



Local Government Questionnaire (LGQ) for the United Nations E-Government Survey

The objective of this questionnaire is to gather information from local governments/municipalities in preparation for the upcoming United Nations E-Government Survey. For the first time in 2018, the United Nations E-Government Survey assessed 40 pilot cities. The 2020 Survey featured 100 cities/local government websites assessment and the upcoming survey of 2022 has increased to 193 cities. The responses will be shared online in the [UN E-Government Survey Knowledgebase](#) unless otherwise requested. For any question about this questionnaire, please contact dpidg@un.org.

City name: Singapore

Country name: Singapore

I. Institutional Framework

1. What is the official **e-Government**¹ **portal** of the city/municipality? If more than one exists, please list all.

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

2. Please provide **URLs** for **portals** providing specific services/features

E-services: www.life.gov.sg , www.gobusiness.gov.sg
E-participation: www.reach.gov.sg
Open government data: www.data.gov.sg, www.singstat.gov.sg, www.datamall.lta.gov.sg
Public procurement: www.gebiz.gov.sg, www.mof.gov.sg/policies/government-procurement,
www.vendors.gov.sg

¹E-government or digital government will be used interchangeably in this Survey and is defined as delivering services online and engaging people by using Information and Communication Technologies (ICTs).

3. Does your city/municipality have a **Chief Information Officer (CIO)**² to manage its e-Government programs/strategies?

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If yes, is the **city/municipality CIO linked** to any extent to the **national CIO** or with any government agency/department/ministry at the national level in charge of e-government? (by mandate or other type of relation)

Yes, the city CIO is the same as the national CIO. Singapore is both a city and a country, thus there is only 1 CIO

II. Legal Framework

1. Is there any **legislation/regulations** on **digital government** such as law on digital service provision or on access to information or data privacy at the:

National level? Yes No

Local level? Yes No

² **CIO** or a similar senior official with a leadership role, sometimes referred as Chief Technology Officer (**CTO**) or Chief Digital Officer (**CDO**)

If Yes, how do you adopt these in your organization?

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 IM on ICT&SS Management. The IM on ICT&SS Management 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

III. Strategy and Implementation

1. Is there a city/municipality **e-Government Strategy** or equivalent? If yes, please provide link and/or

further details.

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.

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, was formed in 2017 and comprise of 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 minimize physical contact, and to use technology and digital tools to keep us safe.

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 digitalization 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.

2. Please check whichever applies to the city/municipal e-Government Strategy or equivalent and provide link, details and/or specific references for the checked area.

- has an implementation plan.
- is aligned with the national development strategy.
- is aligned with the sustainable development goals (SDGs).
- is aligned with national digital development strategy.
- indicates the existence of shared solutions/platforms provided at the national/regional level.
- makes specific reference to SDG 11 (New)
- makes specific reference to the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels (New)
- makes specific reference to e-Participation and/or digital inclusion/engagement.
- makes specific reference to co-creation mechanisms for citizens.
- makes specific reference to social media.
- makes specific reference to a local digital ID.
- makes specific reference to new technologies such as artificial intelligence, blockchain, big data etc.
- provides other specific measures to ensure e-Government is used by the most vulnerable groups³.
- provides other specific measures for ICT training and digital literacy by government officials.
- makes specific reference to cyber security.
- makes specific reference to mobile government.

3. Does your city/municipality have a dedicated budget for digital government? Please explain by informing on the percentage compared to the total municipality budget.

No, there is no dedicated budget. 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.

4. Do you publish the city/municipality budget online on the portal? Please explain further and provide links

Yes. Singapore published its annual budget on its website for the ease of access by the members of public.
<https://www.mof.gov.sg/singaporebudget>

³ Poor, immigrants, older persons, persons with disabilities, women, youth, indigenous people

5. Are there any digital initiatives in place in your city/municipality focused on sustainability issues and/or a green economy? Please explain further and provide links.

Singapore is a city-state and we only have a central government. There is no differentiation between national vs city/municipality since we do not have other cities or municipalities.

Punggol Digital District:

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

6. Are there any digital initiatives in place in your city/municipality focused on affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with

disabilities and older persons? Please explain further and provide links.

Singapore has a “transport in a smart nation” initiative which consists of using:

Autonomous vehicles: <https://www.smartnation.gov.sg/initiatives/transport/autonomous-vehicles/>

Centre of Excellence for Testing & Research of Avs:

<https://www.smartnation.gov.sg/initiatives/transport/cetran-test-circuit>

Contactless fare payment for public transport

<https://www.smartnation.gov.sg/initiatives/transport/contactless-fare-payment>

On demand shuttle:

<https://www.smartnation.gov.sg/initiatives/transport/on-demand-shuttle/>

Open data and analytics for urban transportation:

<https://www.smartnation.gov.sg/initiatives/transport/open-data-analytics>

7. Are there any digital initiatives in place in your city/municipality focused on affordable housing and basic services to the needs of those in vulnerable situations, women, children, persons with disabilities

and older persons? Please explain further and provide links.

HDB Service Master Plan: <https://www.hdb.gov.sg/about-us/news-and>

HDB is also implementing 360° virtual tours so that homeowners who are due to collect their keys can experience an immersive experience, such as a walk-through of their new BTO/SERS (Selective En bloc Redevelopment Scheme) flat on their mobile devices.

For resale home seekers, HDB has similarly sought to improve the process for them. This includes the popular augmented reality tool within the Mobile@HDB app, which was launched in 2015 to allow home buyers to look up resale prices of HDB flats. Users point their camera at an existing flat or area they are interested in, and the app will pull up the latest resale transacted prices, availing information at their fingertips promptly with technology. Since 2018, HDB's Resale Portal has also streamlined the buying process for both buyers and sellers into a single platform, reducing the number of appointments required with HDB.

periods with higher volumes of customers, and better deploy manpower so customers can still be served in a timely manner during peak periods.

In keeping pace with Singaporeans' lifestyles and preferences, HDB has introduced and encouraged the use of digital channels where possible. As HDB's main digital storefront, the HDB InfoWEB receives more than 2 million views a month. To help customers navigate the HDB InfoWEB, HDB's Information Services Group developed and launched AskJudy, a virtual assistant that provides instant replies to online enquiries. Through collating and observing common questions from users, AskJudy is trained to respond to a variety of enquiries, from applying for an HDB housing loan to checking the latest transaction prices of resale flats.

Some 200 e-Services are also available on the HDB InfoWEB and mobile platform, with about 50 million transactions completed digitally in 2018. Together with the AskJudy chatbot, these e-Services have proven popular as they reduce the need to call, write in, or visit HDB for simple business transactions and general queries.

For first timers, the process of purchasing their home turned out to be smoother than they expected. "Our experience with buying a BTO (Build-to-Order) flat was hassle-free, because most of the processes could be conducted online".

Even as HDB taps into technology to provide more convenience for customers, the human touch remains invaluable, especially at significant junctures in one's flat purchase journey, such as the collection of keys or flat transfers when homeowners pass on.

"Through digitalisation, we can resolve customer needs more quickly and efficiently. It allows us to dedicate more resources towards high-touch transactions, where face-to-face interactions are still critical to serve our customers personally at key moments of their housing journeys," explains Xiaoli.

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8. Are there any digital initiatives in place in your city/municipality focused on universal access to safe, inclusive, and accessible, green, and public spaces, for women and children, older persons, and persons with disabilities? Please explain further and provide links.

SG Enable: Making Digital Services Accessible to All:

<https://www.imda.gov.sg/digitalforlife/stories-listing/sg-enable-making-digital-services-accessible-to-all>

As the focal agency for disability and inclusion in Singapore, SG Enable believes that technology is an important enabler to create equitable opportunities for persons with disabilities. It is with this belief in mind that SG Enable partnered IMDA and contributed to the Digital for Life movement in various areas, such as the upskilling of persons with disabilities, and starting a Digital for Life funded project to improve e-accessibility of essential digital services.

Smart nation sensor platform:

<https://www.smartnation.gov.sg/initiatives/strategic-national-projects/smart-nation-sensor-platform>

This is an integrated, nationwide platform that uses sensors to collect essential data that can be analyzed to create smart solutions. These solutions include:

Tracking Water Usage and Leaks

Drowning Detection System at Public Pools

Personal Alert Button for Elderly

9. Does your city/municipality include partnerships with other national or international cities and/or private sector, civil society? Please explain further and provide links.

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 operationalize 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 organized by international organizations.

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)

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 commercialization 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 recognized as digital leaders and take an active role in shaping international standards and discussions in the digital government space.

The formalization 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 digitalization 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.

IV. Usage of online services

1. What is the percentage of city/municipality services offered online (municipality website)? Please explain and provide links.

About 99% of transactions with citizens can now be done digitally. These include services added to the Government's slate of digital services within the past two years, such as use of the digital IC, RedeemSG, a platform for issuing vouchers, and the revamped Singapore Courts website.

<https://www.straitstimes.com/tech/99-of-government-transactions-with-citizens-can-now-be-done-digitally-josephine-teo>

2. What is the percentage of city/municipality services offered through dedicated mobile means (mobile applications)? Please explain and provide links.

The OneService App is a one-stop platform that lets citizens feedback on municipal issues without having to figure out which Government agency or town council to contact. This is made possible by adopting an issue-based approach at the backend, so the reported case gets directed to the relevant agencies or town council.

3. Do you collect usage statistics of e-Government services?

Yes No

4. If yes, do you publish the results online and share those with the public institutions concerned?

Yes, data collected could be found at the following Singapore government website:

www.data.gov.sg

www.singstat.gov.sg

V. User satisfaction

1. Do you measure the satisfaction of citizens with the e-Government services provided?

Yes No

2. If yes, do you publish the results online and share those with the public institutions concerned? Please explain further.

Yes, Singapore government collect user satisfaction score from citizens and businesses. These scores are published on the website below:

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

3. What is the percentage of the population⁴ satisfied with their last experience of online public services? Please explain further.

According to results published in 2020, 99% of citizens were satisfied with 85% expressed very/extremely satisfied. Business satisfaction rate for that year was 99% satisfied with 76% expressing extremely satisfied.

<https://www.tech.gov.sg/digital-government-perception-survey-citizen-2020>

VI. Social Media

⁴ Related to SDG Indicator 16.6.2 Proportion of population satisfied with their last experience of public services. See for all indicators: https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%20refinement_Eng.pdf

1. Do you use social media at the city/municipality level to interact with and engage people in e-government activities? Please explain further.

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.

2. VII. Crisis/Emergency Response and Recovery

1. Is there a specific local government portal or a dedicated section of the city/municipality portal addressing crisis/emergency situations (e.g. natural disasters, pandemics and similar) Please explain further and provide links.

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.

Covid SG portal was put up as a centralized 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.

VIII. Smart City and New Technologies

1. Do you have a specific city/municipality strategy on new technologies? (e.g. Artificial Intelligence, IoT, Blockchain, Smart City, 5G, Virtual/Augmented Reality, Robotics, 3D Printing) If yes, please explain further and provide links.

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."

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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.

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:

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 catalyze 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 developing the Smart Nation Sensor Platform 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 <https://www.tech.gov.sg/digital-government-blueprint/>

Smart nation tech division:

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

The Smart City Technology (SCTD) division, established as a capability center, 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 center was renamed and reorganized in January 2023 to better reflect GovTech's focus in putting together the technologies, capabilities, and products to enable Singapore's Smart City vision.

Our 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.

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

The National AI Strategy outlines our plans to deepen the use of AI to transform our economy:

Identify areas to focus attention and resources on at a national level.

Set out how the Government, companies and researchers can work together to realize 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.

Singapore has a National AI strategy which looks at various aspects of society in decision making process:

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

Smart estates: Municipal services are delivered in a more responsive, reliable, and timely for citizens.

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

Border security: Border clearance operations strengthen security while improving travelers' experience.

Logistics: Intelligent freight planning optimizes the movement of freight for greater business productivity and traffic efficiency.

2. Does your city/municipality strategy plans for the use of big data analytics or AI in their decision-making processes?

Yes No

If Yes, please explain further and provide links.

<https://safe.menlosecurity.com/https://www.ura.gov.sg/Corporate/Planning/Our-Planning-Process/Digitalisation>

We use data analytics and geospatial technologies to gain deeper insights and make more informed decisions in planning for land use, amenities, and infrastructure.

IX. Contact and Additional Information

- Name: Chan Cheow Hoe
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- Organization: Smart Nation and Digital Government Office
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- Submission Date: **15th June 2023**

Please select whichever applies:

- I am authorized and fully knowledgeable to respond to this questionnaire.
- I did not have the full information to respond to this questionnaire.
- I mostly provided my own opinion/assessment rather than official information.
- Other:

United Nations E-Government Survey – Local Government Questionnaire (LGQ)

Thank you for taking the time to fill out the Local Government Questionnaire (LGQ) 2022.
We appreciate your participation.