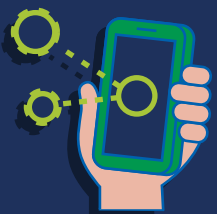


ANNUAL
REPORT
2021
2022

ADVANCING OUR → DIGITAL GOVERNMENT GOALS



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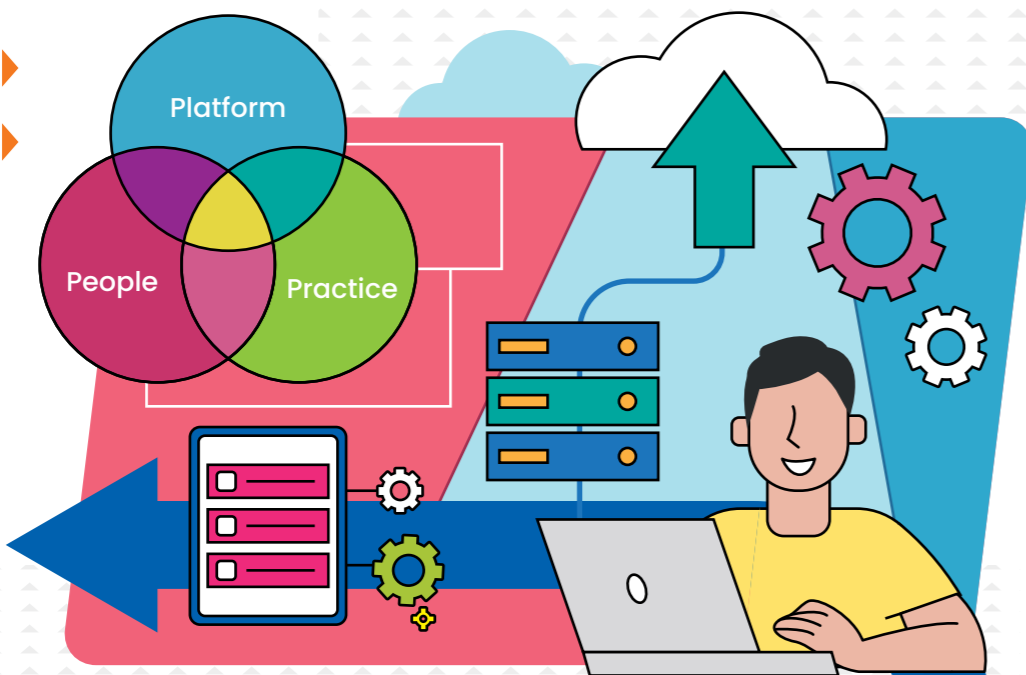
RE-ENGINEERING THE GOVERNMENT OPERATING SYSTEM

A computer's operating system (OS) is the all-important interface between hardware and user that transforms a computer from an assortment of metal parts to a powerful device used to perform many tasks digitally. It manages key processes in the background while being easy-to-use, so you can focus on what needs to be done. The same principle applies to running a digital government. At GovTech, our job is to re-engineer the Government OS for a smooth-running public service that better serves citizens and businesses.

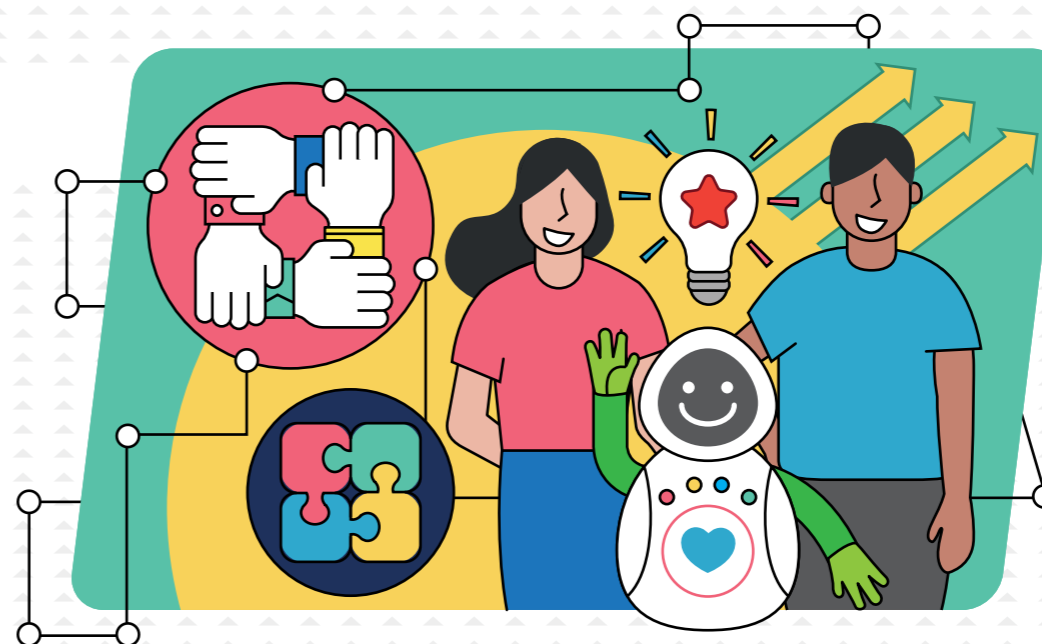
HUMANISING THE FRONTEND



MODERNISING THE BACKEND



STRENGTHENING THE ECOSYSTEM



CHAIRMAN'S MESSAGE

The past year for GovTech was marked by a renewed focus on advancing our digital government goals, as Singapore transitioned to living with Covid-19. As GovTech's new Board Chairman, I look back with pride in and appreciation of GovTech's contributions to the fight against Covid-19, which kept us busy for the last two years. Throughout this period, GovTech has continued to drive the Government's digitalisation agenda in three ways:

- ➔ **Modernising the foundational infrastructure upon which our systems are built,**
- ➔ **Designing citizen-centric frontend systems,**
- ➔ **Strengthening the digitalisation ecosystem comprising developers, citizens, and suppliers**

| MODERNISING INFRASTRUCTURE

Digital transformation begins with a modern backend infrastructure that can support the public service's work. We announced the "cloud-first" strategy in 2018 and have since made significant progress. As of 2021, over 55 per cent of eligible systems have been migrated to the cloud, putting us on track to meet our 2023 goal of 70 per cent. The move to the cloud lowered operating costs, and improved our ability to scale applications and deploy software changes quickly.

We have also promoted wider use of the **Singapore Government Tech Stack (SGTS)**, a set of platform tools that streamlines the development process and enables code reuse across public agencies. To date, more than 200 systems from 40 agencies, such as the Ministry of Education and the Immigration & Checkpoints Authority, have used the SGTS to build more secure applications in a shorter time.

| A CITIZEN-CENTRIC FRONTEND

We continue to take a citizen-centric approach when designing our digital services. In 2021, we introduced the **Singpass** Digital IC, which can be used by over four million Singpass users as proof of identity for all in-person government transactions.

The **GoBusiness** portal was revamped following feedback from business users. We introduced a personalised dashboard for all businesses that streamlines over 300 government-to-business services. Various e-Advisers were also rolled out to provide tailored recommendations on starting a business, use of premises and government assistance.

| STRENGTHENING THE DIGITALISATION ECOSYSTEM

Engaging the wider digitalisation ecosystem is critical for us to do our best work. The **Singapore Government Developers Portal**, a one-stop resource site for developers and technology professionals to find out about and utilise the latest government tech solutions, is a cornerstone of this effort. Our developer community has grown to over 12,000 through the more than 20 STACK-X conferences/meetups organised in 2021.

The easing of Covid-19 restrictions also enabled us to meaningfully engage citizens face-to-face once again. To bring Smart Nation closer to citizens, we launched:

- 1) **PlayScape** at the Science Centre
- 2) **CityScape** in the URA Gallery
- 3) The **Smart Nation Builder**, a roving exhibition in a 12m-long truck

Our **Tech Kaki** community is now over 6,000 strong and gives us invaluable feedback on new tech products before these go live.

The Government has invested over S\$12.6 billion into ICT over the last four years, and we have deepened our partnership with the industry. There are now more suppliers who are co-developing government applications with us, and technical assessment requirements for ICT tenders have increased the capabilities of our suppliers.

| INVESTING IN OUR PEOPLE

We also pushed ahead with our efforts to uplift the public sector's digital competencies. For example, over 2,000 officers have attended 154 courses since June 2021 at the newly launched **Digital Academy** to equip themselves with the necessary skills to deliver Singapore's digital government vision.

Through this all, GovTech has grown from strength to strength. We are now more than 3,000-strong, with more than 90 per cent of our workforce in ICT roles. In the most recent Employee Engagement Survey, we achieved an engagement score of 91 per cent, up three per cent from 2020 and six per cent higher than the public service average. We are an employer of choice in the ICT sector – we placed in the top 10 for ICT employers in Singapore for the second year running in Universum's survey of fresh graduates.

| THE NEXT BOUND FOR SMART NATION

The pandemic greatly accelerated the Government's digital transformation, and we have built on this foundation in 2021. We are close to achieving the goals set out in the Digital Government Blueprint in 2018, and I am hopeful we can do so by the five-year mark in 2023. Let us also continue to seek out new possibilities in the digital sphere to deliver meaningful impact in close partnership with our stakeholders. I look forward to working with you to realise the next bound of Smart Nation in the years ahead.



Joseph Leong
Chairman
Government Technology Agency



STATISTICS

ANNUAL DIGITAL GOVERNMENT PERCEPTION SURVEY (CITIZENS) 2021

BACKGROUND AND OBJECTIVES

The Survey on Satisfaction with Government Digital Services (Citizens) is conducted annually by the Smart Nation and Digital Government Office (SNDGO) and GovTech to assess citizens' satisfaction with key government digital services and to identify areas for further improvement. The survey was conducted from November to December 2021 for the reporting period of FY2021 (1 April 2021 - 31 March 2022).

RESEARCH METHODOLOGY



1,501

respondents, comprising representatives of the total demographic population above the age of 19, were surveyed via face-to-face interviews.

SURVEY RESULTS

85%



were very/extremely satisfied (rating of 5 and above on a scale of 6) with government digital services for citizens.

98%



agreed that digital services for citizens have improved in the past 12 months and **98%** would encourage their friends and families to use them.

MORE THAN 75%



of the respondents were very/extremely satisfied with 22 of the 25 digital services surveyed.

Citizens were the most satisfied with the **reliability** of government digital services but felt that **security** of these services should be improved.



ANNUAL DIGITAL GOVERNMENT PERCEPTION SURVEY (BUSINESSES) 2021

BACKGROUND AND OBJECTIVES

The Survey on Satisfaction with Government Digital Services (Businesses) is conducted annually by the Smart Nation and Digital Government Office (SNDGO) and GovTech to assess the business community's satisfaction with key government digital services and to identify areas for further improvement. The survey was conducted from November to December 2021 for the reporting period of FY2021 (1 April 2021 - 31 March 2022).

RESEARCH METHODOLOGY



1,128

company respondents were surveyed via telephone interviews.

SURVEY RESULTS

76%



were very/extremely satisfied (rating of 5 and above on a scale of 6) with government digital services for businesses.

95%



agreed that digital services for businesses have improved and **97%** would encourage their friends and families to use them.

76%



indicated that they were very/extremely satisfied with seven of the 24 services surveyed.

Businesses were the most satisfied with the **reliability** of government digital services but felt that the **seamlessness** of these services could be improved.



SINGAPORE'S PERFORMANCE IN INTERNATIONAL DIGITAL GOVERNMENT RANKINGS

IMD-SUTD SMART CITIES INDEX 2021

The **IMD-SUTD Smart Cities Index (SCI)** is jointly developed by Singapore University of Technology and Design's Lee Kuan Yew Centre for Innovative Cities (SUTD-LKYCIC), and Switzerland's Institute for Management Development (IMD). It is the first global Smart City survey based on citizens' perception of how technology can improve their lives, as well as economic and social data taken from the United Nations Human Development Index.

Singapore maintains the first position out of 118 cities in the 2021 Smart Cities Index. The other Top 10 smartest cities include Zurich (2nd), Oslo (3rd), Taipei (4th) and Lausanne (5th).



ROLAND BERGER DIGITAL INCLUSION INDEX 2021

Singapore came in tops for Digital Inclusiveness among 82 countries in the **Roland Berger Digital Inclusion Index 2021**, ranked according to four key levers: accessibility, affordability, ability and attitude. Inclusive measures such as free public WiFi and financial assistance schemes for digital skills training were credited with supporting wider digital adoption and narrowing the digital divide.



2021 SMART CITIES GOVERNMENT RANKINGS

Singapore eclipsed London to take top spot in a biennial study that ranks the top 50 smart city governments in the world. The second edition of the study was conducted by local consulting firm Eden Strategy Institute, and ranked cities based on 10 factors: vision, leadership, budget, financial incentives, support programmes, talent readiness, people centricity, innovation ecosystems, smart policies and track record. Singapore took the honours due to factors such as its technology infrastructure, digital initiatives and its response to the Covid-19 pandemic.



HIGHLIGHTS

APRIL 2021



REIMAGINING GOVERNMENT DISBURSEMENTS WITH GOYWALLET ▲

GovWallet, a digital wallet module that can be integrated into existing government apps, was developed to provide an alternative means of fund distribution from the Government to citizens. Acting as a payment facilitator, GovWallet allows agencies to retain complete control and purview of their funds while offering services such as integration with the NETS payment ecosystem and other government platforms like LifeSG, Singpass and the Healthy365 mobile app.



SERVING CUSTOMISED CONTENT TO CITIZENS WITH PERSONALISE ▲

With Personalise, a software platform powered by machine learning, agencies can easily configure personalised experiences on their email and web channels, improving the interaction between the Government and citizens. Since its launch, Personalise has served over 660,000 citizens with personalised email content from the Government.

MAY 2021



SUPPORTING SINGAPORE'S REOPENING WITH Notarise ▲

Notarise was launched to support the safe reopening of Singapore's borders as we transitioned to endemic Covid-19. With Notarise, travellers can easily access their Vaccination or Recovery HealthCert, issued by the Ministry of Health (MOH). Travellers' Covid-19 Pre-Departure Test HealthCerts are automatically endorsed and sent to their email and/or Singpass app by the clinic or their respective issuer. An offline QR version of HealthCerts was also added to Notarise, making it recognised in the EU as well as 45 non-EU countries.



OPTIMISING GOVERNMENT AND INDUSTRY DATA WITH NERVE ▲

The National Economic Research and Visualisation Engine (NERVE) was launched as the data hub for the Government's economic sector to access firm-level, industry-level and macro-level data across agencies. Developed by the Ministry of Trade and Industry and GovTech, NERVE uses artificial intelligence and machine learning techniques to enhance economic surveillance, inform strategy formulation, evaluate policy outcomes and facilitate service delivery.



FACILITATING PUBLIC SECTOR AND INDUSTRY COLLABORATION WITH STACK ▲

Formed in August 2019, the STACK community is a platform for tech leaders, developers and software engineers to gather regularly. The community has grown to over 12,000 members and comprises events such as: a) **STACK-X Meetups** held twice a month, with an average of 100 attendees; b) **STACK-X conferences** focused on a single topic – held twice a year, and c) **STACK Developer Conference**, GovTech's flagship conference for tech developers, architects and technologists from the public and private sectors.



Over 1,000 attendees participated in the STACK-X Continuous Iteration/Continuous Development (CI/CD) and SHIP-HATS conference on 6 May, more than 1,500 participated in STACK-X Cloud on 17 November, and over 2,000 took part in regular STACK-X Meetups throughout the year.



QUICKER CHECK-INS WITH SAFEENTRY GATEWAY ▲

In line with the safe reopening of Singapore, the Government announced the implementation of TraceTogether-only SafeEntry check-ins. SafeEntry was integrated within the TraceTogether mobile app and the SafeEntry Gateway was introduced to allow citizens to check-in more quickly and seamlessly at public venues.



ENHANCING SUPPORTGOWHERE FOR END-TO-END SERVICE DELIVERY ▲

The Ministry of Social and Family Development and GovTech enhanced the SupportGoWhere portal, enabling users to check their eligibility for different schemes, apply for assistance directly, and receive prompt updates on their applications on a single platform.



SEAMLESS AND PERSONALISED ACCESS WITH GOBUSINESS ▲

The GoBusiness Licensing, GoBusiness GovAssist and GoBusiness Covid-19 portals were consolidated into a single GoBusiness platform (gobusiness.gov.sg) to provide businesses in Singapore with integrated, seamless and personalised access to government resources and e-services.



STREAMLINING THE PROCUREMENT PROCESS WITH QUICKBUY@SGOV ▲

QuickBuy@SGov was piloted in May 2021 with EnterpriseSG and subsequently rolled out to over 40 agencies on the New Financial System (NFS) and HR Payroll (HRP) system in early 2022. A collaboration between the Ministry of Finance and GovTech, QuickBuy@SGov reduces the steps required for officers to procure Small Value Purchases from up to nine steps to just three, offering a seamless and fuss-free experience for users. It also promotes better governance and accountability for purchases as all transactions must be approved before they are routed to e-commerce platforms for fulfilment. Engagements with e-commerce parties were conducted to ensure low barriers of entry for vendors so that more products can be offered to meet agencies' needs.

JULY 2021

DATA ARCADE TOURNAMENT 2021



Organised by GovTech's Data Science and Artificial Intelligence division and supported by Qlik and Tableau, the Data Arcade Tournament (DAT) is a five-month long visual analytics competition that celebrates visual analytics talents from across all government agencies, encouraging officers to upskill their data capabilities and be more data-driven in their work. Over 1,200 officers across 65 agencies took part in DAT 2021, with a total of 18 agencies running a local version of DAT within their own agencies.

TREE MANAGEMENT GOES DIGITAL



To improve the management of six million trees island-wide, the National Parks Board and GovTech developed an ecosystem of digital tools and analytics to digitalise the management of Singapore's parks, greenery, biodiversity and conservation efforts. This includes automating the measurement of trees to build digital twins that are spatially, semantically and biologically accurate, enabling virtual tree inspection so that arborists can focus on physically inspecting trees that require greater attention.

AUGUST 2021

STREAMLINING GOVERNMENT BOOKING SERVICES WITH BOOKINGSG

BookingSG was launched to help government agencies offer booking services to citizens. With BookingSG, agencies can easily manage resource and appointment bookings for the public on a standardised and secure platform, while citizens can book agencies' activities with ease.

VERIFYING COVID-19 VACCINATION AND TEST STATUSES WITH VDS

The Ministry of Health and GovTech developed the Covid-19 Vaccination and Vaccinated Differentiated Safe Management Measures (VDS) to improve operations in public venues such as malls and restaurants. Using VDS, businesses could verify visitors' vaccination and test statuses using the SafeEntry Business, TraceTogether or HealthHub apps without incurring additional costs.

NEW VULNERABILITY REWARDS PROGRAMME TO TEST RESILIENCE OF CRITICAL GOVERNMENT SYSTEMS

To improve the cybersecurity posture of our government systems and maintain continuous delivery of essential services to citizens, GovTech introduced the Vulnerability Rewards Programme (VRP) to allow registered HackerOne researchers (who have achieved HackerOne Clear status) and local researchers to continuously discover vulnerabilities on selected Internet-facing critical systems. The VRP will offer researchers monetary rewards ranging from US\$250 to US\$5,000 depending on the severity of the vulnerabilities discovered. In addition, a special bounty of up to US\$150,000 will be awarded for the discovery of vulnerabilities that could cause extremely severe impact on selected systems and data.

OCTOBER 2021

CATALYSING PUBLIC SECTOR 5G ADOPTION WITH 5G@SENTOSA

The 5G@Sentosa testbed aims to catalyse the public sector's adoption of 5G connectivity ahead of the nationwide 5G rollout in 2025 by allowing agencies to trial new use cases to enable the delivery of citizen-centric services. 5G will also enhance GovTech's Smart Nation Sensor Platform, facilitating agencies' gathering and processing of data in real-time and opening up new operational possibilities in areas such as urban planning and traffic management.



LAUNCH OF SG-TEAMS FOR BETTER COLLABORATION ACROSS THE PUBLIC SERVICE

SG-Teams was launched as a single platform for agency and cross-agency collaboration to enable public officers to work better together. More than 110,000 officers are now connected via SG-Teams and can share files, host meetings and conferences and collaborate on documents in real time with ease.

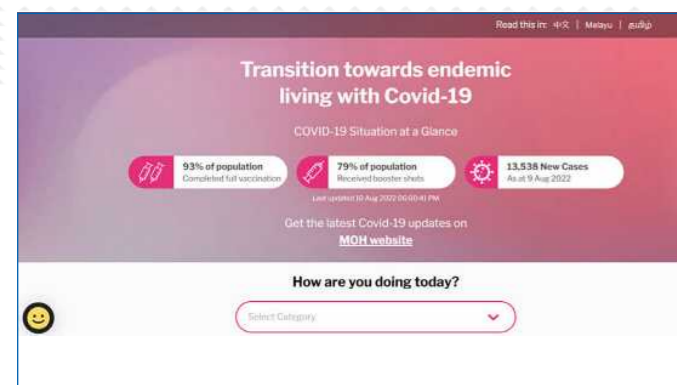
GOVTECH REGISTERED AS THE FIRST CVE NUMBERING AUTHORITY IN SINGAPORE

As a CVE Numbering Authority (CNA), GovTech has the authority to assign Common Vulnerabilities and Exposures (CVEs) to vulnerabilities in third-party products it researches, enhancing and streamlining the responsible disclosure process. GovTech security researchers can now request for CVE IDs quickly from our internal team, improving the overall efficiency and process. A faster CVE ID assignment ensures that both vendors and users are aware of vulnerabilities in products, expedites the remediation and mitigation process, and ensures our researchers get the recognition they deserve.



EASIER AND FASTER TRANSACTIONS WITH WORKPAL ▲

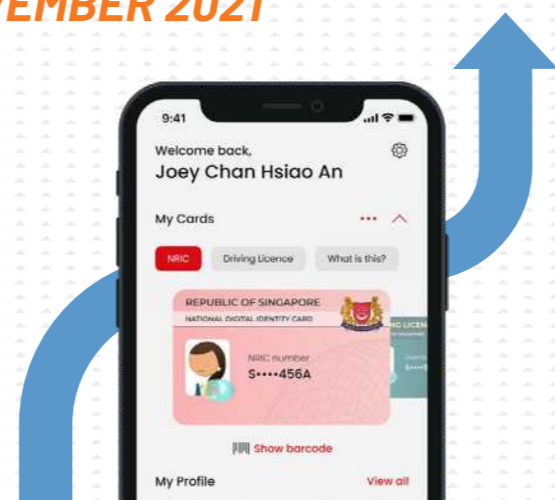
With the introduction of Workpal, officers can enjoy easier and faster employee self-service transactions – such as applying for leave and submitting claims – anytime, anywhere. Since October, an estimated 30 employee self-service functions have been launched on the app. Officers could also declare their temperatures and submit ART results with ease during the pandemic.



A REFRESHED LOOK FOR THE GOWHERE DIRECTORY ▲

The Government's one-stop hub for official Covid-19 information, the GoWhere directory (GoWhere.gov.sg) was refreshed with an updated interface and new links on self-recovery, vaccination and travel as Singapore transitioned to endemic Covid-19. New sub-sites such as ARTGoWhere, CDCVouchersMerchantsGoWhere and TestCentreGoWhere were also added to provide citizens with information on ongoing Covid-19 initiatives.

NOVEMBER 2021



DIGITAL IDENTITY VERIFICATION FOR SINGAPOREANS THROUGH SINGPASS ▲

The Singpass Digital Identity Card (IC) on the Singpass app is now accepted by all government agencies to prove an individual's identity for in-person agency services. The user interface in the Singpass app was designed and improved iteratively based on user feedback. GovTech co-created with users, adding features to allow users to choose their preferred settings on whether the Digital IC is displayed by default or hidden.

SIMPLIFYING LEGAL PROCEDURES WITH COURTS OF THE FUTURE

To help citizens better prepare for their court matters and seek legal aid or advice, the Singapore Courts' website was enhanced as a one-stop portal to the entire Judiciary, providing information on the courts, its processes and other useful resources. Citizens can also use the new Motor Accident Claims Online (MACO) service to check the likely outcomes of motor accident cases via the Liability and Quantum outcome simulators, facilitating quicker dispute resolution without physically being present at the courthouse.

ENTERING THE NEXT PHASE OF DIGITAL GOVERNMENT TRANSFORMATION

The third iteration of the Ministry Family Digitalisation Plans (MFDP) was launched to further propel the public service towards digital government transformation. MFDP 3.0 takes a differentiated approach to support agencies from planning to execution, developing baseline requirements for all agencies while defining additional requirements for those that are more capable and ambitious. Fronted by GovTech and the Smart Nation and Digital Government Office, MFDP 3.0 expands digitalisation planning to functional domains, agency and sectoral levels, while sustaining the overall digitalisation momentum across the Government.

DECEMBER 2021

WOGAA INAUGURAL DIGITAL SERVICES AWARDS ►

To encourage and recognise government agencies' efforts to improve standards of their digital services, GovTech's Whole of Government Application Analytics (WOGAA) team held the inaugural Digital Services Awards (DSA) on 6 December. Ten agencies took home awards across various categories, based on technical and sentiments assessment scores tracked on the WOGAA platform.



JANUARY 2022

BRINGING SMART NATION TO THE HEARTLANDS ▼



Launched in January 2022, the Smart Nation Builder is a 12-metre roving truck showcase fitted with eight interactive game stations for members of the public to learn about Singapore's Smart Nation initiatives and digital government services, such as LifeSG, Parents Gateway app, Healthy365 and the NLB mobile app. It is also a platform for citizens to share feedback on existing products and services and tell us which digital services they would like to see more of. Members of the public can also be the first to try prototypes of new digital products and help us improve the user interface, accessibility, and overall user experience before they launch.

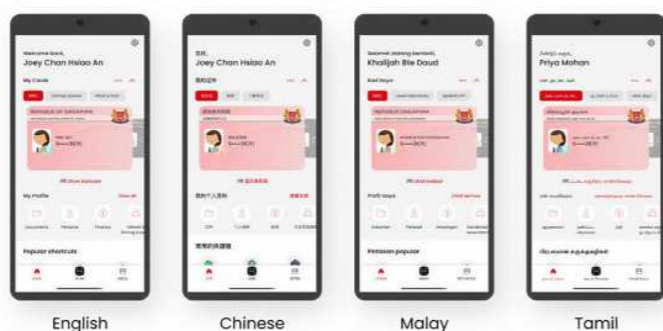
ENABLING GREATER COLLABORATION FOR PUBLIC OFFICERS ACROSS CLOUD-BASED PLATFORMS

As the Government increasingly moves its platforms and services to the cloud, new data security markings were introduced to ensure that data remains secure even as officers collaborate on documents more seamlessly and in real-time across platforms such as SG-Teams, SharePoint Online and OneDrive.

FEBRUARY 2022

IMPROVED ACCESSIBILITY WITH THE MULTILINGUAL SINGPASS APP

The Singpass app is now available in the four official languages, namely English, Chinese, Malay and Tamil, to provide greater convenience and improved accessibility to more Singapore residents. Users can easily switch to their preferred language in the app settings. Members of the public can also share feedback on the translations using the in-app survey form.



ENABLING THE CONSENT-BASED SHARING OF COVID-19 RECORDS

In line with the Government's strategy to live endemically with Covid-19, Sync was developed to facilitate the consent-based sharing of Covid-19 test results and vaccination records. A collaboration between the Ministry of Health and GovTech, Sync allows individuals to easily share their Covid-19 records with employers and other organisations while controlling access rights. Sync also helps employers identify Covid-19 cases within their organisations in a timely manner, allowing for public health measures to be implemented swiftly across workplace and community settings. More than 150,000 users across 80 organisations are now onboard the platform.

ONE-STOP ACCESS TO GOVERNMENT TRANSACTIONS WITH NEW GOBUSINESS DASHBOARD

To simplify businesses' interactions with the Government, a consolidated GoBusiness dashboard was launched for businesses to access and manage their transactions with the Government in one place. Businesses can apply, renew and amend licences across different government agencies, as well as register a sole-proprietorship or partnership on the dashboard. They can also easily keep track of their transactions and be prompted if any action is required. The dashboard also proactively recommends relevant grants and licences based on the user's business sector.

MARCH 2022

ENHANCED SINGPASS CORPORATE FEATURES

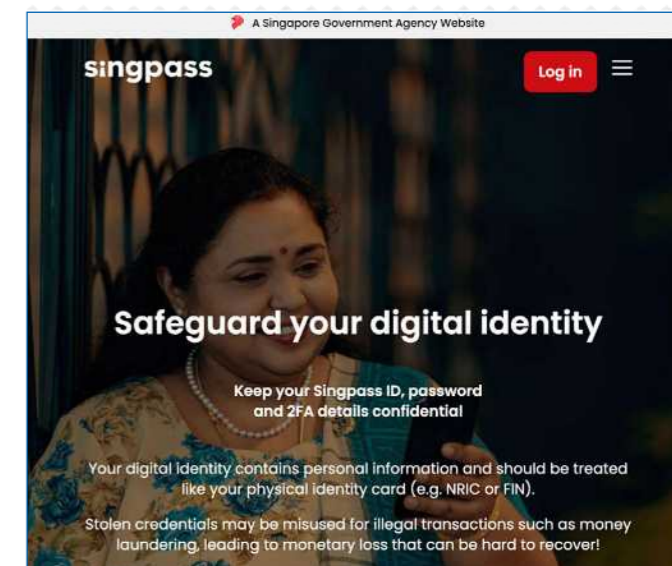
Individuals with valid Corppass accounts can now view their business entity information on the Singpass app. This includes business owners and authorised employees of over 550,000 businesses and entities (such as non-profit organisations and associations), who can conveniently look up company details such as business registration and shareholder information, as well as information on awarded government contracts from the Singpass app, without the need to seek and access various sources for the data.



CROWDTASK^{SG}

SOLICITING CITIZEN FEEDBACK WITH CROWDTASKSG

Beta-launched in March 2022, CrowdTaskSG allows government agencies to obtain citizen sentiments through a single integrated platform. Singapore citizens and permanent residents aged 18 and above can use CrowdTaskSG to earn cash vouchers by helping government agencies with surveys and other tasks to shape the future of Singapore.

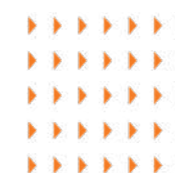


HELPING USERS SAFEGUARD THEIR DIGITAL IDENTITY WITH THE SINGPASS SECURITY PAGE

As scams continue to evolve and attackers update their methodologies, user vigilance is as crucial as our technical and operational safeguards in the fight against scams. The [Singpass Security page](#) on the Singpass website was created as a public resource to educate users on the security measures in place, what to look out for, and how they can play an active role in protecting their digital identity.

SIMPLIFYING DEPLOYMENT AND MANAGEMENT OF CLOUD RESOURCES FOR AGENCIES

To reduce the manual effort involved in provisioning and managing resources on the Government Commercial Cloud (GCC), an API-based automation solution (Infra to Code) was developed to import existing application resources into reusable code files. This saves agencies time while enabling them to automate the provisioning and management of cloud resources.




MEET OUR GOVTECHIES

JACK TOH

Lead Product Manager,
Smart Nation Platform Solutions

Jack is part of the team that builds and manages network connectivity services for various Smart Nation Sensor Platform (SNSP) use cases across the Government. In a busy 2021, Jack's team was behind the launch of the 5G@Sentosa testbed which allows public agencies to explore new applications of 5G technology that could be rolled out to mainland Singapore in the next five years. He also drove the development of the Remote Area Connectivity Solutions (RACS) project which provides connectivity in Singapore's offshore islands such as Pulau Ubin and St John's Island. Jack is the father of five-year-old twin girls, and he spends most of his free time building connections with them even stronger than what he builds for GovTech.

 *"One of the key factors behind our successful delivery of the 5G@Sentosa and RACS projects with multiple trials was our relationship with the many vendors we had to work with. We treated them as close partners and collaborators, amicably discussing any problems that arose to find resolutions that worked for both parties."*



WU SIHUI

Senior Cybersecurity Specialist,
Cybersecurity Group

Sihui is from the Vulnerability Rewards Programme (VRP) team, which was launched in August 2021. The VRP offers monetary rewards ranging from US\$250-US\$5,000 to researchers who discover vulnerabilities on selected Internet-facing government systems. In her role, Sihui validates the reported vulnerabilities and assesses their severity while also assisting in ensuring that fixes are properly applied. The insights gleaned from these vulnerabilities are then shared across the Government to prevent the occurrence of similar vulnerabilities. When not at work, Sihui can be found ridding her garden of bugs (the analogue ones), meditating, and enjoying a good book.


 *"The biggest challenge we face in performing our roles is bridging the understanding between the (VRP) researchers and the teams from public agencies. We need to be effective communicators to translate the vulnerabilities into business impact that the agencies can understand."*



KARTHIK PARAMESWARAN

Senior Infrastructure Engineer,
Government Infrastructure Group

Karthik's role involves identifying tech solutions and collaborative tools that improve public officers' productivity, and making sure these solutions can work seamlessly on government infrastructure and devices. In 2021, GovTech rolled out SG-Teams, a cloud-based, customised version of the Microsoft Teams app, to the public service. As Microsoft Teams is a commercial product designed for use with unrestricted access to the Internet, it had to be adapted to operate in the secure government environment. Together with colleagues from other technical disciplines, Karthik worked through multiple iterations of application, cloud, network, and security configurations to get simple but critical features such as video conferencing and file sharing to work as intended. In his free time, he enjoys studying other cloud projects and sharing his knowledge in technical articles.


 *"The SG-Teams project has helped me learn that collaborative teamwork is one of the keys to a successful product launch. As part of this great team, I continue to learn and understand better how to use my technical expertise to enable public officers to better work in the modernised hybrid environment."*



ANDREW SNG

Product Manager,
Sensors & Internet of Things

Andrew leads the team that built GovTech's Personal Alert Button (PAB), a battery-powered hardware product that allows seniors who live alone to call for help in case of an emergency. In 2021, Andrew's team completed the installation of almost 20,000 PABs in selected rental blocks across Singapore which have assisted in more than 500 emergency situations to date. The device has also been deployed for seniors living in Pulau Ubin. Andrew is a dedicated foodie who says he probably knows where to get the best of each kind of food around Singapore. Besides exploring Singapore for the best food, Andrew enjoys futsal, badminton, and cycling.

 *"We sought special permission to enter seniors' homes during the pandemic to install the PAB when strict social distancing restrictions were in place, as the risks of an emergency going undetected at home increased with seniors not allowed to go out and having lesser social interactions."*




MEET OUR GOVTECHIES

CHADIN ANUWATTANAPORN

Software Engineer,
Government Digital Services

Chadin is part of the SafeEntry development team that had to keep pace with the rapidly changing nature of the Covid-19 pandemic and the policies Singapore rolled out to combat the virus in 2021. SafeEntry is a system comprising a website and mobile application that allows businesses to check in visitors for contact tracing purposes. Chadin's team had to make many changes to SafeEntry's technical requirements at short notice, including when Singapore moved towards vaccination-differentiated safe management measures and vaccination status checks had to be integrated into the system. Outside of work, Chadin enjoys good food and travelling. His first trip after two years of border closures was to France, Spain, and Italy.


 *"I am privileged to be working with a team that is deeply invested in creating a product that would give citizens an outstanding user experience, looking at each feature not just technically but also how it facilitates a seamless check-in process. I also appreciate our team's commitment to excellent software engineering practices, such as making the time for writing good code and adopting test-driven development."*



ZHENG YURONG

Associate UX Designer,
National Digital Identity

Yurong is a UX designer from the team that launched the Singpass multi-language feature in early 2022, making the app available to users in English, Chinese, Malay, and Tamil. To ensure ease of use, Yurong studied other multi-lingual projects to assess the recommended font types for each language, and reviewed translated lines longer than their English versions to see how that might affect design. She also worked with translators to create an easy-to-use form in all four languages within the Singpass app to collect user feedback on the translations.


 *"In our interviews with users, some mentioned having to install and use the Singpass app on behalf of their parents as the older generation found it challenging to use the Singpass app independently due to language barriers when it was only offered in English. We hope offering the Singpass app in our four official languages will make it more accessible to residents who may not be proficient in English, and help more elderly use the app independently."*



BINDU SUKUMARAN

Assistant Director,
Ministry of Trade and Industry

A GovTechie seconded to the Ministry of Trade and Industry (MTI), Bindu was part of the team that launched the National Economic Research and Visualisation Engine (NERVE) in March 2021. The NERVE is a data hub that uses artificial intelligence and machine learning techniques to inform strategy formulation, evaluate policy outcomes, and facilitate service delivery. Bindu also worked closely with other teams in GovTech to complete the proof-of-concept for migrating NERVE to the Government Commercial Cloud. She is an avid gardener and is very pleased to have found a new home recently that has enough space for both her family and her 100 over plants.


 *"GovTech's vision of 'Engineering Digital Government, Making Lives Better' is what attracted me (to the job). Seeing senior management and my colleagues talking and living this vision is what makes me stay. Being part of digital transformation in the public sector has given purpose and meaningfulness to my career."*



JASON MAH

Senior Product Manager,
Standard Products

Jason is from the team working on QuickBuy@SGov, an intermediary interface which acts as a middleman ("middleware") between public officers and commercial online platforms to greatly reduce the time needed to make Small Value Purchases. QuickBuy@SGov was rolled out to over 40 public agencies in early 2022, and reduces the existing nine-step, two-week procurement process for public officers to three steps in a matter of minutes. Jason's team also had to act as middlemen between the respective owners of the e-commerce and government systems that QuickBuy links, to ensure that user experience was optimised while adhering to government ICT policies and security requirements. Jason spends most of his free time with his son, occasionally reading about cars and hanging out with colleagues or friends.

 *"In GovTech, I get to design apps that practice the principle of doing the right thing and doing it right for the end user. When I know the user is satisfied with using an app I worked on, the feeling is like hitting the jackpot. The best part of working in GovTech is the collaborative culture and getting supported by colleagues with expertise in various areas. It's something I didn't get from 12 years in the private sector."*



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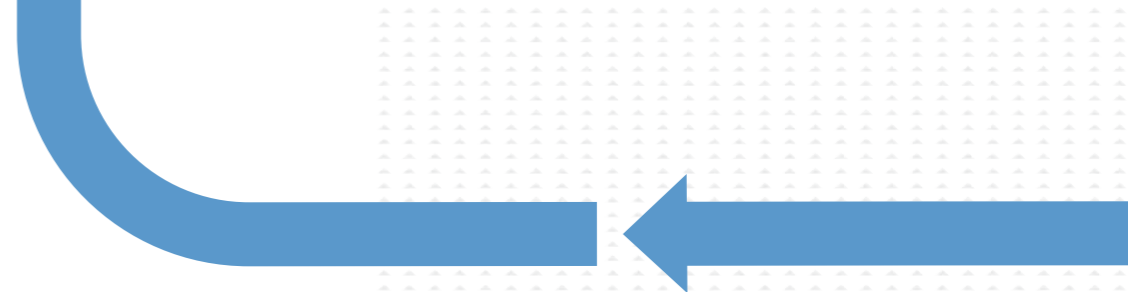
Mr Muthukrishnan RAMASWAMI

*Partner
PeepalTree Pte Ltd*



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(AS AT JULY 2022)



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Ping Soon**

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**Mr CHAN
Cheow Hoe**

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Technology Officer
Deputy Chief Executive
Products



**Mr Henry
CHANG**

Deputy Chief Executive
Services, Governance
and Cybersecurity



**Ms LIM
Bee Kwan**

Assistant Chief
Executive
Governance and
Cybersecurity



**Mr TAN
Eng Pheng**

Assistant Chief
Executive
Services



**Mr CHAI
Chin Loon**

Government
Chief Information
Security Officer
Senior Director
Cyber Security Group



**Mr Jason
SEE**

Senior Director
Data Science & AI



**Mr LIM
Chinn Hwa**

Senior Director
Smart Nation Platform
Solutions



**Mr D N
PRASAD**

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Strategy, People &
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**Mr TAN
Bee Teck**

Senior Director
Education Cluster and
Standard Products



**Mr Richard
TAY**

Senior Director
Government
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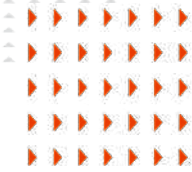
**Mr SING
Khang Leng**

Cluster Director
Manpower Cluster



SENIOR LEADERSHIP TEAM

(AS AT JULY 2022)



Mr Dominic CHAN

Director
National Digital Identity



Mr Gabriyel WONG

Director
Moments of Life



Mr Steven KOH

Director
Government Digital Services,
Agile Consulting &
Engineering



Mr Eyung LIM

Director
Government Digital Services, Digital Design
& Development (DCube)



Mr Kevin NG

Director
Core Operations
Development
Environment and
xChange



Mr QUEK Yang Boon

Director
Sensors & IoT



Mr Jordan TAN

Director
Digital Workplace



Ms Jennifer TAN

Director
Strategy & Plans



Ms CHONG Wan Yieng

Director
Communications &
Marketing Group



Mr LOH Xiang Hui

Director
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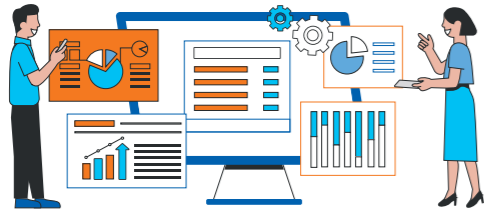
General Counsel
Legal



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Assurity Trusted Solutions Pte Ltd ("Assurity") is a wholly-owned subsidiary of GovTech. It is appointed by the Government of Singapore as the National Certification Authority (NCA) for the issuance and management of Certificates in Singapore. Its application to be an accredited CA under the Electronic Transactions Act (Cap. 88)(ETA) was granted by the Controller of Certification Authority on 26 October 2021.

Assurity is also the appointed authorised provider of Singpass products to promote the adoption and use of the products to the private sector.

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Assurity Trusted Solutions Pte Ltd



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National Digital Identity Government Technology Agency



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Ms Shirley WONG

Managing Partner
TNF Ventures Pte Ltd



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Director, Smart Nation and Digital Government Office (Planning and Prioritisation)
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