four other ministers. Singapore has approximately 100 government agencies at the national level. There are no sub-national level agencies. IT functions for 60% of government agencies is run by the Government Technology Agency through seconded staff. CIOs from all agencies report to the Government Chief Digital Technology Officer (GCDTO).

There are several strategies to ensure coordination and integration:

(National level) Digital Government Blueprint: This is Singapore's national digital government plan from 2018 and builds on foundations laid by previous e-Government masterplans. It explains how we will strengthen integration between policy, operations, and technology to support the Government's mission to better serve stakeholders. This blueprint is improved upon iteratively as technology evolves and needs change. Two years after its launch, the blueprint was updated in Dec 2020 as the Government introduced new policies and initiatives in response to COVID-19's impact and to signal the future direction and the steps that agencies need to undertake to progress towards digital organisations. The blueprint can be found at <https://www.tech.gov.sg/digital-government-blueprint/> -

(National level) Platform approach through Strategic National Projects: To enable efficiency and cost savings, SNDGG identifies possible areas which require whole of government coordination. These projects of national importance across are approved by Cabinet and thereafter identified as Strategic National Projects (SNPs). SNPs enables GovTech to encourage adoption across agencies to reap its benefits. Singapore has 8 SNPs including the National Digital Identity and GoBusiness platform.

(Agency level) Coordinated Digitalisation efforts through Ministry Family Digitalisation Plans (MFDP): To drive digitalisation at the agencies, we identify representatives – Chief Digital Strategy Officers (CDSOs) at the Deputy-Secretary level. CDSOs plan and submit their digitalisation plans for the upcoming 2-3 years. Centrally, SNDGG reviews the plans and identifies common projects to reduce duplication and achieve higher efficiency across Government. These projects are coordinated and supported centrally through meetings, resources and capability building efforts. CDSOs are paired with Chief Information Officers (CIOs) who support them from a technical perspective.

Sectoral agencies/departments/ministries

6. Please provide names and portals (links) of the government agencies/departments/ministries at the national level in charge of the following*

Planning/development

1. Ministry of National Development / <https://www.mnd.gov.sg/>
2. Building and Construction Authority /<https://www1.bca.gov.sg/>
3. Council for Estate Agency/<https://www.cea.gov.sg/>
4. Housing and Development Board/<https://www.hdb.gov.sg/cs/infoweb/homepage>
5. National Parks Board/ <https://www.nparks.gov.sg>
6. Urban Redevelopment Authority/ <https://www.ura.gov.sg/corporate>
7. Municipal Services Office /<https://www.mnd.gov.sg/mso>
8. Centre for Liveable Cities/ <https://www.clc.gov.sg/>
9. Board of Architects / <https://www.boa.gov.sg/>
10. Professional Engineers Board /<https://www.peb.gov.sg/>
11. Strata Titles Board / <https://www.stratatb.gov.sg/>

Education

1. Ministry of Education / <https://www.moe.gov.sg/>
2. Singapore Science Centre/ <https://www.science.edu.sg/>
3. Singapore Examinations and Assessment Board/ <https://www.science.edu.sg/>
4. SkillsFuture Singapore / <https://www.skillsfuture.gov.sg/>

Health

1. Ministry of Health / <https://www.moh.gov.sg/>
2. Health Promotion Board/ <https://www.hpb.gov.sg/>
3. Health Sciences Authority/ <https://www.hsa.gov.sg/>

Social Welfare (inclusion, social protection, etc.)

1. Ministry of Social and Family Development/ <https://www.msf.gov.sg/#>
2. National Council of Social Service/ <https://www.ncss.gov.sg/>
3. Early Childhood Development Agency / <https://www.ecda.gov.sg/>
4. Families for Life / <https://familiesforlife.sg/Pages/default.aspx>

Employment and Labour

5. SGenable/ www.Sgenable.sg

Environment

1. Ministry of Manpower / <https://www.mom.gov.sg/>
2. Central Provident Fund Board / <https://www.cpf.gov.sg/member>
3. Workforce Singapore/ <https://www.wsg.gov.sg/>

Justice

1. Ministry of Sustainability and the Environment / <https://www.mse.gov.sg/>
2. National Environmental Agency: <https://www.nea.gov.sg/>
3. Public Utilities Board/ <https://www.pub.gov.sg/>
4. Singapore Food Agency/ <https://www.sfa.gov.sg/>

Economy/finance

1. Ministry of Law / <https://www.mlaw.gov.sg/>
2. Intellectual Property Office of Singapore / <https://www.ipos.gov.sg/>
3. Singapore Land Authority / <https://www.sla.gov.sg/>

Industry/trade

1. Ministry of Finance / <https://www.mof.gov.sg/>
2. Inland Revenue Authority of Singapore/ <https://www.iras.gov.sg/>
3. Accounting and Corporate Regulatory Authority/ <https://www.acra.gov.sg/>
4. Tote Board / <https://www.toteboard.gov.sg/>
5. Singapore Accountancy Commission / <http://www.sac.gov.sg/>
6. Monetary Authority of Singapore <https://www.mas.gov.sg/>

1. Ministry of Trade and Industry / <https://www.mti.gov.sg/>
2. Agency for Science, Technology and Research / <https://www.a-star.edu.sg/>
3. Competition and Consumer Commission / <https://www.cccs.gov.sg/>
4. Economic Development Board/ <https://www.edb.gov.sg/>

5. Energy Market Authority / <https://www.ema.gov.sg/index.aspx>
6. Enterprise Singapore / <https://www.enterprisesg.gov.sg/>
7. Hotels Licensing Board / <https://www.hlb.gov.sg/>
8. JTC corporation / <https://www.jtc.gov.sg/>
9. Sentosa Development Corporation / <https://www.sentosa.gov.sg/>
10. Singapore Tourism Board / <https://www.stb.gov.sg/content/stb/en.html>

Sustainable Development Goals (SDGs) [NEW]

1. Ministry of Sustainability and the Environment / <https://www.mse.gov.sg/>

Climate Change [NEW]

1. National Climate Change Secretariat / <https://www.nccs.gov.sg/>

Others (Please specify)

Central Government

1. Prime Minister's Office / <https://www.pmo.gov.sg/>
2. Corrupt Practices Investigation Bureau (CPIB) / <https://www.cpiib.gov.sg/>
3. Elections Department (ELD) / <http://www.eld.gov.sg/>
4. National Research Foundation (NRF) / <http://www.nrf.gov.sg/>
5. National Security Coordination Secretariat (NSCS) / <http://www.nscs.gov.sg/>
6. Public Service Division (PSD) / <http://www.psd.gov.sg/>
7. Civil Service College (CSC) / <http://www.cscollege.gov.sg/>
8. Strategy Group / <https://www.strategygroup.gov.sg/>

9. Smart Nation Digital Government Office (SNDGO)/
<https://www.smartnation.gov.sg>

Central Bank

1. Monetary Authority of Singapore /
<http://www.mas.gov.sg/>

Youth and Culture

1. Ministry of Culture and Youth /
<https://www.mccy.gov.sg/>
2. National Arts Council / <https://www.nac.gov.sg/>
3. National Heritage Board / <https://www.nhb.gov.sg/>
4. People's Association / <https://www.pa.gov.sg/>
5. Sports Singapore /
<https://www.sportsingapore.gov.sg/>
6. National Youth Council /
<https://www.nyc.gov.sg/omw/home>

Defence:

1. Ministry of Defence /
<https://www.mindef.gov.sg/web/portal/mindef/home>
2. Defence Science and Technology Agency /
<https://www.dsta.gov.sg/home>

Foreign Affairs

1. Ministry of Foreign affairs / <https://www.mfa.gov.sg/>

Home Affairs:

1. Ministry of Home Affairs / <https://www.mha.gov.sg/>
2. Gambling Regulatory Authority /
<https://www.gra.gov.sg/>
3. Home Team Science and Technology Agency /
<https://www.htx.gov.sg/>
4. Yellow Ribbon Singapore /
<https://www.yellowribbon.gov.sg/>

Communications and Information:

1. Ministry of Communications and Information
www.mci.gov.sg/
2. Cyber Security Agency of Singapore /
<https://www.csa.gov.sg/>

3. Infocomm Media Development Authority / <https://www.imda.gov.sg/>
4. National Library Board / <https://www.nlb.gov.sg/main/home>
5. Personal Data Protection Commission / <https://www.pdpc.gov.sg/>

Transportation:

1. Ministry of Transport / <https://www.mot.gov.sg/>
2. Land Transport Authority / <https://www.lta.gov.sg/content/ltagov/en.html>
3. Civil Aviation Authority of Singapore / <https://www.caas.gov.sg/>
4. Maritime and Port Authority of Singapore / <https://www.ptc.gov.sg/>
5. Public Transport Council / <https://www.ptc.gov.sg/>

B. Crisis/Emergency Response and Recovery [NEW]

7. Is there a dedicated specific digital strategy for crisis/emergency response and recovery (e.g., through digital transformation and digital inclusion)? Please provide links and details. [NEW]

Yes No

SingCERT:

<https://www.csa.gov.sg/Explore/who-we-are/our-identity/about-singcert>

Incidents are reported through Singapore's Computer Emergency Response Team (SingCERT). SingCERT also issues advisories on measures that businesses and individuals should adopt to better secure their systems.

Singapore's Cyber Security Agency leads the SG Cyber Safe Programme which publishes Cybersecurity toolkits for business to implement appropriate cyber measures.

8. Is there a specific national portal addressing crisis/emergency *? [NEW]

Yes No

If yes, please provide a link and more information about the specific national portal or dedicated section addressing crisis/emergency?

Our national portal for communications to citizens is through www.gov.sg. During the pandemic, it served as a central platform to keep citizens updated.

Covid-19 portal:

<https://www.covid.gov.sg/>

Covid SG portal was put up as a centralised platform for coordinating and disseminating information about the covid-19 pandemic as it evolves. Since Feb 2023, this portal has stood down as Covid-19 is deemed less severe. There was a multi-ministry taskforce to lead the responses to Covid-19 since the start of the pandemic and has also since stepped down.

SGSecure app:

<https://www.sgsecure.gov.sg/>

Launched in 2016, the SGSecure app allows users to report suspicious sightings to the authorities. Users can also receive timely alerts and updates from the authorities in the event of major emergencies.

C. Legal Framework

9. Is there any legislation, law, or regulation on access to information, such as a Freedom of Information Act? *

Yes No

If yes, please provide link and detail.

10. Is there any legislation, law, or regulation on data privacy and/or protection? *

Yes No

If yes, please provide link and detail.

Personal Data Protection Act: <https://sso.agc.gov.sg/Act/PDPA2012>

The Personal Data Protection Act (PDPA) provides a baseline standard of protection for personal data in Singapore. It complements sector-specific legislative and regulatory frameworks such as the Banking Act and Insurance Act.

It comprises various requirements governing the collection, use, disclosure, and care of personal data in Singapore.

It also provides for the establishment of a national Do Not Call (DNC) Registry. Individuals may register their Singapore telephone numbers with the DNC Registry to opt out of receiving unwanted telemarketing messages from organisations.

Public Sector (Governance) Act: <https://sso.agc.gov.sg/Act/PSGA2018>

The PDPA does not apply to public sector agencies, which are governed under the Public Sector (Governance) Act (“PSGA”). The PSGA promotes a homogenous governance framework across public sector agencies in Singapore and to support a whole of government approach to service delivery in the Singapore public sector.

Since 2001, the Government’s data security policies have been set out in the Government Instruction Manual (IM). The IM sets out how the Government manages and protects data (including personal data) in its possession or control. In 2018, the PSGA was enacted to further strengthen public sector data governance. The PSGA imposes criminal penalties on public officers who (a) knowingly or recklessly disclose data without authorisation; (b) misuse data that results in personal gain for the public officer or another person, or harm or loss to another person; and (c) knowingly or recklessly re-identify anonymised information without authorisation.

Detailed infographic can be found at:

<https://www.smartnation.gov.sg/files/publications/government-personal-data-protection-policies-jul21.pdf>

11. Is there any legislation, law, or regulation on cybersecurity or similar? *

Yes No

If yes, please provide link and detail.

Cybersecurity Act / <https://www.csa.gov.sg/legislation/Cybersecurity-Act/>

The Act establishes a legal framework for the oversight and maintenance of national cybersecurity in Singapore. Its four key objectives are to:

1. Strengthen the protection of Critical Information Infrastructure (CII) against cyber-attacks.
2. Authorise CSA to prevent and respond to cybersecurity threats and incidents.
3. Establish a framework for sharing cybersecurity information.
4. Establish a light-touch licensing framework for cybersecurity service providers.

Instruction Manual for Infocomm Technology and Smart Systems (ICT&SS) Management (IM8) / <https://www.developer.tech.gov.sg/guidelines/standards-and-best-practices/instruction-manual-for-ict-ss-management.html>

The IM8 seeks to provide guidance to Agencies as they adopt ICT & Smart Systems (ICT&SS) to enable their digital transformation and uplift ICT&SS capabilities across the Government. This includes helping Agencies to better understand the security requirements for ICT&SS, to better manage the cybersecurity risk posed to their systems and minimise the Government risk exposure.

The Instruction Manual for ICT&SS Management supports agencies to deliver fit-for-purpose, secure, and cost-effective solutions/services through:

- Ensuring good governance of ICT&SS and balancing the need for standardisation with affording flexibility for customisation.
- Providing guidance on the use of technology and best-in-class practices while ensuring tiered risk mitigation, for the Government to be “digital-to-the-core”.

- Enabling the acquisition, fusion, access, distribution, exploitation, and protection of data across agencies to achieve a government that is “data-driven to the core”.

12. Is there any legislation, law, or regulation on digital identity? *

Yes No

If yes, please provide link and detail.

Electronic Transactions Act: <https://www.imda.gov.sg/regulations-and-licensing-listing/electronic-transactions-act-and-regulations>

The Electronic Transactions Act (ETA) is a law that addresses issues around e-commerce and information technology. It provides a legal framework that touches nearly all digital services such as e-commerce, electronic records, electronic contracts, signatures, etc. It does not mandate the use of electronic signatures or transactions, and facilitates their use where parties choose to transact electronically. In March 2021, the ETA was amended to ensure that Singapore’s legal and regulatory infrastructure keeps pace with international trade law and the latest technological developments so that Singapore remains globally competitive. In 2021, the ETA was amended to adopt the UNCITRAL Model Law on Electronic Transferable Records (MLETR), which enables the creation and use of transferable documents or instruments such as electronic bills of lading (eBLs), which are key documents for international trade, including digital payment processes.

The ETA addresses the following issues:

- Commercial code for e-commerce transactions
- Use of electronic applications for public sector
- Liability of network service providers
- Provision for the development of security procedures such as Public Key Infrastructure (PKI)

Computer Misuse Act: <https://www.smartnation.gov.sg/media-hub/press-releases/218042023/>

This Act was introduced in 1993 to make provisions for securing computer material against unauthorised access or modification and for matters related thereto. An amendment was passed in Parliament in 2023 which includes new offences to prevent abuse of Singpass, Singapore’s National Digital Identity for individuals. This amendment will take effect later in 2023.

It will be an offence if an individual:

- a) Discloses his Singpass password or access codes, or provides any other means of access to his Singpass account, and
- b) The individual did so, knowing or having reasonable grounds to believe that the purpose of the disclosure is to commit or facilitate the commission of an offence.

The Singpass user will be presumed to have fulfilled condition (b), if he disclosed his Singpass credentials in any of the following situations:

- Where he received any gain for disclosing his Singpass credentials.
- Where he disclosed his credentials knowing that the disclosure is likely to cause wrongful loss to any person; or

- Where he disclosed his credentials without taking reasonable steps to find out the identity and physical location of the person to whom he disclosed his credentials.

13. Is there any legislation, law, or regulation on digital signature? *

Yes No

If yes, please provide link and detail.

Electronic Transactions Act: <https://www.imda.gov.sg/regulations-and-licensing-listing/electronic-transactions-act-and-regulations>

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The ETA addresses the following issues:

- Commercial code for e-commerce transactions
- Use of electronic applications for public sector
- Liability of network service providers
- Provision for the development of security procedures such as Public Key Infrastructure (PKI)

14. Is there any legislation, law, or regulation on e-procurement? *

Yes No

If yes, please provide link and detail.

Government Procurement Act: <https://sso.agc.gov.sg/SL/GPA1997-S269-2014?DocDate=20140404>

The Government Procurement Act and its subsidiary legislation namely Government Procurement Regulations 2014, Government Procurement (Application) Order and the Government Procurement (Challenge Proceedings) Regulations govern the Singapore government procurement regime. The Government Electronic Business (GeBIZ) portal is the Government's one-stop e-procurement portal specified in the subsidiary legislation where procurement opportunities can be found and where suppliers can search for Singapore Government procurement opportunities, download tender documents, submit their bids online and receive purchase orders from the Government. In addition, suppliers are required to submit electronic invoices to Singapore Government agencies to bill for goods

and services delivered via the Vendors@Gov internet portal/mobile application, or via InvoiceNow which is the nationwide e-invoicing network that Singapore has introduced in 2020 that is based on the Pan-European Public Procurement Online (PEPPOL) standard. Vendors@Gov is a one-stop portal that also allows suppliers to maintain their payment details and monitor e-invoice statuses.

More information on the Singapore government's procurement practices can be found here:

<https://www.mof.gov.sg/policies/government-procurement>

<https://www.mof.gov.sg/policies/government-procurement/understanding-the-procurement-process>

GeBiz portal: www.gebiz.gov.sg

15. Is there any legislation, law, or regulation on digitally publishing government expenditure? *

Note: This is related to SDG Indicator 16.6.1

Yes No

If yes, please provide link and detail.

Singapore does not have an existing legal framework regarding digitally publishing government expenditure. Nonetheless, information regarding government expenditure are made available electronically via www.data.gov.sg or <https://www.mof.gov.sg/singaporebudget/revenue-and-expenditure>

16. Is there any legislation, law, or regulation on national data governance, including data sharing/exchange/interoperability across government agencies? *

Yes No

If yes, please provide link and detail.

Public Sector Governance Act (PSGA): <https://sso.agc.gov.sg/Act/PSGA2018>

The PSGA enables Singapore public sector agencies to share data for seven broad purposes:

- a. to uphold and promote the values of the Singapore public sector;
- b. to secure economies or efficiencies for the Singapore public sector;
- c. to improve (directly or indirectly) the efficiency or effectiveness of policies, programme management or service planning and delivery by Singapore public sector agencies (whether by carrying out data analytics work or otherwise);
- d. to ensure business continuity;
- e. to ensure accountable and prudent stewardship of Singapore public sector finances and resources;
- f. to manage risks to the financial position of the Government to support a whole-of-government approach in the discharge of the Singapore public sector agencies' functions.

(2) However, subsection (1) does not override any obligation as to confidentiality because of legal privilege or contract.

(3) To avoid doubt, this Act is not intended to prevent or discourage the sharing of information by Singapore public sector agencies as permitted or required by or under any.

Act or other law (apart from this Act).

If

- an individual discloses, or the individual's conduct causes disclosure of, information under the control of a Singapore public sector agency to another person (whether a Singapore public sector agency).
- the disclosure is not authorised by any data sharing direction given to the Singapore public sector agency; and
- the individual is a relevant public official of the Singapore public sector agency at the time of the disclosure, the individual shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000 or to imprisonment for a term not exceeding 2 years or to both.

Detailed infographic could be found at:

<https://www.smartnation.gov.sg/files/publications/government-personal-data-protection-policies-jul21.pdf>

17. Is there any legislation, law, or regulation on open government data? *

Yes No

If yes, please provide link and detail.

The Singapore Government does not have regulations on open government data but regularly releases datasets for public dissemination via data.gov.sg. Data.gov.sg is the Singapore government's one-stop portal for open government data. It was launched in 2011 and includes publicly available data sets from 70 public agencies.

The aims of Singapore's open government data platform include the following:

1. Providing a one stop access to the government's publicly available data
2. Communicating government data and analysis through visualisations and articles
3. Creating value by catalysing application development
4. Facilitating analysis and research Singapore's open government data platform is also guided by the following data-sharing principles:

- Data shall be made easily accessible.
- Data shall be made available for co-creation.
- Data shall be released in a timely manner.
- Data shall be shared in a machine-readable format.
- Data shall be as raw as possible Singapore also has an Open Data License which aims to promote and enable easy reuse of public sector data to create value for the community and businesses.

Singapore has signed Digital Economy Agreements with:

- Australia (SADEA),

- Chile and New Zealand (DEPA),
- United Kingdom-Singapore Digital Economy Agreement (UKSDEA),
- Korea-Singapore Digital Partnership Agreement (KSDPA)

with agreements on Open Government Data. In the agreements, Singapore has recognized that facilitating public access to and use of government information may foster economic and social development, competitiveness, and innovation. Singapore has also agreed to endeavour to cooperate to identify ways in which it can expand access to and use of open government data to enhance and generate business and research opportunities.

18. Is there any legislation, law, or regulation on the use of new/emerging technologies such as artificial intelligence (AI), robotics, blockchains, 5G and Internet of Things (IoT)? *

Yes No

If yes, please provide link and detail.

While there is no formal legislation governing the use of AI, Singapore believes that a trusted ecosystem is key – one where organisations can benefit from tech innovations while consumers are confident to adopt and use AI. Singapore believes that its balanced approach towards AI ethics and governance can facilitate innovation, safeguard consumer interests, and serve as a common global reference point.

Model AI Governance Framework:

<https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework>

On 23 January 2019, the PDPC released its first edition of the Model AI Governance Framework (Model Framework) for broader consultation, adoption, and feedback. The Model Framework provides detailed and readily implementable guidance to private sector organisations to address key ethical and governance issues when deploying AI solutions. On 25 May 2022, IMDA/PDPC launched A.I. Verify - the world's first AI Governance Testing Framework and Toolkit for companies that wish to demonstrate responsible AI in an objective and verifiable manner. A.I. Verify – currently a Minimum Viable Product (MVP), aims to promote transparency between companies and their stakeholders.

<https://www.smartnation.gov.sg/initiatives/artificial-intelligence/>

In addition, Singapore has launched a National AI Strategy, outlining the government's plans to deepen the use of AI to transform the economy. The broad pillars of the strategy aim to tackle the following issues:

- Identify areas to focus attention and resources on at a national level.
- Set out how the Government, companies and researchers can work together to realise the positive impact from AI.
- Address areas where attention is needed to manage change and/or manage new forms of risks that emerge when AI becomes more pervasive.

The National AI Strategy also identifies and targets 5 critical ecosystem enablers as part of AI innovation and adoption:

1. Triple helix partnerships between the research community, industry and Government enables the rapid commercialisation of fundamental research and deployment of AI solutions.

2. Talent and education address the need to develop homegrown talent across the entire range of AI-related job roles and helps Singaporeans prepare for the future AI economy.
3. Data architecture enables quick and secure access to high-quality datasets across various sectors.
4. A progressive & trusted environment is important for test-bedding, developing, and deploying AI solutions.
5. International collaborations to drive and support sustainable development of AI with multi-national researchers, businesses, and governments.

The National AI Strategy further outlines seven National AI Projects that build on AI to deliver strong social and economic impact for Singapore:

1. **Healthcare:** Chronic disease prediction and management helps with faster detection and treatment of such diseases.
2. **Smart estates:** Municipal services are delivered in a more responsive, reliable, and timely for citizens.
3. **Education:** Personalised education through adaptive learning and assessment helps teachers better customise and improve their students learning experience.
4. **Border security:** Border clearance operations strengthen security while improving travellers' experience.
5. **Logistics:** Intelligent freight planning optimises the movement of freight for greater business productivity and traffic efficiency.
6. **Finance:** Growing Singapore into a global hub for financial AI solutions.
7. **Government:** Leveraging AI to transform government services to deliver high-impact outcomes for citizens and businesses.

While the National AI Strategy is not a legally binding regulation, it establishes a comprehensive digitalisation framework for AI to deliver strong social and economic impact for citizens in Singapore.

19. Is there any legislation, law, or regulation on the ethical/responsible use of AI in public administration? [NEW]

Yes No

If yes, please provide link and detail.

While Singapore does not currently have formal legislation, law or regulation responsible AI Framework, the government is currently working on a Responsible AI Framework for AI products developed by the public sector. Such a framework is key to ensure that we maintain sufficient understanding, control, and oversight over AI products, given the risks presented by AI (as with all emerging technologies) - e.g. unintended discrimination or unpredictable behaviour/responses. Even as we increasingly look to more data-driven, probabilistic machine learning techniques and technologies, we currently refer to PDPC's Model AI Governance Framework (explainability, accountability, human oversight, and human centricity) as a starting point to shape a Responsible AI Framework specific to government.

These overarching/high-level Responsible AI principles inform more detailed sets of guidelines for specific AI technologies – especially emerging technologies with huge interest, e.g. Large Language Models/generative AI. This helps provide specific or concrete guidance to AI developers, while ensuring

that our governance approaches to these different technologies are shaped by coherent/consistent overarching responsible AI principles.

Use of Large Language Models in the public sector

The Public Service introduced internal guidelines in May 23 on the use of large language models (LLMs), which includes the use of commercial applications such as ChatGPT and Bing Chat. These guidelines help officers reap the benefits of AI while managing the risks involved. The guidelines are aimed at two groups of officers – users and developers of Government applications. For users, the guidelines remind officers that they are responsible for their own work and should vet AI-generated content used in their work to ensure that it is accurate, appropriate and does not breach any copyright issues. At the same time, they should refrain from entering sensitive information into these applications. For developers, the guidelines recommend risk mitigating measures such as conducting robustness and accuracy tests and implementing UI (user interface) cues to educate users on the proper use of these applications.

AI Verify:

<https://www.imda.gov.sg/how-we-can-help/ai-verify>

IMDA and PDPC have also developed A.I. Verify, an AI Governance Testing Framework and Toolkit, to enable the industry in Singapore to demonstrate their deployment of responsible AI. This is currently available as a Minimum Viable Product (MVP) for system developers and owners who want to be more transparent about the performance of their AI systems through a combination of technical tests and process checks.

D. Strategy and Implementation

20. Is there a national e-government strategy or equivalent? *

Yes No

If yes, please provide link and detail.

Digital Government Blueprint: <https://www.tech.gov.sg/digital-government-blueprint/>
And <https://www.smartnation.gov.sg/about-smart-nation/digital-government/>

The Digital Government Blueprint builds on the foundations laid by previous e-Government masterplans. It is a statement of the Government's intent and ambition to better leverage data and harness new technologies, and to drive broader efforts to build a digital economy and digital society, in support of Smart Nation. The vision is to create a government that is "Digital to the Core and Serves with Heart". Harnessing digital technology will allow the Government to build stakeholder-centric services - better designed policies, services, and infrastructure - that cater to the needs of people and businesses. For the public service, this means becoming a digitally confident workforce which is supported by a digitally enabled workplace and digital tools.

Driving Singapore's Smart Nation efforts is the Smart Nation and Digital Government Group (SNDGG), under the Prime Minister's Office, which was formed in 2017 and comprises the Smart Nation and Digital Government Office (SNDGO) and GovTech. The purpose of the SNDGG is to drive digital transformation for the public service, to strengthen Government ICT infrastructure and improve public service delivery by building up digital capabilities within Government, including in areas such as data science and IoT, to continue to deliver excellent public service to the citizens. For greater coherence

across the Government, SNDGG prioritizes and brings together engineering resources across Government to work on large, complex but high-impact digital technology projects. Two years after the launch of the Digital Government Blueprint in 2018, the Government has introduced new policies and initiatives. COVID-19 has also reaffirmed our emphasis on capability building, and compelled different parts of the Government to accelerate the use of data and of technology to offer digital services that minimise physical contact, and to use technology and digital tools to keep us safe.

The DGB has been updated to accurately reflect the current plans and to push for more ambitious goals to pursue deeper and more extensive digitalisation within the Government. New examples are included to better explain the latest efforts and benefits of Digital Government. The refresh is in line with the approach to improve the blueprint iteratively.

The key changes made to the DGB include:

Elaboration on the DGB vision of “Digital to the core” and “Serves with heart”. A “digital to the core” framework has been developed to describe how the Government is developing and measuring itself towards this vision. There is a greater emphasis on “Serves with heart” to explain how the use of digital technologies is to help the Government achieve its main purpose of serving citizens better and building trust.

Updated DGB strategies that stresses greater importance on user centricity and co-creation, improving how we work as digital organisations and harnessing new technology including Artificial Intelligence.

New and updated KPIs.

DGB KPI	2021 results
KPI 1: G2C Satisfaction (75-80%)	85%
KPI 2: G2B Satisfaction (75-80%)	76%
KPI 3: 100% ² of services that offer e-payment options (in & outbound)	98%
KPI 4: 100% ² of services that are pre-filled with Government-verified data	75%
KPI 5: 100% ² of services that offer digital options for wet ink signatures	87%
KPI 6: 90-95% ² of transactions completed digitally from end to end	99%
KPI 7: 100% ² of payments via e-payment	99%
KPI 8: 60% of required officers in <u>each</u> agency with the requisite data literacy (80% by 2023)	70% of agencies met 40% target
KPI 9: 100% of public officers who require basic digital literacy training ³ to	99%

be trained	
KPI 10: 30-50 transformative digital projects	50
KPI 11: 100% of MF with at least 2 High Impact AI project for service delivery, operations or policy making (2021)	10/20
KPI 12: High-impact data analytics projects 12a: 15 Cross-agency projects (2021) 12b: 2 projects per Ministry Family (MF)	TBC
KPI 13: 100% of Government data that follow stipulated machine-readable standards on SG-DRM	100%
KPI 14: 7 working days to share core data for inter-agency data science projects (including fusing) – (100%)	99%
KPI 15: 70% of eligible Government systems on commercial cloud	66% (May 2023)

21. How long is the period/cycle of the national e-government strategy or equivalent? *

- Two-year
 Three-year
 Five-year
 Ten-year
 Other _____

22. Is there a dedicated budget for digital government development? Please explain by informing on the field compared to national government expenditure. [NEW]

- Yes No

In FY2023, the Singapore Government is projected to spend \$3.3B on ICT, building on past years' investments to modernise its digital infrastructure and develop better services for citizens, businesses, and public officers. In total, the Government has invested about \$16 billion in ICT over the last 5 years.

23. Is the national e-government strategy guided by or aligned with the national development strategy?
Please provide link and detail, including specific reference to an implementation roadmap.

Yes No

Digital Government Blueprint:

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

<https://www.smartnation.gov.sg/about-smart-nation/digital-government/>

The Digital Government Blueprint builds on the foundations laid by previous e-Government masterplans. It is a statement of the Government's intent and ambition to better leverage data and harness new technologies, and to drive broader efforts to build a digital economy and digital society, in support of Smart Nation. The vision is to create a government that is "Digital to the Core and Serves with Heart". Harnessing digital technology will allow the Government to build stakeholder-centric services - better designed policies, services, and infrastructure - that cater to the needs of people and businesses. For the public service, this means becoming a digitally confident workforce which is supported by a digitally enabled workplace and digital tools.

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Two years after the launch of the Digital Government Blueprint in 2018, the Government has introduced new policies and initiatives. COVID-19 has also reaffirmed our emphasis on capability building, and compelled different parts of the Government to accelerate the use of data and of technology to offer digital services that minimise physical contact, and to use technology and digital tools to keep us safe.

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Updated DGB strategies that stresses greater importance on user centricity and co-creation, improving how we work as digital organisations and harnessing new technology including Artificial Intelligence.

24. Is the national e-government strategy guided by or aligned with the Sustainable Development Goals (SDGs)? Please provide link and detail.

Yes No

<https://sustainabledevelopment.un.org/memberstates/singapore>

Singapore supports the 2030 Agenda for Sustainable Development (2030 Agenda). As a small country with limited land and no natural resources, we understand well the challenges of sustainable development. Our policies have always been designed with long-term sustainability in mind and are broadly in-line with the SDGs. An Inter-Ministry Committee on the Sustainable Development Goals (IMC-SDGs) was established in 2013 to monitor progress on SDG implementation and facilitate Whole-of-Government coordination on Singapore's sustainable development efforts. The IMC-SDGs ensures a coherent Whole-of-Nation, bottom-up approach to develop creative, sustainable solutions. Through consultation and collaboration with multiple stakeholders, including the private sector and civil society, we can secure greater buy-in and commitment to action by all segments of society, and make progress on the SDGs.

To review our progress and show our commitment to the 2030 Agenda, Singapore undertook our first Voluntary National Review (VNR) of the SDGs at the 2018 High-Level Political Forum (HLPF) in New York in July 2018. Our VNR was an opportunity to take stock of Singapore's progress on sustainable development, to learn from other countries' experiences, and to explore cooperation with other countries, international organisations, and key stakeholders. Singapore will present our second VNR at the 2023 HLPF. We also continue to participate actively in regional and international efforts on the SDGs, including by sharing our sustainable development experiences with fellow developing countries under the Singapore Cooperation Programme, our flagship technical assistance programme. In February 2021, we launched the Singapore Green Plan 2030 (<https://www.greenplan.gov.sg>), a Whole-of-Nation, cross-sectoral roadmap charting our efforts to achieve the 2030 Agenda and our net zero emissions ambition, so as to embark on a green and inclusive recovery post-COVID-19.

To facilitate the reporting and monitoring of the progress in our sustainable development, the Singapore Department of Statistics' webpage on SDGs (<http://www.singstat.gov.sg/find-data/sdg>) provides access to Singapore's statistics on SDG targets and indicators. Indicators identified by the ASEAN Statistics Division (ASEANstats) are flagged by the ASEAN logo. More statistics will be added progressively when available.

25. Does the national e-government strategy make specific reference to or is aligned with sub-national/local e-government development strategy? Please provide link and detail.

Yes No

This is not applicable to Singapore as we are a small island state and we do not have a subnational/local e-government development strategy.

26. Does the national e-government strategy make specific reference to e-participation, engagement and/or digital inclusion? Please provide link and detail.

Yes No

Digital Government Blueprint (updated Dec 2020)

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

As part of the Singapore Together movement, the Government will step up engagement efforts to explain digital policies, work together with citizens and businesses to gather feedback, seek new ideas on how we can serve them better, and co-create the solutions and services with them. Facilitating meaningful engagements upstream will help us develop services that are well adopted and trusted by the public.

The Smart Nation Co-creating with Our People Everywhere (SCOPE) has been launched to engage the public during early stages of product development while Tech Kaki focuses on engagement sessions to deep dive into specific products. Citizens are involved in the design of products that will be used by them, with product improvements and redesigns done iteratively to address user feedback and problems identified.

To encourage co-creation with the community, the Government has launched the Singapore Government Developer Portal (www.developer.gov.sg), a centralised portal for public sector and industry developers to discover and co-develop using products developed by the Singapore Government. In addition to STACK-X meetups, we conducted the STACK2020 Developer Conference to engage the larger developer community in Singapore. Going forward, we will take greater steps to work more closely with industry and businesses to solve public sector challenges.

We believe that as we push ahead, no one should be left behind, in line with the Digital Readiness Blueprint. Services should be user-friendly, accessible, and beneficial to different population segments. We will provide extra help to those who need it to adopt our services. To achieve greater digital inclusion, we will pilot select digital services in vernacular languages and see how we could deploy assistive technology in a bigger way. Our pool of Smart Nation Ambassadors (SNAs) increased from 1,600 to 2,750 in 2020. More than 420 SNAs were involved in SNDGO's Emerging Stronger Conversations held as part of the Singapore Together movement. Our SNAs also played an active role in improving digital inclusion, helping to engage more than 80,000 people to educate and help the public with using the TraceTogether digital tools. 2,000 Migrant Worker Digital Ambassadors were trained to teach other migrant workers to use various mobile apps needed for them to resume work safely.

Service SG:

<https://www.psd.gov.sg/transformation/servicesg>

ServiceSG is a department under the Public Service Division, Prime Minister's Office. It seeks to integrate the delivery of services across public agencies, to serve citizens better, and in a more citizen centric manner.

Digital Readiness Blueprint:

<https://www.mci.gov.sg/en/portfolios/digital-readiness/digital-readiness-blueprint>

Digital readiness in Singapore's context is defined as broadly encompassing a) having access to digital technology b) having the literacy and know-how to use this technology, and c) being able to participate in and create with this technology.

Guided by this framework, our digital readiness efforts are directed at the following strategic outcomes:

- That every Singaporean has the means to transact digitally;
- That every Singaporean has the skills, confidence, and motivation to use technology;
- That every Singaporean makes use of technology to achieve a better quality of life; and

- That every digital product or service is designed for easy and intuitive use by all Singaporeans.

There are 4 strategic thrusts within this framework:

- Expand and enhance digital access for inclusivity.
- Infuse digital literacy into national consciousness.
- Empower community and businesses to drive widespread adoption of technology.
- Promote digital inclusion by design.

Arts and culture digital roadmap:

<https://www.mccy.gov.sg/sector/policies/arts-and-culture-digital-roadmap>

The Arts and Culture Digital Roadmap is designed to support citizens and organisations in the adoption of digital solutions to improve operational productivity and deliver greater impact through their work. It was developed through a survey on the digital capabilities of the sector, and over 20 deep-dive interviews with arts and culture organisations and practitioners. It also includes a self-assessment checklist to gauge digital readiness and an array of digital solutions which could be adopted and benefited at various phases of the creative process, as well as a list of funding schemes and other resources which can support the digitalisation journey. The Arts and Culture Digital Roadmap will be updated regularly, as the needs of the sector and technology evolve over time. The ministry will also be organising engagement activities such as virtual roadshows and workshops for citizens and organisations to be familiarised with the roadmap, and how it can be used to support digital adoption efforts. All these are part of digital government's effort in creating digital inclusion/engagement efforts.

27. Does the national e-government strategy make specific reference to a national data governance framework or similar? Please provide link and detail.

Yes No

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

Singapore's Digital Government Blueprint makes specific references to the Public Sector Governance Act (PSGA) as well as the government's personal data protection laws and policies. The 2018 Digital Government Blueprint states that to support greater data-driven policy making and service delivery, the Singapore government will step up data sharing between agencies. This involves tackling legislative, policy, capability, and technical challenges simultaneously. In 2018, the Singapore government formalised data sharing and safeguards in the public sector through the Public Sector Governance Act, which provides the legal means in which data can be shared in a safe, responsible, and appropriate manner. Agencies will be able to use Government verified data to provide services to citizens without requesting for additional documents and sensitive information online. At the same time, personal data will be protected through a robust set of safeguards, including access control, and will be de-identified when used for analysis and policy design. The updated digital blueprint of 2020 included further references to data protection safeguards after the government conducted a comprehensive review of data security practices across the public-sector in 2019. The Public Sector Data Security Review Committee made recommendations across five areas:

1. Enhance technology and processes to effectively protect data against security threats and prevent data compromises.
2. Strengthen processes to detect and respond to data incidents swiftly and effectively.
3. Improve culture of excellence around sharing and using data securely and raise public officers' competencies in safeguarding data.

4. Enhance frameworks and processes to improve accountability and transparency of the public sector data security regime.
5. Introduce and strengthen organisational and governance structures to drive a resilient public sector data security regime that can meet future needs The government's personal data protection policies for the public sector: <https://www.smartnation.gov.sg/about-smart-nation/secure-smart-nation>

The Integrated Data Management Framework (IDMF) also establishes an operating concept for managing and using data across a 5-stage lifecycle: (1) Problem Statement, (2) Acquisition, (3) Fusion, (4) Access and Distribution and (5) Exploitation.

The government has additionally outlined its Government Data Architecture (GDA), which aims to provide public officers with access to quality data, quickly and securely. The GDA introduces two organizational constructs: Single Sources of Truth (SSOTs), authoritative sources for core government data fields, and Trusted Centers (TCs), which aggregate data across the SSOTs and provide a one-stop-shop for users to access core government datasets.

The Government Data Strategy (GDS) is centered on the IDMF, and will be realized through four key thrusts:

1. **Data Architecture:** building a GDA that enables quick and secure access to quality data.
2. **Digital Infrastructure:** developing infrastructure to digitally industrialize the management, governance, and use of data, to support and scale data transformation initiatives. For instance, a key example of this infrastructure is Vault.Gov.SG, a platform that lets all officers browse a meta data-catalogue, securely download sample datasets immediately for exploratory analysis and then request full datasets from the TCs.
3. **Data Education:** raising data capabilities across different levels and equip all public officers with the knowledge and skills to bring data into their everyday work.
4. **Use Cases:** partnering with government agencies and companies to identify use cases and facilitate access to data needed to deliver them.

28. Does the national e-government strategy make specific reference to national digital identity? Please provide link and detail.

Yes No

National Digital Identity:

<https://www.smartnation.gov.sg/initiatives/strategic-national-projects/national-digital-identity>
<https://www.tech.gov.sg/singapore-digital-government-journey/digital-identity>
<https://www.developer.tech.gov.sg/products/categories/digital-identity/national-digital-identity/overview.html>

The national e-government strategy makes references to Singapore's National Digital Identity (NDI). As a Smart Nation strategic national project, NDI serves as a digital infrastructure and trust platform that enables Singapore residents and businesses to transact digitally in a convenient and secure manner. For Singapore residents, Singpass is one of the products that seeks to value-add and bring convenience to the everyday lives of citizens. The Singpass app serves as a secure digital identity, thereby allowing easy access to e-services. This includes sharing personal particulars upon consent, identity proofing with a Digital identity card, or logging into Government e-services.

The NDI system also offers several APIs (Application Programming Interfaces) for partners and developers to come on board, by integrating NDI digital services and applications such as Myinfo, Verify, Login, etc.

Today, Singpass has a user base of more than 4.2 million users and provides convenient and secure access to over 1,700 services by more than 460 government and private sector organisations. Singpass facilitates about 300 million personal and corporate transactions every year and serves approximately 97% of Singapore Citizens and Permanent Residents aged 15 and above, making it one of the most pervasively adopted national digital identity systems in the world.

29. Does the national e-government strategy make specific reference to digital-by-design/digital-first¹ principle or similar? Please provide link and detail.

Yes No

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

The Government Digital Blueprint has a “Digital to the Core” principle. This refers to using data, connectivity, and computing decisively to re-engineer business processes, re-architect technology infrastructure and transform services for citizens, businesses, and public officers.

<https://www.mci.gov.sg/pressroom/news-and-stories/pressroom/2023/2/speech-by-mrs-josephine-teo-minister-of-communications-and-information-at-the-ministry-of-communications-and-information-committee-of-supply-debate-on-28-february-2023?category=Digital+Readiness>

In addition, we also have a digital-first, but not digital-only philosophy. As outlined by Mrs Josephine Teo, Minister for Communications and Information at the Ministry of Communications and Information Committee of Supply Debate, a key driving principle for SNDGG is to build an inclusive, united, and caring society.

30. Does the national e-government strategy make specific reference to data-once-only principle, **single-source-of-truth (SSoT)**, or similar? Please provide link and detail.

Yes No

As part of Singapore’s Digital Government Blueprint, the Government has outlined the Government Data Architecture (GDA) to enable secure data sharing and usage across the public sector. The GDA lays out the organisational structures and technical infrastructure required to facilitate efficient data sharing of clean and authoritative datasets across public agencies. It does so by designating and building:

1. Single Sources of Truth (SSoTs), authoritative sources for core government data fields that acquire, clean, maintain, and distribute these data fields to requesting agencies within seven working days.
2. Trusted Centres (TCs) that fuse and distribute core datasets.
3. Central platforms for data users to request, download and analyse datasets.

The TCs distribute only non-identifiable data for policy analysis and planning purposes, while identifiable data is used only for service delivery and operational purposes. The GDA minimises the need for agencies to collect datasets on their own as they can obtain the same data from the TCs. Public agencies can also purge their datasets when they have finished using them, without fear that the

¹ To provide link or description

dataset would no longer be available. This reduces duplicative work for public agencies and minimises the different attack points from which a malicious attacker can attempt to extract data.

There are 4 Trusted Centres for different types of data:

1. Individual: Department of Statistics
2. Business: Department of Statistics
3. Geospatial: Singapore Land Authority
4. Sensor: Smart National Digital Government Group

<https://www.tech.gov.sg/media/media-releases/no-more-repetitive-form-filling-after-you-tell-us-once-for-government-services>

The national e-government strategy refers to Myinfo. Authenticated through Singpass, Myinfo is a government-developed digital personal data platform, which helps citizens fill in digital forms automatically instead of doing so repeatedly for every transaction. Myinfo beta was launched in January 2016 and has been available to the public since May 2016. The Myinfo profile takes on a “Tell Us Once” approach, intended to improve public service delivery and productivity by furnishing government-verified data of individuals to pre-fill Digital Service forms in online transactions with the Government, meeting the KPI that 100% of digital services will be pre-filled with Government-verified data by 2023.

<https://www.singpass.gov.sg/myinfobusiness>

Online transactions for businesses are given a boost through Myinfo business, which is a service that enables businesses to manage the use of its corporate and applicant’s personal data for simpler online transactions. Business users leveraging on Singapore’s national digital identity (Singpass) can control and consent to share their data securely with participating businesses for more seamless digital transactions. They can enjoy less form-filling and a reduced need for providing supporting documentation for verifications. Myinfo enables locally registered businesses to digitalise their business operations by requesting for citizens’ personal data via secure APIs. With the business owner’s consent, Myinfo business supports the retrieval of the following data sets:

1. Entity: entity profile, entity address, previous UENs & Names, appointments, shareholders, capital, financial highlights, grants, licenses, builders & contractors, government contracts

Person (retrieved from Myinfo): Personal, contact, income & CPF, education & employment, family, vehicle, property.

31. Does the national e-government strategy make specific reference to a life-cycle approach? Please provide link and detail. [NEW]

Yes No

Agile development:

<https://www.developer.tech.gov.sg/guidelines/development-and-iteration/agile-development>

Agile Development follows the values and principles of the Agile Manifesto.

To bring flexibility and efficiency to your projects, agile methodology encourages rapid iterative development. Frequent adaptation and inspection are also encouraged. This is helpful for your team to deliver high-quality solutions that align with user requirements. Singapore government developed a scrum framework in place, Scrum is a framework that guides teams in implementing an Agile way of working. At GovTech, cross-functional teams use Scrum to work together. Based on empiricism, decisions are made based on what is known, and what is known comes from experience and

observation. Scrum guides the iterative and incremental nature of running digital projects - so that decisions are made based on results, rather than speculation or guesswork. Hence, Scrum is most effective when there is transparency, inspection, and adaptation.

UX design:

<https://www.developer.tech.gov.sg/guidelines/development-and-iteration/ux-design.html>

UX design is a process that emphasises how users interact with and experience your product or service. As a discipline, UX is made up of several domains which entail different job scopes and roles, including:

Design Researcher: Performs primary and secondary research on user behaviours, needs and goals for the design of your product.

Interaction Designer: Defines how people will interact with your product, and how to elicit the desired user behaviour, responses, and outcomes.

Content Strategist/UX Writer: Defines how information should be structured, so that the content is easy to navigate.

Service Designer: Creates a seamless experience that meets the needs of your users by tying together human, digital, and physical interactions.

GoBusiness portal:

<https://www.tech.gov.sg/products-and-services/gobusiness/>

<https://www.tech.gov.sg/media/technews/inside-look-at-gobusiness>

Developed in collaboration with the Smart Nation and Digital Government Office (SNDGO) and the Ministry of Trade and Industry (MTI), the GoBusiness Licensing portal is meant to streamline regulatory requirements and digitalise transactions between the government and businesses. This is part of the larger effort to foster a pro-enterprise environment for businesses to grow.

GoBusiness works by having users answering a series of questions about their proposed food business and the address of the premises, users will be provided with a list of ‘types’ of business to select from.

After the selection is made, the portal will automatically surface to applicants the license requirements and the relevant granting agencies, alongside any associated costs. To achieve this, officers must reduce 845 fields into 90 fields with some major technical shifts.

32. Does the national e-government strategy make specific reference to inclusion-by-default, inclusion-by-design² or similar? Please provide link and detail. [NEW]

Yes No

The government recognises that not everyone may be able or confident enough to transact digitally. A “digital first, but not digital only” approach should therefore be taken to ensure that no one is left behind and everyone can participate in the increasingly digital society. Government agencies have a suite of targeted initiatives to bridge the digital divide (see response to Q44). These are complemented by efforts to support those who are less willing and/or able to transact digitally through the provision of non-digital alternatives.

² To provide link or description

<https://www.developer.tech.gov.sg/guidelines/standards-and-best-practices/digital-service-standards.html>

The Digital Government Blueprint (DGB) aims to deliver digital services that are easy to use, seamless and relevant to citizens and businesses. This is accomplished through the Digital Service Standards (DSS), a set of policies, standards and guidelines designed to help Government agencies in implementing digital services. A primary design principle of the DSS is to ensure public agencies deliver digital services that are accessible and inclusive. This includes the following criteria:

- Perceivable design ensures content is available in forms such as speech, large print, or Braille.
- Operable design ensures functions are accessible through a keyboard, mouse, or other assistive devices.
- Understandable content that is clear, concise and avoids jargon.
- Robust services that can be accessed across devices.

All Government digital services must meet the DSS.

<https://www.developer.tech.gov.sg/products/categories/design/singapore-government-design-system/overview.html>

Additionally, the Singapore Government Design System (SGDS) aims to empower agencies to create fast, accessible, and mobile-friendly digital services with a common set of UI components, patterns, and templates. Where applicable, SGDS further complies with the Digital Service Standards (DSS).

SGDS consists of two main parts:

- **Components:** A collection of open-source, front-end components that you can reuse or customise to build websites. All components have been checked to ensure they adhere to accessibility standards.
- **Guides:** A collection of frameworks, best practices, and guidelines. Guides are organised into categories for Developers, Designers, and Writers.

SGDS also supports other features:

- **Theme Customizer** to customise components and colours. It features a built-in colour contrast checker to help with accessibility checks.
- **Patterns** for common use cases. All patterns have been checked to ensure they adhere to accessibility standards.

<https://www.tech.gov.sg/singapore-digital-government-journey/diversity-and-inclusion/designing-inclusive-digital-services-for-everyone>

Every year, Singapore's government digital services undergo a round of Usability Checks (UC) conducted by GovTech, via a Mystery Shopper concept. Through the UCs, all digital services are rated against a set of criteria, which includes its accessibility requirements. The score cards of the digital services are then shared across the whole-of-government, spurring agencies to uplift the standard of their digital services.

Through these efforts, the satisfaction rating for our citizen and business services have improved over the years. This is illustrated in the 2020 Satisfaction Survey for Government to Citizen (G2C) and

Government to Business (G2B) services where we achieved a score of 86% and 76% respectively. This is a 7% increase in both scores compared to 2018's survey results.

<https://www.developer.tech.gov.sg/products/categories/design/purple-hats/overview.html>

GovTech has also developed Purple HATS, an open-source, customizable, automated web accessibility testing tool enabling developers to build more inclusive products during the product development process. Purple HATS allows software development teams to rapidly find and fix accessibility problems from their development machines or within their Continuous Integration/Continuous Delivery (CI/CD) pipeline, to improve the access of persons with disabilities (PWDs) to digital services. Purple HATS been listed in the Digital Public Goods registry by the Digital Public Goods Alliance (DPGA).

33. Does the national e-government strategy make specific reference to digitalizing a specific percentage of public services? [NEW]

Yes No

If yes, please provide link and detail.

<https://www.smartnation.gov.sg/about-smart-nation/digital-government/>

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

Singapore's Digital Government initiative and public sector digital transformation are led by the Government Technology Agency of Singapore (GovTech). Formed in 2016 with the focus of building and strengthening the Singapore government's internal engineering and digital capabilities, GovTech has empowered the whole of government (WOG) to centrally design, develop and deliver digital services that are built for our citizens' and businesses' immediate needs.

Our work can be broadly classified into three main areas – (i) Products, (ii) Services, and (iii) Cyber and Governance. This is aligned with the Digital Government Blueprint (DGB) which was launched in 2015 - a statement of the Government's ambition to better leverage data, harness new technologies and drive broader efforts to build a digital economy and society, in support of the Smart Nation vision which was launched by Prime Minister Lee Hsien Loong.

Singapore government aims to have 90-95% of transactions completed digitally from end to end. As of 2021, it has exceeded the target with 99%.

34. Does the national e-government strategy make specific reference to the use of new/emerging technologies/practices such as artificial Intelligence (AI), robotics, blockchains, 5G and Internet of Things (IoT), anticipatory, proactive services? Please provide link and detail.

☒ **Artificial intelligence (AI) link/detail:**

<https://www.smartnation.gov.sg/initiatives/artificial-intelligence/>

As a Smart Nation, we want to go beyond just adopting technology. Our aim is to fundamentally rethink business models, so that we can make impactful changes to reap productivity gains and create new growth areas.

By 2030, we see Singapore as a leader in developing and deploying scalable, impactful artificial intelligence (AI) solutions, in key sectors of high value and relevance to our citizens and businesses.

☒ **Robotics; link/detail:**

<https://www.ncs.co/en-sg/knowledge-centre/singapore-robotics/>

Singapore's Smart Nation Initiative includes various government-led efforts to fully harness the developments in computing. It aims to promote the nation's interest via automation, innovative technologies, and research. Through its three pillars of the Digital Society, Digital Economy, and Digital Government, the initiative seeks to realise the transformation in key areas of health, transport, urban solutions, public spaces, finance, and education using digital technologies. The initiative continues to be extremely successful, which led to Singapore's top awards. Robotics solutions to perform tasks, (e.g., industrial robots in manufacturing plants and autonomous mobile robots) are among the features that contribute to this ongoing success. Terence Teo, President of the Singapore Industrial Automation Association asserts, "Robotics can be a Singapore success story and we are well on our way to reaching that goal. We have the talent base to create it, the capital and investor interest to fund it, the infrastructure to support its development, the economic diversity to apply its solutions and the network to grow it regionally."

Singapore's industries, economy, and society have benefitted greatly from robotics solutions. Harnessing fourth industrial revolution (4IR) technologies including cobots (robots that function in collaborative environments with humans) is one of the ways that Singapore pursues to strengthen its industries.

Robots are naturally suited for application to 3D jobs. By freeing up the workers that would otherwise be dedicated to performing such tasks, they effectively contribute to better allocation of human resources. Moreover, robots can tirelessly engage in their duties without the danger of burnout or overwork while their human counterparts can enjoy better work-life balance and explore more rewarding aspects of their professions.

Blockchains; link/detail:

OpenCerts:

<https://www.opencerts.io/>

OpenCerts is a blockchain-based platform that offers an easy and reliable way to issue and validate academic certificates that are tamper-resistant. The platform is built on open source and standards. Educational institutions use OpenCerts to create digital versions of academic certificate.

OpenAttestation:

<https://www.openattestation.com/>

OpenAttestation is an open-sourced framework to endorse and verify documents using the blockchain.

Documents issued this way are cryptographically trustworthy and can be verified independently.

HealthCerts:

<https://www.healthcerts.gov.sg/>

HealthCerts is a set of digital standards and schema for issuing digital COVID-19 test results certificates that are in line with international standards and the Singapore Government's requirements. HealthCerts schema was developed in collaboration with Government Technology Agency and Ministry of Health, Singapore.

TradeTrust:

<https://www.imda.gov.sg/how-we-can-help/international-trade-and-logistics/tradetrust>

TradeTrust is a framework that comprises globally accepted standards that connect governments and businesses to a public blockchain to enable trusted interoperability of electronic trade documents across digital platforms. TradeTrust allows end users to endorse, exchange and verify documents and effect title transfer across different digital platforms seamlessly. TradeTrust can be utilised to digitalise two categories of documents used in cross-border trade:

Verifiable Documents such as the Certificate of Origin where the provenance and authenticity of the e-document can be easily verified by any party; and

Transferable Documents such as Bill of Lading where the e-document's title ownership can be transferred from one party to another.

☒ **5G; link/detail:**

<https://www.imda.gov.sg/how-we-can-help/5g-innovation>

With a growing pool of 5G talent in Singapore, communities, businesses, and industries are expected to benefit from the transformative impact that 5G enables. IMDA has adopted a multi-prong approach to facilitate the development of 5G and the enhancement of the 5G network infrastructure in Singapore.

To catalyse 5G development and adoption in Singapore, as a start, IMDA is exploring six strategic clusters to focus on where 5G bears the most potential: (i) Maritime Operations; (ii) Urban Mobility; (iii) Smart Estates, (iv) Industry 4.0, (v) Consumer applications and (vi) Government applications.

☒ **Internet of Things (IoT); link/detail:**

Reference to support the deployment of IoT and Smart Systems, and use sensor data for sensemaking, automation and actuation to improve efficiency and introduce intelligence in city operations.

Smart Nation Technology Division:

<https://www.tech.gov.sg/capability-centre-sctd>

The Smart City Technology (SCTD) division, established as a capability centre, designs, builds, and implements a government-wide Internet of Things (IoT) infrastructure to support a range of Smart City applications. Formerly known as Sensors & IoT (SIOT), this centre was renamed and reorganised in January 2023 to better reflect GovTech's focus in putting together the technologies, capabilities, and products to enable Singapore's Smart City vision.

SCDTD's work ranges from hardware design on embedded platforms and robotics, to infrastructure development and deployment on cloud management platforms. With these technologies, we apply them in projects like the Personal Alert Button and the Open Digital Platform to help improve service delivery and better meet the needs of citizens and businesses. We also collaborate with the industry, research entities, and agencies to build capabilities in IoT, pilot new sensor technologies, and solve IoT challenges.

☒ Invisible/anticipatory/proactive/seamless services¹ [NEW]:

For citizens and businesses, transacting with government will be easy, seamless and secure. Singapore citizens and businesses will:

- a. Find our digital services intuitive, easy to use, and relevant to their needs;
- b. Enjoy the convenience of completing government transactions in a paperless, presence-less manner from start to finish, anytime, anywhere and on any device
- c. Only need to give information or request for help once, as the relevant data or request will be shared with the right public agencies; and
- d. Feel confident that their data is secure.

National AI strategy:

<https://www.smartnation.gov.sg/initiatives/artificial-intelligence/>

Healthcare: Chronic disease prediction and management helps with faster detection and treatment of such diseases.

Education: Personalised education through adaptive learning and assessment helps teachers better customise and improve their students learning experience.

Personalisation:

Through personalisation, citizen's needs can be better understood, and Government services can be curated to create tailored experiences. Currently, personalisation of Government services can be achieved through a web and email personalisation tool that was developed by GovTech's Personalise team based on the framework shown below.

Personalisation is useful: Any personalisation strategy must bring real value to citizens and should ideally attain one or more of the citizens benefits.

Personalisation is relevant: Effective personalisation starts with understanding the users' intent and provides relevant information at the right time.

Personalisation is individualised: It starts by understanding and classifying users based on Segments, Archetypes, and the Individual.

Personalisation is a dialogue: Personalisation efforts should encompass a continuous, two-way dialogue that resembles conversations that customers would have with an in-store salesperson. This is because users do not want to be limited by what can be predicted about them, but to own and drive the experience they receive within their own terms.

Personalisation is a dialogue: Personalisation efforts should encompass a continuous, two-way dialogue that resembles conversations that customers would have with an in-store salesperson. This is because users do not want to be limited by what can be predicted about them, but to own and drive the experience they receive within their own terms.

Personalisation protects privacy: Agencies should only collect data required to deliver personalised experiences that users value and be transparent on what data is collected and how it is being used. They should ensure that appropriate steps are taken to prevent data breaches or mishandling.

These principles need to be upheld as personalisation can achieve its desired outcomes only when it helps citizens to feel heard, understood and valued. When done wrongly, personalisation can be viewed as intrusive and gives citizens the feeling that they are being watched. Inaccurate personalisation may even make the wrong assumptions regarding citizen needs.

Others; link/detail: _____

35. Is the national e-government strategy aligned to any regional or global guidelines, recommendations, or goals (e.g., United Nations, African Union, European Union, OECD)? Please provide link and detail.

Yes No

36. Does the Government use any foresight tools, such as scenario planning, in visioning the future of digital government? Please provide link and detail.

Yes No

Centre for Strategic Futures:

<https://www.csf.gov.sg/>

The Centre for Strategic Futures (CSF) was created to focus on whole-of-government strategic planning, coordination, and development; and to kickstart new capabilities in the Public Service. CSF's suite of foresight tools goes beyond scenario planning and consist of six areas: Defining Focus, Environmental Scanning, Sense Making, Developing Possible Futures, Designing Strategies, and Monitoring.

CSF's flagship programmes and initiatives include convening a biennial closed-door Foresight Conference; and leading the quinquennial National Scenarios exercise.

In 2022, SNDGO established a foresight function to complement CSF. Working closely with Futures colleagues from the Ministry of Communications and Information, SNDGO Futures scans for emerging technology and related social/policy signals; and develops scenarios to inform the next bound of its policy plans.

37. Does the Government have any measure in policy experimentation and/or regulatory sandboxes in using digital technologies? Please provide link and detail.

Yes No

Key KPIs in Digital Government Blueprint [https://www.tech.gov.sg/digital-government-blueprint/The Government holds itself to a set of KPIs for Digital Government](https://www.tech.gov.sg/digital-government-blueprint/The-Government-holds-itself-to-a-set-of-KPIs-for-Digital-Government). The set includes.

- 75% - 80% stakeholder satisfaction by 2023
- 100% End-to-End Digital Options by 2023
- 90% - 100% End-to-End Digital Transactions by 2023
- Digital Capabilities: 20,000 public officers trained in data analytics and data science by 2023.
- 30-50 transformative Digital Projects by 2023
- Every Ministry to have at least one AI project for service delivery or policy making by 2023.
- 70% of government systems on Commercial Cloud Migration by 2023 Technology Master planning

The Singapore government has been deepening its technical capabilities through Centre of Excellence (CentEx) for ICT and Smart Systems, where specialist engineering expertise will be grown to support the whole of government. The CentEx will house capability centres such as Data Science and AI, ICT Infrastructure, Application Development, Sensors and IoT, Cybersecurity and Geospatial. The CentEx may expand into new technology capability areas as the need arises, for example, in robotics/AR, digital twins or blockchain. Technology Master planning will involve the scanning for, experimenting with, and developing plans to scale up emerging technologies with potentially useful near-term applications for the public sector. Through this, the Centres of Excellence will perform a “tech-push” role, and help the public sector keep abreast of technology developments as well as new and potentially disruptive technologies.

Open Government Products (OGP) <https://www.open.gov.sg>

OGP is an experimental unit within GovTech. The unit comprises of engineers, designers and product managers who build technology for the public. The role of this unit is to experiment with new technologies and methods, exemplify what a good tech organisation in Government could look like, and to evangelise to the rest of the Government. Since its incorporation in 2019, OGP has developed products like parking.sg which has transformed the way citizens interact with government agencies. Resourcing approaches – Initiation Budget and Central Digitalisation Budget A new resourcing approach was implemented in 2018/19 to enable more agile digitalisation, allowing for nimble initiation of pilots and proof-of-concepts to test hypotheses or assumptions before scaling. This comprises an Initiation Budget to quickly start pilots, and a Central Digitalisation Budget to fund the scaling of successful pilots.

Experimental Systems and Technology Lab (ESTL) <https://www.estl.edu.sg/>

The ESTL is an experimental engineering team consisting of engineers, UX designers, delivery managers, and Education Officers (EO). Part of the Information Technology Division of the Ministry of Education (MOE) and Government Technology Agency (GovTech), it has operated since 2014, with the goal of pushing digital transformation in education, and creating an inter-connected tech ecosystem in MOE that is empowering, effective, and enjoyable for everyone. Products of ESTL include FlexiList, a mobile-friendly

platform integrated with schools' data, that allows teachers to create custom student name lists, and add other teachers and school leaders as collaborators to edit and view lists, and School Timetable Application (STA), an integrated suite of timetabling applications, comprising a cloud-based timetable generator enabling teachers to work collaboratively to input data, a relief planner allowing the relief team to identify lessons that an absent teacher missed and a list of teachers available to take over affected lessons, and a timetable exporter, which creates personalised copies of student timetables, for use by both students and teachers.

Non-exhaustive list of regulatory sandboxes by Government agencies:

- a. Monetary Authority of Singapore (MAS)'s Regulatory Sandbox <https://www.mas.gov.sg/development/fintech/regulatory-sandbox>: The MAS FinTech Regulatory Sandbox enables financial institutions and FinTech players to experiment with innovative financial products or services in a live environment but within a well-defined space and duration. This sandbox includes appropriate safeguards to contain the consequences of failure and maintain the overall safety and soundness of the financial system.
- b. Ministry of Health (MOH) regulatory sandbox for Telemedicine (TM) and Mobile Medicine (MM): In 2018, MOH started a regulatory sandbox for TM and MM to better understand the risks and explore new innovative services by partnering with industry players before transitioning to licensing the TM partners.
- c. Data Regulatory Sandbox by IMDA.

38. Does the Government have any official tool/mechanism to monitor the progress of the implementation of its e-government strategies? Please provide link and/or details [NEW]

Yes No

<https://www.google.com/search?q=Singapore+MFDP&oq=Singapore+MFDP&aqs=chrome..69i57.2811j0j4&sourceid=chrome&ie=UTF-8>

Singapore has a Ministry Family Digitalisation Plan (MFDP) which gives an overall goal of how entire public service in Singapore should transform digitally. The MFDP will guide agencies in aligning their efforts to the digital blueprint and raise the digital ambition of agencies to deliver anticipatory and personalised services. However, every ministry and agency would have different targets to meet for their digitalisation process and it is required for them to submit digitalisation plan.

<https://www.smartnation.gov.sg/about-smart-nation/digital-government/>

The Digital Government Blueprint details 15 key performance indicators (KPIs) to measure our government's digitalisation progress. New policies and initiatives are continually being added to the Digital Government Blueprint (DGB) to help us chart the fast-changing tides of tech and world events. For example, our ongoing drive to enhance our tech capabilities allowed us to pivot quickly and develop digital tools for contact tracing and the safe re-opening of Singapore's economy amid the COVID-19 pandemic.

DGB KPI

2021 results

KPI 1: G2C Satisfaction (75-80%)	85%
KPI 2: G2B Satisfaction (75-80%)	76%
KPI 3: 100% ² of services that offer e-payment options (in & outbound)	98%
KPI 4: 100% ² of services that are pre-filled with Government-verified data	75%
KPI 5: 100% ² of services that offer digital options for wet ink signatures	87%
KPI 6: 90-95% ² of transactions completed digitally from end to end	99%
KPI 7: 100% ² of payments via e-payment	99%
KPI 8: 60% of required officers in each agency with the requisite data literacy (80% by 2023)	70% of agencies met 40% target
KPI 9: 100% of public officers who require basic digital literacy training ³ to be trained	99%
KPI 10: 30-50 transformative digital projects	50
KPI 11: 100% of MF with at least 2 High Impact AI project for service delivery, operations or policy making (2021)	10/20
KPI 12: High-impact data analytics projects 12a: 15 Cross-agency projects (2021) 12b: 2 projects per Ministry Family (MF)	a) 10 b) 12/20
KPI 13: 100% of Government data that follow stipulated machine-readable standards on SG-DRM	100%
KPI 14: 7 working days to share core data for inter-agency data science projects (including fusing) – (100%)	98%
KPI 15: 70% of eligible Government systems on commercial cloud	55%

E. Digital Inclusion and E-Participation

Note: Vulnerable groups include women, older people, youth, people with disabilities, migrants, minorities, and others

39. Is there a national policy/strategy or similar in ensuring digital inclusion and leaving no one behind?

*

Yes No

If yes, please provide link and detail.

<https://www.mci.gov.sg/en/portfolios/digital-readiness/digital-readiness-blueprint>

The Digital Readiness Blueprint sets out recommendations for building Digital Readiness in Singaporeans at the national level, which are guided by key strategic thrusts such as:

1. Expand and Enhance Digital Access for inclusivity.
2. Infuse digital literacy into national consciousness.
3. Empower Community and Businesses to drive widespread adoption of technology.
4. Promote digital inclusion by design The Digital for Life movement was announced in 2021 to galvanise the public private partnership and the community to help Singaporeans embrace digital as a lifelong pursuit, and to enrich their lives. It will serve as a platform to bring together corporates, community organisations, government agencies as well as individuals, to champion causes, coordinate efforts, and co-create solutions.

40. Is there a national e-participation policy/strategy or similar? *

Yes No

If yes, please provide link and detail.

REACH:

www.reach.gov.sg

REACH (reaching everyone for active citizenry@home) is the lead agency in facilitating Whole-of-Government efforts to engage and connect with citizens on national and social issues. REACH had its beginnings as the Feedback Unit in 1985 and its role was expanded in 2009 to go beyond gathering public feedback to become the lead agency for engaging and connecting with citizens. The 3 key roles are to: Gauge ground sentiments. Engage citizen Promote active citizenry. To reach out to as many Singaporeans as possible, REACH have put in place both traditional and online feedback channels including email, online feedback form, REACH WhatsApp Interactive Chat Group, REACH Facebook, Instagram, LinkedIn and TikTok.

41. Does the Government provide any specific measure(s) to ensure meaningful connectivity/access to e-government services by women and/or other vulnerable groups? *

Yes No

If yes, please provide link and detail.

To enable digital participation, citizens need to be equipped with digital access, in the form of Internet connectivity and an Internet-enabled device. The Government is committed to ensuring affordable digital access to enable all Singaporeans to reap the benefits of going digital. Ministry of Communications and Information /Infocomm Media Development Authority subsidises household-level digital connectivity through the following schemes:

- The Home Access (HA) programme offers low-income households, including those without school-going children, a 2-year subsidised broadband subscription.
- NEU PC Plus provides subsidised PC bundled with 3 years of free broadband to low-income families with students or persons with disabilities (PWDs).

42. Does the Government provide any specific e-service(s) for women and/or other vulnerable groups?

Yes No

If yes, please provide link and detail.

<https://www.msf.gov.sg/policies/Pages/Default.aspx?tabID=1&pgNo=6>

Ministry of Social and Family Development (MSF) portal The Ministry of Social and Family Development provides links to a suite of services for women, those with disabilities, the needy and troubled families, all in a single website. These include adoption services, applying for childcare leave, divorce etc.

<https://www.msf.gov.sg/policies/Women-Celebrating-Women/Pages/default.aspx>

<https://www.msf.gov.sg/policies/Women-Celebrating-Women/Pages/Schemes-Assistance-and-Resources-for-Women.aspx>

Strategy & Women's Development (SWD) is the national focal point on gender policy matters and for regional/international cooperation pertaining to women Schemes, Assistance And Resources For Women.

All the digital assets of SG Enable, the focal agency on disability, are compliant with the Web Content Accessibility Guidelines. This includes the Enabling Guide, which is a first-stop resource portal for disability for information on disability and caregiver support.

SupportGoWhere platform, (<https://supportgowhere.life.gov.sg>) is a one-stop portal where citizens can learn about and seek assistance or social services for their various needs.

43. Does the Government provide any specific e-participation measure(s) for women and/or other vulnerable groups? *

Yes No

If yes, please provide link and detail.

<https://www.reach.gov.sg/Participate/conversations-on-singapore-womens-development>

The White Paper on Singapore Women's Development reflects our shared vision towards a fairer and more inclusive society, where men and women partner each other as equals, and both can pursue their aspirations freely and to the fullest.

In 2021, the Government completed a year-long, nationwide Conversations on Singapore Women's Development that engaged nearly 6000 participants over 160 conversations. The Conversations took stock of our current efforts to empower, uplift and support women and gave voice to our collective aspirations for Singapore women. Feedback and ideas from the Conversations contributed to the White Paper, which has 25 collective action plans by the Government and community.

An online portal, Family Assist, was launched in December 2021 to support couples who are contemplating divorce. It is part of the 25 action plans in the White Paper to "Enhance support for divorcing/divorced women", under Action 19.

For those who are open to saving their marriage, the portal provides information and supports them to do so, for example through links to marital counselling services. For those who have decided to proceed with divorce, the portal aims to provide them with information and services to enable them to make informed decisions in the best interest of their children. These include psycho-education content, such as co-parenting and the impact of divorce on children. The portal also consolidates information and resources that those contemplating divorce need such as matters related to Housing and Development Board flats, Central Provident Fund, and maintenance.

In 2021, the Government launched the Digital for Life national movement. One of the initiatives under this movement is a Digital for Life Fund which supports community-led projects and activities that promote digital inclusion, literacy, and wellness. This has supported a range of projects promoting digital inclusion for persons with disabilities. For example, the Digital Enablement Programme driven by Microsoft, SPD and SG Enable enhances independent living and employment opportunities for persons with disabilities by training participants in accessing online services and using productivity tools and supporting them to secure job placements thereafter. Another project under the Digital for Life movement is the Data for All initiative, where persons with disabilities are provided with free mobile plans to enhance their digital access and connectivity. The Singapore Institute of Technology and Guide Dogs Singapore also tapped on the fund to formulate a training and learning resource toolkit for persons with visual impairment to navigate smartphones and mobile applications.

44. Does the Government provide any specific measure(s) to build digital literacy/skills for women and/or other vulnerable groups? *

Yes No

If yes, please provide link and detail.

Seniors Go Digital Programme

<https://www.imda.gov.sg/en/seniorsgodigital>

Seniors Go Digital programme is targeted at equipping seniors with relevant digital skills to use smartphones so that they may enjoy the benefits of a digital lifestyle. Seniors may receive one-to-one or small group training on skills such as e-communications, government digital services and e-payments.

Mobile Access for Seniors Scheme

<https://www.imda.gov.sg/programme-listing/Mobile-Access-for-Seniors>

Mobile Access for Seniors (MAS) scheme supports the Seniors Go Digital programme to provide lower-income seniors who want to go digital with a subsidised smartphone and mobile plan.

DigitalAccess@Home Scheme

<https://www.digitalaccess.gov.sg>

DigitalAccess@Home scheme aims to provide low-income households with subsidised broadband and digital devices (laptop or tablet) to support them with affordable and convenient digital access.

Digital For Life Movement

<https://www.imda.gov.sg/digitalforlife>

The Digital for Life movement aims to galvanise partners from the people, private and public (3P) sectors to bring together Singaporeans from all ages and walks of life to embrace digital learning as a lifelong pursuit and to enrich their lives through digital technologies.

LAB25

<https://www.nlb.gov.sg/main/about-us/About-NLB/lab25-libraries-and-archives-blueprint-2025>

LAB25 (Libraries and Archives Blueprint 2025) outlines the National Library Board's roles and priorities from 2021 to 2025 in response to social, economic, and technological changes. Under LAB25's Equaliser, NLB aims to promote a more inclusive digital society by developing new programmes and initiatives to better reach and serve vulnerable segments.

In the NLB Learning Marketplace, Singapore public libraries house and support digital literacy and skilling programmes for seniors. Aside from programmes to introduce emerging technologies to this group, NLB also works with government agencies and external organisations to host programmes and events across topics covering basic digital competencies. NLB's SURE for Life (Source, Understand, Research, Evaluate) initiative also equips seniors to protect themselves from online misinformation.

A new flagship programme, ExperienceIT, aims to build motivation and confidence in the less tech savvy through learning about emerging technologies, and participation in immersive experiences. Through partnerships with tech giants, NLB will bring opportunities to Singaporeans to experience these technologies in more accessible settings. Amazon Web Services is the inaugural collaborator for the launch of ExperienceIT at Punggol Regional Library in 2023, which introduces visitors to the concept of machine learning.

SG Women in Tech

<https://www.sgwomenintech.sg>

SG Women in Tech (SG WIT) is an initiative driven by the Infocomm Media and Development Authority (IMDA) in partnership with community and industry partners. This initiative aims to attract, inspire and motivate girls and women to pursue careers in the tech sector.

45. Does the Government use social media platform(s)? *

Yes No

If yes, please provide link and detail if social media is used for (i) e-information; (ii) e-consultation; and/or (iii) e-decision-making.

https://www.instagram.com/parl_sg
<https://www.facebook.com/SingaporeParliament/>
<https://twitter.com/govsingapore>
<https://www.tiktok.com/@gov.sg?lang=en>
<https://www.youtube.com/@govsg/about>
<https://www.gov.sg/whatsapp>
<https://t.me/s/govsg>
<https://sg.linkedin.com/company/govsg>
<https://instagram.com/reachsg?igshid=NTc4MTIwNjQ2YQ==>
<https://instagram.com/singaporemci?igshid=NTc4MTIwNjQ2YQ==>
<https://www.facebook.com/REACHSingapore?mibextid=LQQJ4d>
<https://www.facebook.com/SingaporeMCI?mibextid=LQQJ4d>
https://twitter.com/REACH_Singapore
<https://twitter.com/SingaporeMCI>
<https://youtube.com/@reachsingapore>
<https://youtube.com/@SingaporeMCI>
<https://sg.linkedin.com/company/reachsingapore>
<https://sg.linkedin.com/company/ministry-of-communications-and-information>

The government uses social media channels like Facebook, YouTube, Instagram, LinkedIn and most recently TikTok, WhatsApp and telegram which allow us to connect with audiences in engaging and interactive ways. These digital channels also provide feedback that give us better insights on our audiences and improve our communication.

If yes, please include any guidelines for government officials/institutions on the use of social media.

Digital First Content Playbook

The Ministry of Communications and Information has released a Digital First Content Playbook in April 2021 which consolidates the findings and recommendations of inter-ministry workgroups comprising government communications officers set up to study the following areas:

- digital content approaches that resonate better with different target audiences.
- the platforms that can reach out to audiences more effectively; and
- deep dives on more actionable strategies.

The Playbook is part of a broader initiative to look at how government communications can purposefully integrate technology into key areas of work for more effective communications and engagement. The Playbook examines across social media platforms like YouTube and TikTok:

- Audience insights
- Strategic developments and trends
- Recommended content approaches
- Test cases
- Recommendations for Govt communication

46. Does the Government publish information on how people's voices, including those among women and/or vulnerable groups, are included in policy decision-making? *

Yes No

If yes, please provide link and detail.

REACH:

www.reach.gov.sg

REACH (reaching everyone for active citizenry@home) is the lead agency in facilitating Whole-of-Government efforts to engage and connect with citizens on national and social issues. REACH had its beginnings as the Feedback Unit in 1985 and its role was expanded in 2009 to go beyond gathering public feedback to become the lead agency for engaging and connecting with citizens. The 3 key roles are to: Gauge ground sentiments. Engage citizen Promote active citizenry. An example of recent engagements with women, through “Conversations on Singapore Women’s Development” which was launched on 20 Sept 2020 to kickstart a national effort to understand Singaporeans’ aspirations and ideas on how we can further advance our women in Singapore.

<https://www.reach.gov.sg/participate/e-poll/reach/conversations-on-singapore-womens-development>

Further examples of how citizen engagement and feedback have been taken into consideration in policy decision-making: <https://www.reach.gov.sg/read/news-and-press-releases>
<https://www.reach.gov.sg/-/media/reach/reach-files/news-and-press-releases/2020/more-than-10000-responses-gathered-in-prebudget-2020-feedback-exercise.ashx>

F. Usage, User Satisfaction and Evaluation

47. Does the Government monitor/collect usage statistics of e-government services? *

Yes No

If yes, please provide link and detail.

<https://wogaa.sg/home/index.html#/>

The Government has a system known as WOGAA (Whole of Government Analytics Application) which monitors the performance of Government websites and digital services in real-time in a convenient and cost-effective way. It brings key information together into a single dashboard for more data-driven decision-making. By providing this as a central service, the government is not only able to reap economies of scale but can also provide additional cross-agency features such as allowing agencies to perform comparisons across government, sectors, and users. Agencies will be able to monitor the performance of their digital services in real-time, identify gaps in digital service delivery and proactively improve their services.

48. Does the Government measure usage data with dis-aggregation by gender?*

NIL

49. Does the Government measure user satisfaction of e-government services? *

Yes No

If yes, please provide link and detail.

Annual e-Government Services Satisfaction Survey

<https://www.tech.gov.sg/who-we-are/our-statistics/>

The Government carries out an annual e-Government Services Satisfaction Survey to determine the level of adoption and satisfaction that citizens and businesses have with e-Government services. The results are published online, and the findings are also shared with public institutions. In the surveys, citizens and businesses are asked to rate their overall satisfaction and their satisfaction with the 4 outcomes outlined in the Digital Government Blueprint - Easy to Use, Seamless, Secure & Reliable and Relevant. The results of the survey are analysed to identify areas of improvements for specific e-government services. The findings are shared with CIOs of the public institutions and reported to senior leaders within the Singapore Government. Targeted initiatives are then put in place to improve the services.

Measurement KPIs

DGB KPI	2021 results
KPI 1: G2C Satisfaction (75-80%)	85%
KPI 2: G2B Satisfaction (75-80%)	76%

*The drop of 1% for 2022 results for Government to citizen satisfaction (G2C) is not statistically significant given results have exceeded target by more than 5%

Does the Government collect user satisfaction data with dis-aggregation by gender? *

No

G. Partnership and International Cooperation

50. Please provide information about any ongoing global/regional partnership and/or digital cooperation, with United Nations (such as UNDESA, Regional commissions, UNDP, UNICEF ...) focusing on e-government and digital technologies (e.g., enhance North-South, South-South, triangular, regional, and international cooperation) * [NEW]Be

<https://www.undp.org/policy-centre/singapore>

UNDP Global Centre for Technology, Innovation and Sustainable Development. It is a joint initiative by the Government of Singapore and the United Nations Development Programme (UNDP), aimed at identifying and co-creating technological solutions for sustainable development.

<https://www.imda.gov.sg/About-IMDA/international-relations/Digital-Forum-of-Small-States> The Forum of Small States (FOSS) is an informal grouping of small states established and chaired by Singapore since its inception in 1992 to discuss issues of mutual concern. In conjunction with the 30th Anniversary of FOSS in 2022, we introduced Digital FOSS as a new pillar of engagement within FOSS. Digital FOSS will provide a platform for small states to support one another on their digital transformation journeys and work together to architect a common digital future.

Digital FOSS supports the implementation of the United Nations' Sustainable Development Goals and efforts to establish a Global Digital Compact.

<https://www.mfa.gov.sg/Overseas-Mission/Geneva/About-Missions-Role-in-Geneva/International-Telecommunication-Union-ITU>

The International Telecommunication Union (ITU), established in May 1865, as the International Telegraph Union, is one of the oldest existing international organisations. The ITU is unique among international organisations in that it was founded on the principle of cooperation between governments and the private sector. Its membership, encompassing telecommunication policymakers and regulators, network operators, equipment manufacturers, hardware and software developers, regional standards-making organisations, and financing institutions, shapes its activities, policies, and strategic direction. Singapore has been a member of the ITU since 1965.

51. Please provide information about any other ongoing global/regional partnership and/or digital cooperation, with other non-UN-bodies. [NEW]A

[Australia-Singapore Digital Economy Agreement](#)

<https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/The-Singapore-Australia-Digital-Economy-Agreement>

The Singapore-Australia Digital Economy Agreement (SADEA) is Singapore's second DEA. The SADEA enhances existing digital trade arrangements between Singapore and Australia under the Singapore-Australia Free Trade Agreement. It also includes eight Memoranda of Understanding (**MOUs**) to operationalise some of the modules in the DEA by identifying or mapping collaboration projects, specifically in the areas of AI, Data Innovation, Digital Identities, Personal Information Protection, E-invoicing, Trade Facilitation, E-certification on Agricultural Commodities and Consumer Protection.

Singapore and the European Union

<https://www.imda.gov.sg/Content-and-News/Press-Releases-and-Speeches/Press-Releases/2023/Singapore-and-the-European-Union-Sign-Digital-Partnership>

The EUSDP is an overarching framework for all areas of bilateral digital cooperation between the EU and Singapore. These include core issues in the cross-border digital economy such as digital trade facilitation, trusted data flows, electronic payments, and standards and conformance; as well as new and emerging areas such as Artificial Intelligence, digital identities, and 5G/6G. The EUSDP will also support and enable broader participation in the digital economy through cooperation on digital upskilling for workers, and the digital transformation of businesses as well as public services.

China-Singapore (Chongqing) Demonstrative Initiative on Strategic Connectivity (CCI) – ICT Pillar

The China-Singapore (Chongqing) Demonstrative Initiative on Strategic Connectivity (CCI), launched on 7 November 2015, is Singapore's third government to government (G2G) project with China. As China's biggest megacity with more than 30 million residents and economically one of the fastest growing cities in China, Chongqing presents a huge market opportunity for Singapore companies. In 2020, the scale of Chongqing's digital economy reached 638.7 billion yuan (about 98.55 billion U.S. dollars), and its share of GDP climbed to 25.5% of China's total GDP. Correspondingly, Southeast Asia's Digital Economy is growing significantly and is projected to hit \$363 billion U.S dollars by 2025.

Chongqing is also a key port along the Yangtze River Economic Belt and a major logistics node for BRI (The Belt and Road Initiative). The BRI would help to cement Singapore's position as a global maritime trade hub and benefit Singapore economically through tremendous trade and business opportunities, widespread connectivity, and multiplication of investment.

CCI therefore focuses on modern connectivity and services connecting Singapore enterprises to China's western region and connecting Singapore to China's BRI, jointly create opportunities with Chongqing enterprises in ASEAN markets. This will facilitate physical and digital trade, support data-driven businesses, and develop vibrant and innovative ICT industries for both countries.

Digital Economy Partnership Agreement (DEPA)

<https://safe.menlosecurity.com/https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/The-Digital-Economy-Partnership-Agreement>

The Digital Economy Partnership Agreement (DEPA) between Singapore, Chile and New Zealand is the first DEA concluded by Singapore. The DEPA is a first of its kind agreement that establishes new approaches and collaborations in digital trade issues, promotes interoperability between different regimes and addresses the new issues brought about by digitalisation.

United Kingdom-Singapore Digital Economy Agreement (UKSDEA)

<https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/UKSDEA>

The UK-Singapore Digital Economy Agreement (UKSDEA) is Singapore's third DEA and entered into force on 14 June 2022 following the UK and Singapore's completion of their respective domestic ratification processes. The UKSDEA includes binding disciplines on cornerstones of the digital economy, such as data, as well as cooperative elements in a wide range of emerging and innovative areas such as Artificial Intelligence, fintech and regtech, digital identities and legal technology.

Korea-Singapore Digital Partnership Agreement (KSDPA)

<https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/KSDPA>

The KSDPA is Singapore's fourth Digital Economy Agreement (DEA), and the first with an Asian country. The agreement will deepen bilateral cooperation in the digital economy between both countries, by establishing forward looking digital trade rules and norms to promote interoperability between digital systems. This will enable more seamless cross-border data flows and build a trusted and secure digital environment for our businesses and consumers.

IMDA also participates in several initiatives organised by international organisations.

- ASEAN Digital Seniors Officials Meeting (ADGSOM)
- ASEAN Digital Ministers Meeting (ADGMIN)
- ASEAN Senior Officials Meeting Responsible for Information (SOMRI)
- ASEAN Ministers Responsible for Information (AMRI)
- Asia Pacific Economic Cooperation (APEC)
- Asia-Pacific Telecommunity (APT)
- Universal Postal Union (UPU)

<https://www.developer.tech.gov.sg/our-digital-journey/international-partnerships>

Singapore participates in Digital government exchanges. DGX is an annual global gathering of Government Chief Information Officers (CIOs) and public sector leaders from digital governments and smart cities across the globe.

Singapore also developed several others multi-pronged international partnerships.

MOUs

Singapore-Israel: <https://www.channelnewsasia.com/singapore/singapore-israel-artificial-intelligence-ai-foreign-affairs-minister-vivian-balakrishnan-2577456>

Singapore and Israel signed a memorandum of understanding (MOU) on Monday (Mar 21) on artificial intelligence (AI) cooperation, signalling both countries' intent to accelerate cross-border collaboration in the area. The MOU on cooperation in AI between Singapore's Smart Nation and Digital Government Office and Israel's Ministry of Innovation, Science and Technology will support the development and deployment of AI for "collective benefit".

Singapore-Korea: <https://www.mci.gov.sg/pressroom/news-and-stories/pressroom/2022/12/securing-ai-collaborations-between-singapore-and-republic-of-korea>

Minister Teo met with the ROK's Minister of Science and ICT, Mr. Lee Jong-Ho, and re-affirmed the areas of digital cooperation set out in the KSDPA and discussed on areas of mutual interest relating to the digital economy. Building on the KSDPA, the highlight of the trip was the signing of the Korea-Singapore AI MOU on 6 December by Minister Teo and Minister Lee. The MOU is a milestone in digital partnership between the two countries and will allow the exchange of AI technologies and experiences in promoting the responsible use of AI.

The ROK is a like-minded partner with strong research capabilities, industry-academia partnerships, and AI talent. Under the MOU, Singapore's Ministry of Communications, and Information (MCI), Smart Nation and Digital Government Office (SNDGO), and Infocomm Media Development Authority (IMDA), will work together with the ROK's MSIT to:

- Increase access to AI technologies and talent: This will aid in bringing cutting-edge Korean technology and talent to Singapore to drive impactful AI use-cases.
- Link research and industry activities to support the commercialisation of AI applications: This will accelerate the translation of AI research into commercial applications in both countries for the benefit of all stakeholders.
- Strengthen the exchange of AI best practices: This will help both countries improve AI policies and strategies by learning from each other's successes and shortcomings; and
- Support the alignment of AI governance frameworks: Such efforts will facilitate responsible development and adoption of AI by the industry, potentially reduce costs for companies in implementing trustworthy AI solutions and contribute to the development of international standards in AI.

Singapore-Saudi Arabia: <https://www.mcit.gov.sa/en/news/saudi-arabia-signs-memorandum-cooperation-singapore-digital-economy-emerging-technologies-and>

The Ministry of Communications and Information Technology of Saudi Arabia signed a Memorandum of Cooperation (MoC) in digital economy, emerging technologies, and digital government, with the Ministry of Communications and Information of Singapore.

Minister of Communications and Information Technology Eng. Abdullah bin Amer Al-Swaha signed the memorandum from the Saudi side, and from the Singaporean side, the memo was signed by the Minister of Communications and Information Josephine Teo, in the presence of the Governor of the Digital Government Authority, Eng. Ahmed Al-Suwayan, and senior officials from both sides. The MoC includes cooperation in practices, policies, and regulations related to digital transformation, digital industry development, interoperability standards, and emerging technologies, in addition to encouraging collaboration in joint initiatives to promote and support the growth of the digital economy and related standards, including digital platforms, digital signatures and authentication, transferable digital records and digital billing frameworks.

Singapore-UK: <https://www.tech.gov.sg/media/media-releases/2022-07-04-mou-signing-between-govtech-and-uk-government-digital-service>

Both the UK and Singapore are widely recognised as digital leaders and take an active role in shaping international standards and discussions in the digital government space.

The formalisation of both countries' cooperation and collaboration is backed by their respective recognition of the importance of providing digital government services and signals their intent to lock in the gains from the rapid digitalisation from the last three years. This MoU follows the signing of the UK-Singapore Digital Economy Agreement (UKSDEA) that came into force on 14 June 2022.

In recent years, Singapore has invested heavily in Digital, Data and Technology (DDaT), taking a holistic digital society approach by investing in their digital infrastructure, developing private sector digital capability, and setting aspirational digital government agendas.

The MoU will cover not only sharing know-how and approaches to building digital services, but also exploring new ways of working that help build more effective, efficient, and economical government digital services in the long term.

THANK YOU

Please provide any other information that will help us in understanding e-government development in your country.

Codex: <https://www.smartnation.gov.sg/initiatives/strategic-national-projects/codex>

CODEX (Core Operations, Development Environment, and eXchange) is a suite of digital solutions that will enable the Government to deliver better digital services to citizens faster and more cost efficiently. It comprises:

- a. A Government Data Architecture for common data standards and formats that better enables seamless data sharing between agencies.
- b. A systematic shift of less sensitive Government systems and data onto the commercial cloud, enabling the use of leading-edge cloud tools to develop digital services.
- c. A Singapore Government Technology Stack (SGTS) comprising a suite of shared software components and infrastructure to enable more efficient and focused building of digital applications.

Government Data Architecture to enable data sharing Enabling data sharing across agencies requires simultaneously tackling legislative, policy, capability, and technical challenges. Building on the legal safeguards formalised by the Public Sector Governance Act, as well as the comprehensive digitisation of Government records to ensure machine readability, the Government Data Architecture fundamentally redesigns how data is managed within the public sector. It lays the foundation for the shared infrastructure to share data safely and efficiently, to improve cross sector policy analysis and service delivery. Single Sources of Truths (SSOTs) are designated to provide clean, verified, and authoritative for core data fields commonly used for policy making and service delivery. Trusted Centres (TCs) 1 are responsible for fusing data from SSOTs and sharing it across whole-of-Government. All public officers will be able to discover and access data needed for their work through Vault and Geospace. These platforms allow officers to browse a meta data-catalogue, securely download sample datasets immediately for exploratory analysis and then request for the full datasets from the TCs. A suite of best-in-class data analytics tools will also be made available in Analytics.Gov to enable rapid development of data and AI models. Security is built into these central platforms to achieve both convenience and compliance. b. Shifting selected Government systems to commercial cloud Migration to commercial

cloud is a way to modernise the Government's ICT systems to reap the benefits of best-in-class commercial solutions. It will lead to cheaper hosting, higher availability, and greater ease of continually improving services. We have set ourselves a target of migrating 70% of less sensitive Government systems by 2023. Major systems such as corporate services for Finance and Human Resource will be hosted on the commercial cloud.

c. Tech Stack shared by all Government agencies The Singapore Government Tech Stack (SGTS) is a collection of common digital services and infrastructure available to all Government agencies to build their digital applications. This reduces the time and effort needed to introduce new digital services and improves existing ones and allows greater interoperability. SGTS will allow agencies to focus on designing solutions that best meet the citizens' and businesses' needs. The MyInfo initiative was one of the first projects to use the SGTS. The pilot was developed and delivered in four months, instead of what would typically take a year. Other notable digital services that use components of the SGTS include the Business Grants Portal and the LifeSG initiative.

Besides, Singapore has other digital government initiatives:

CentEx: <https://www.smartnation.gov.sg/initiatives/digital-government-services/centex>

Centre of Excellence (or CentEx) for ICT and Smart Systems is where specialist engineering expertise will be grown to support the government. The CentEx will house capability centres such as Data Science and AI, ICT Infrastructure, Application Development, Sensors and IoT, Cybersecurity, and Geospatial. The CentEx may expand into new technology capability areas as the need arises. This could include robotics, VR/AR, digital twins or blockchain. Doing so will enable the Government to have the right capabilities to support our level of ambition and ensure that the Government is able to "think big, start small and act fast" to seize new opportunities.

CrowdTaskSG: [CrowdTaskSG \(smartnation.gov.sg\)](https://www.smartnation.gov.sg/crowdtasksg)

CrowdTaskSG is a web portal for government agencies in Singapore to engage citizens and gather insights through crowdsourcing tasks. These tasks include surveys, opinion polls, choice questions, and translation requests. For every task completed, participants can earn virtual Coins that can be used to redeem rewards, such as vouchers.

Digital Birth and Death Certificates: [Digital Birth and Death Certificates \(smartnation.gov.sg\)](https://www.smartnation.gov.sg/digital-birth-death-certificates) As part of the Singapore Government's ongoing effort to streamline and digitalise its services to serve citizens better, birth and death certificates have gone digital. For parents, this means having more time to spend with your new-born instead of queuing up to collect their birth certificates at ICA Building. Registration is simple - do it via the LifeSG app and, once approved, you'd have 90 days to download the document and save it on your personal devices.

HDB resale portal: The HDB Resale Portal makes the buying and selling of resale flats a breeze. Buyers and sellers of these flats can easily complete the required forms and do checks online using the portal. By utilising the portal, buyers and sellers only need to attend one appointment with HDB to sign the necessary documents – down from two previously – thus halving the time needed to complete the transaction.

SG translate Together: [SG Translate Together \(smartnation.gov.sg\)](https://www.smartnation.gov.sg/sg-translate-together) SG Translate Together is a web portal that allows users to generate localised translations and submit their post-edited translations to help further train the underlying Machine Translation (MT) engine.

Singapore government developer portal: SG Govt Developer Portal (smartnation.gov.sg) Singapore Government Developer Portal is a one-stop resource site for developers and other technology professionals to discover the latest government tech solutions and to integrate them into their applications and mash-ups.

Consent to publish this Questionnaire.

I/We authorize UN DESA to publish my/our responses as deemed necessary. *

Yes No

Thank you for taking time to complete this important questionnaire. We very much appreciate your participation.