## Hong Kong: The Facts

## Innovation, Technology and Industry



Promotion of Innovation and Technology: Innovation and technology (I&T) are drivers for economic growth and the key to enhance competitiveness of our industries. In November 2015, the Innovation and Technology Bureau was established to formulate holistic I&T policies, thereby fostering the development of I&T and related industries in Hong Kong, raising the competitiveness of Hong Kong and improving the quality of life of our citizens. The bureau was re-titled as the *Innovation*, *Technology and Industry Bureau* (ITIB) in July 2022 to highlight new industrialisation as a standing policy function and work focus of the bureau, as part of its efforts in driving I&T development.

ITIB promulgated the Hong Kong Innovation Technology Development Blueprint (I&T Blueprint) December 2022 to establish a clear development path and formulate systematic strategic planning for Hong Kong's I&T development over the next five to 10 years, charting Hong Kong in moving full steam towards the vision of an international I&T centre. The Government has formulated the I&T Blueprint from the perspective of top-level planning and design, and will take forward I&T development under four broad development directions, namely "to enhance the I&T ecosystem and promote 'new industrialisation' in Hong Kong"; "to enlarge the I&T talent pool to create strong impetus for growth"; "to promote digital economy development and develop Hong Kong into a smart city"; and "to proactively integrate into the overall development of the country and consolidate our role as a bridge connecting the Mainland and the world".

The Innovation and Technology Commission (ITC) under the ITIB implements related policies and measures as well as provides software and hardware support for key players to collaborate on research and development (R&D) and innovation activities. The approach in promoting I&T development is underpinned by five core strategies: providing world-class technology infrastructure for enterprises, research institutions and universities; offering financial support to stakeholders in the industry, academia and research sector to develop and commercialise their R&D results; nurturing talent;

strengthening science and technology collaboration with the Mainland and other economies; and fostering a vibrant culture of innovation. The ITC also works closely with other government departments, the industrial and business sectors, tertiary institutions and industrial support organisations to promote applied R&D in different technology areas, as well as the upgrading of foundation industries.

The Office of the Government Chief Information Officer (OGCIO) under the ITIB provides policy steer and guidance on the delivery of information and communications technology (ICT) functions within the Government and takes a proactive role in championing ICT development in the community. The OGCIO is committed to five core missions: support the delivery of effective, secure and citizen-oriented e-Government Services to meet rising public expectations; nurture and develop ICT talents in Hong Kong, to enhance their competency and professionalism; develop a vibrant ICT industry, promote high-tier data centres, cloud computing services, big data and cyber security awareness; develop Hong Kong into a world-class smart city; and promote a digitally inclusive and knowledge-based society.

The Government will set up the *Digital Policy Office* by merging the existing OGCIO and Efficiency Office. Led by the Commissioner for Digital Policy, the new office will be responsible for spearheading formulation of policies on digital government, data governance and information technology, promoting the opening up of data and fostering development more data-based and digital services.

**Digital Economy Development Committee (DEDC):** To accelerate the development of digital economy, the DEDC was set up in June 2022 to look into development strategies and feasible measures on promoting cross-boundary data collaboration, facilitating digital transformation, enhancing digital infrastructure and fostering talent development.

Committee on Innovation, Technology and Industry Development (CITID): The CITID chaired by the Secretary for

Innovation, Technology and Industry was established in March 2023 to advise the Government on the strategic development of I&T in Hong Kong.

Innovation and Technology Fund (ITF): The Government set up the ITF in 1999 with an injection of \$5 billion to support projects that help industries develop innovative ideas and upgrade their technological level. A number of injections totalling about \$40 billion were subsequently made to implement new initiatives under the ITF and sustain the operation of various funding programmes.

There are currently 18 programmes under the ITF to support R&D development, facilitate technology adoption, nurture technology talent, support technology start-ups, and foster an I&T culture. As at the end of October 2023, 64 065 projects with total ITF funding of \$39 billion were approved, of which 5 690 are R&D projects. Most of the funded R&D projects were related to information technology (31%); electrical and electronics (18%); manufacturing technology (18%); and biotechnology (12%).

The Hong Kong Science and Technology Parks Corporation (HKSTPC): The HKSTPC was established in May 2001 to provide comprehensive support services to technology companies including supporting technology start-ups through incubation programmes, providing R&D space and related facilities in the Hong Kong Science Park, and providing land and premises for production in the InnoParks.

The 22-hectare *Hong Kong Science Park (Science Park)* located in Pak Shek Kok is an important I&T infrastructure in Hong Kong. Its target sectors include biomedical technology, electronics, green technology, information and communications technology, and material and precision engineering.

The Science Park provides state-of-the-art laboratories and shared facilities which help reduce the capital investment of technology companies in product design and development, enabling rapid entry of new products into the market at lower cost. They include the Biobank and Histopathology Services, Robotics Catalysing Centre, Biomedical Technology Support Centre and Drug Safety Testing Centre. The HKSTPC is implementing Batch 1 of Stage 2 of the Science Park Expansion Programme, which will provide about 13 000 square metres of gross floor area mainly for wet laboratories.

The project is expected to be completed in the first quarter of 2025.

The HKSTPC manages three *InnoParks*, located at Tai Po, Yuen Long and Tseung Kwan O, which provide 217 hectares of land in total. Some recently built multi-storey industrial buildings include the Data Technology Hub (commenced operation in 2020), Medical Accessory Resilience Supplies Centre (commenced operation in 2021), and Advanced Manufacturing Centre (AMC) (commenced operation in 2022). In addition, the newly-built Microelectronics Centre in the Yuen Long InnoPark will be commissioned in 2024. The HKSTPC is currently conducting a technical feasibility study on the setting up of the second AMC.

InnoHK is a \$10 billion major initiative of the Hong Kong Special Administrative Region (HKSAR) Government to develop Hong Kong as the hub for global research collaboration. Currently, two research clusters have been set up at the Hong Kong Science Park, namely Health@InnoHK, focusing on healthcare technologies, and AIR@InnoHK, focusing on artificial intelligence (AI) and robotics technologies. 29 InnoHK research laboratories have commenced operation, involving seven local universities and research institutions as well as over 30 institutions from 11 economies, and pooling around 2 000 researchers locally and from all over the world.

Hong Kong Cyberport Management Company Limited (Cyberport): Cyberport brings together a cluster of over 2 000 high-quality ICT enterprises and talents. Through offering all-round financial and professional support, market promotion and business networks, Cyberport nurtures digital technology start-ups in fintech, smart living and digital entertainment clusters through incubation and accelerator programmes, including seven home-grown unicorns. Cyberport also provides advanced technology infrastructure, runs internship programmes for students and facilitates synergy and partnership among members of the ICT industry. The Cyberport Expansion Project is underway to provide more working space and facilities from end-2025 at the earliest.

To foster digital transformation of Hong Kong, Cyberport runs the Digital Transformation Support Pilot Programme to subsidise on a matching basis small and medium enterprises (SMEs) of retail and food & beverage sectors in adopting ready-to-use basic digital solution packages including e-payment systems.

From 2024 onwards, Cyberport will operate an Al supercomputing centre in phases, with a view to supporting the huge demand for computing power from universities, R&D and relevant sectors and promoting industry development.

The Hong Kong Productivity Council (HKPC): The HKPC provides integrated support services to help Hong Kong's industrial and commercial enterprises achieve a more effective use of resources and increase the value added content of products and services, thereby enhancing productivity and competitiveness. Anchored on its core competence in manufacturing technologies, information technologies, environmental technologies and management systems, the HKPC has been helping Hong Kong's industrial and commercial enterprises in technology and process upgrading. promoting new industrialisation and helping innovative industries move up the value ladder and tap new business opportunities.

R&D centres: In 2006, the ITC set up five R&D centres to drive and co-ordinate applied R&D in five focus areas, namely automotive platforms and application systems; information and communications technologies; logistics and supply chain multi-tech; nanotechnology and advanced materials; and textiles and apparel. Since their establishment, the centres have been working closely with the industries in conducting industry-oriented R&D and promoting commercialisation of R&D results. As at the end of December 2023, 2 001 projects from the R&D Centres were supported under the ITF at a total project cost of about \$10.9 billion. Besides, the Hong Kong Microelectronics Research and Development Institute, which will be the sixth R&D centre, will be established in 2024 to lead and facilitate collaboration among universities, R&D centres and the industry, which will include exploring the thirdgeneration semi-conductor core technology and leveraging the well-developed manufacturing supply chains enormous market of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA).

Hong Kong currently has 16 State Key Laboratories (SKLs). To better leverage Hong Kong's strengths to serve the needs of our country, the ITC has commenced the reorganisation of the SKLs in Hong Kong, which is expected to be completed within 2024.

Talent: Human resources are essential to the promotion of I&T in Hong Kong. The Government launched the Global STEM Professorship Scheme in 2021 to attract more world renowned scholars to engage in I&T-related teaching and research activities in Hong Kong. The Research Talent Hub under the ITF provides funding support to each eligible company or organisation to engage up to four research talents to conduct R&D work. From April 2023, ITC has increased the maximum monthly allowance for research talents by about 10% (i.e. \$20,000, \$23,000 and \$35,000 for research talents with a bachelor, master and doctoral degree respectively) and provided research talents with a doctoral degree with an additional monthly living allowance of \$10,000 for a maximum of three years. As at the end of December 2023, the programme has provided funding support for over 12 300 research positions. Moreover, the STEM Internship Scheme was launched under the ITF in 2020 to subsidise undergraduates and post-graduates taking STEM-related programmes in local universities to enrol in short-term internships, with a view to fostering their interest in pursuing a career in I&T after graduation. As at the end of November 2023. the Scheme has subsidised more than 11 400 internships. To further expand the pool of I&T talents, the STEM Internship Scheme has been expanded to cover the internship opportunities offered by the five governmentfunded R&D centres and the HKPC to STEM students of local and non-local universities (including the GBA campuses established by designated local universities).

The Government also launched the New Industrialisation and Technology Training Programme (NITTP) (renamed from Reindustrialisation and Technology Training Programme since October 2023) to subsidise local enterprises on a 2:1 matching basis to train their staff in advanced technologies, especially those related to "New Industrialisation". As at the end of December 2023, the NITTP has approved about 15 500 training grant applications for about 45 000 training sessions with total funding of about \$600 million.

The Government rolled out the Technology Talent Admission Scheme in June 2018 to provide a fast-track arrangement for the admission of overseas and Mainland technology talent to undertake R&D work in Hong Kong. The scheme was further enhanced in December 2022, including lifting the local employment requirement, extending the quota validity period to two years and expanding the scope to cover more technology areas. The applicant company should be

engaged in R&D in the areas of biotechnology, artificial intelligence, cybersecurity, robotics, data analytics, financial technologies, material science, advanced communication technologies, Internet-of-Things, integrated circuit design, microelectronics, digital entertainment, green technology and quantum technology. As at the end of December 2023, 917 quotas were approved.

To help young people build a foundation in IT to prepare them for pursuing IT-related tertiary education or career, the "IT Innovation Lab in Secondary Schools" Programme and "Knowing More About IT" Programme were launched in 2020 and 2021 respectively to provide funding support for secondary and primary schools for organising IT-related extracurricular activities. Up to end-2023, these two programmes have received applications from about 950 schools with total approved funding exceeding \$500 million.

I&T co-operation with the Mainland: All along, our country has been placing I&T at the core of its overall development and affirmed the important positioning of Hong Kong as an international I&T centre in the "Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035" ("the 14th Five-Year Plan") promulgated in 2021. Subsequently, in the Report of the 20th National Congress published in October 2022, it was highlighted that our country should adhere to the strategies of advancing through science and technology and workforce development, expedite the achievement of high-level technological self-reliance, improve the institutional set-up for scientific and technological innovation, boost the efficacy of national efforts in innovation, and that in pursuing economic growth, the country must focus on the real economy and promote "new industrialisation". In the I&T Blueprint, "to proactively integrate into the overall development of the country and consolidate our role as a bridge connecting the Mainland and the world" was one the four broad development directions, while "to deepen I&T co-operation with the Mainland for better integration into the overall national development" was one of the eight major strategies.

The "14th Five-Year Plan" has indicated support to Hong Kong in reinforcing and enhancing its competitive advantages and the Central Government has implemented a number of measures benefitting Hong Kong's I&T development. For instance, regarding opening up more national-level science and

technology programmes to Hong Kong, certain special projects under the "National Key Research and Development Programme" and the "Sci-Tech Innovation 2030 - Major Project" were opened up to the designated R&D institutions in Hong Kong. The HKSAR Government will continue to facilitate effective flow of innovative elements. On funding, universities and research institutions in Hong Kong can apply for science and technology funding of the Central Government as well as relevant government agencies at provincial and municipal level on the Mainland, and use the funding in Hong Kong, which enables cross-boundary remittance of research funding thereby injecting impetus into the city's research sector. In addition, education institutions, hospitals and branches established by Hong Kong's universities and scientific research institutions in the Mainland, upon meeting specific requirements, would be allowed to lodge applications for exporting human genetic resources to Hong Kong independently under a trial scheme. The HKSAR Government signed with the Ministry of Science and Technology the "Arrangement between the Mainland and Hong Kong on Expediting the Development of Hong Kong into an International Innovation and Technology Centre" in March 2023 to deepen technology and innovation exchanges and cooperation between the two places, and to foster the development of Hong Kong into an international I&T centre.

Guangdong and Hong Kong have established partnership in I&T for nearly 20 years and achieved fruitful results. Since 2007, universities in Hong Kong have been establishing industry-university-research bases or research institutes in Shenzhen. At present, six Hong Kong universities have established research institutes in Shenzhen, while the research arms set up by some universities in Shenzhen would concentrate on specific fields or innovation in I&T. In addition, as of December 2023, a total of 380 projects under the "Guangdong-Hong Kong Technology Cooperation Funding Scheme" implemented by the HKSAR Government, the Department of Science and Technology of Guangdong Province and the Science, Technology and Innovation Commission of the Shenzhen Municipality were supported by the Innovation and Technology Fund, involving a funding amount of around \$1.03 billion.

The Hetao Shenzhen-Hong Kong Science and Technology Innovation Co-operation Zone is one of the major co-operation platforms in the GBA under the "14th Five-Year Plan". Located at the convergence point of the Northern Metropolis and the Guangzhou-Shenzhen innovation and technology corridor, the Co-operation Zone consists of the 87-hectare Hong Kong Park

(i.e. Hong Kong-Shenzhen I&T Park, which will be referred as "HSITP" below) and 300-hectare Shenzhen Park. Hong Kong and Shenzhen have been discussing the future development of the Co-operation Zone through the Joint Task Force on the Development of the HSITP in the Loop (Joint Task Force), which was established in 2017. Topics discussed at the Joint Task Force include the dedicated cross-boundary measures which could be implemented in the Loop (such as enabling the travel of I&T personnel between the two places). The Central Government promulgated in August 2023 the Development Plan for Shenzhen Park of the Co-operation Zone, setting out the development positioning of the Shenzhen Park. The HKSAR Government will render its full support and continue to work with the Shenzhen Municipal Government to foster the synergistic development of the Hong Kong Park and the Shenzhen Park, and explore innovative measures under the vision of "one river, two banks" and "one zone, two parks".

The Hong Kong Park will be developed in two phases from west to east. The planning for the first phase has been completed. With a total floor area of up to 1 million square meters, the Hong Kong Park will contain various clusters with different industry themes. This will not only establish a diverse I&T ecosystem, but also create a vibrant and sustainable new community. The first three buildings of the first phase will be completed gradually from the end of 2024 as planned. At the same time, the HKSAR Government will expedite and enhance the construction of high-quality research and industrial facilities through investment promotion and market forces. HSITP Limited will commence the planning for the second phase. Meanwhile, apart from taking forward hardware construction, cross-boundary innovation elements including talent, materials and data are key to the Co-operation Zone's vision of "one river. two banks", "one zone, two parks" under "one country, two systems" in the two parks of the Co-operation Zone. As such, the HKSAR Government will continue our active collaboration with Shenzhen, thereby promoting the synergistic development of "one zone, two parks" under "one country, two systems" in the two parks of the Co-operation Zone and explore innovative measures to ensure smooth flow of talent, materials and data, thereby serving as the bridgehead for intensive I&T cooperation between the two places.

OGCIO takes active steps to facilitate exchange and collaboration between the ICT industries of Hong Kong and the Mainland. Leveraging the opportunities brought about by implementation of Mainland's "Internet+", "Belt and Road" and

"Digital Economy" strategic initiatives, OGCIO has been leading ICT delegations to explore collaboration and business opportunities in the Mainland. OGCIO also regularly takes part in major ICT exhibitions in the Mainland, providing opportunities for local ICT companies especially SMEs to showcase their innovative products and services and tap into the Mainland market.

The Hong Kong/Guangdong Expert Group on Cooperation in Informatisation was set up to strengthen cooperation in promoting the development and adoption of new generation digital technologies such as 5G, big data, artificial intelligence in both places, deepening the collaboration between the two governments and facilitating the exchanges among the industry, academia and research sectors, with a view to supporting the development of smart cities in the GBA. OGCIO has put in place a mutual recognition scheme of electronic signature certificates between Hong Kong and Guangdong to help enhance security and reliability of crossboundary e-commerce.

Since 2019, OGCIO has been collaborating with the Ministry of Industry and Information Technology of the People's Republic of China and the Liaison Office of the Central People's Government in the HKSAR in organising the Hong Kong Chapter of the national global contest "Maker in China" SME Innovation and Entrepreneurship Global Contest to facilitate better understanding of local innovative technology products and solutions among Mainland investors and enterprises. It also facilitates local technology SMEs to expand their business networks in the GBA and the Mainland.

The ITIB and the Cyberspace Administration of China signed the Memorandum of Understanding on Facilitating Cross-boundary Data Flow within the Guangdong-Hong Kong-Macao Greater Bay Area (MoU) in June 2023 to explore management measures that foster cross-boundary data flow within the GBA in a safe and orderly manner. The two parties announced in December 2023 the pilot arrangement of the voluntary and consent-based facilitation measure on "Standard Contract for the Cross-boundary Flow of Personal Information Within the Guangdong-Hong Kong-Macao Greater Bay Area (Mainland, Hong Kong)", which will facilitate and streamline the arrangements for cross-boundary flow of personal information from the Mainland cities in the GBA to Hong Kong. The processing and export of personal data from Hong Kong will

continue to be governed by the Personal Data (Privacy) Ordinance of Hong Kong.

In November 2023, the ITIB signed the "Co-operation Agreement between Guangdong and HKSAR on Cross-boundary Services" with the Government Services and Data Management Bureau of Guangdong Province to deepen collaboration in government services between the two places. A thematic website was launched, covering in the first phase over 100 cross-boundary public services offered by both sides. Hong Kong residents who have registered for the Guangdong Provincial Administrative Service can log in directly to the relevant website and the "Yue Sheng Shi" mobile app through "iAM Smart" to enjoy a wide range of Guangdong's public services in a more convenient and efficient manner.

To promote data governance and data-based development, the Government published the "Policy Statement on Facilitating Data Flow and Safeguarding Data Security in Hong Kong" in December 2023, setting out 18 action items in five areas to promote the consolidation, application, opening up and sharing of data, while enhancing safeguards for data security and planning of related infrastructural facilities.

Fostering an I&T Culture: The ITC organises the InnoCarnival which comprises exhibitions, workshops and talks regularly to arouse interest of the general public in I&T. The ITC also supports I&T-related competitions such as the Hong Kong Student Science Project Competition and the Joint School Science Exhibition. The Innovation and Technology Scholarship recognises outstanding local undergraduates who are passionate about I&T and encourages them to pursue I&T as a career. The Government launched the General Support Progamme (GSP) in 1999 to support non-R&D projects that contribute to the upgrading and development of our industries, the fostering of an I&T culture in Hong Kong as well as promoting popular science. As of end of December 2023, a total of 415 projects with a funding amount of around \$0.78 billion were supported.

Launched in 2020, the inaugural City I&T Grand Challenge received more than 740 submissions to tackle problems facing the city and people in their daily lives. 25 winners from the University/Tertiary Institute and Open Groups received financial resources for research and development. After over half a

year's training and continuous refinement and enhancement of their I&T solutions, the winning teams have created prototypes for trials at over 50 organisations and community groups, involving more than 4 260 end users. The inaugural City I&T Grand Challenge: The Showcase was staged for 9 days at the Hong Kong Science Park in October 2022. Prototypes of winning solutions were revealed to the public for the first time through real-life scenarios and the public could also try out the solutions in person. ITC is organising the second City I&T Grand Challenge.

InnoEX and Digital Economy Summit are two annual signature events hosted in Hong Kong every April to promote Hong Kong as an international innovation & technology centre and the region's digital economy hub. The events gather government leaders and industry experts to share their visions on promoting I&T and digital economy development, and offers a platform for showcasing Hong Kong's technological achievement and innovative solutions.

OGCIO has been collaborating with local ICT industry in organising the Hong Kong ICT Awards since 2006 to recognise outstanding achievements and showcase Hong Kong's ICT innovation and successes.

OGCIO set up the Smart Government Innovation Lab in April 2019 to promote pro-innovation government procurement policy and expedite bureaux and departments' adoption of innovative IT products and solutions, thereby improving public services and creating more business opportunities for local start-ups and SMEs.

**Encouraging Local R&D Activities:** To encourage enterprises to invest more in local R&D and promote local R&D activities, the Government provides enterprises with enhanced tax deduction for their expenditure incurred in qualifying R&D activities. The deduction will be 300% for the first \$2 million spent on qualifying R&D and 200% for the remaining amount. There is no cap on the amount of enhanced tax deduction. The deduction is applicable to qualifying R&D expenditures incurred on or after April 1, 2018.

Promoting transformation of R&D Outcomes: To unleash the potential of local universities in transforming and commercialising R&D outcomes, and facilitate relevant collaboration among the Government, industry, academia and research sector, the Government launched the \$10 billion

Research, Academic and Industry Sectors One-plus (RAISe+) Scheme in October 2023 to fund, on a matching basis, at least 100 research teams in the eight universities funded by the University Grants Committee which have good potential to become successful start-ups to transform and commercialise their R&D outcomes. Funding support from \$10 million to \$100 million will be provided to each approved project.

Smart City Development: The Government published the "Smart City Blueprint for Hong Kong 2.0" in 2020 to set out over 130 smart city initiatives, covering "Smart Mobility", "Smart Living", "Smart Environment", "Smart People", "Smart Government", "Smart Economy" and "Smart Village Pilots", in order to build Hong Kong into a more advanced and livable smart city which brings convenience to the public and businesses. Most of the initiatives have been or are being implemented.

Amongst them, "Smart Village Pilots" explores the use of I&T and smart devices in addressing the specific environmental and daily life issues faced by residents living in rural and more remote areas. OGCIO has been providing free Wi-Fi service at some 150 village premises to facilitate the provision of other smart village pilot initiatives.

Some other key smart city infrastructure includes:

- One-stop personalised digital services platform "iAM Smart": OGCIO launched the one-stop personalised digital services platform "iAM Smart" in December 2020. As of December 2023, members of the public can access more than 300 government, public and private online services with a single digital identity, conduct online transactions and perform digital signing with legal backing in a simple and secure manner.
- Multi-functional Smart Lampposts Pilot Scheme:
  Over 400 smart lampposts under the Pilot Scheme have
  been put into operation in four urban locations with
  higher pedestrian flow to collect real-time city data such
  as air quality and traffic flow, enhance city management,
  and support the development of digital infrastructure for
  5G services. Smart lampposts will also be installed at
  all new development areas (including the Northern
  Metropolis).

- Data Analytics Platform: The launch of the Next Generation Government Cloud Infrastructure Services and the Big Data Analytics Platform in September 2020 has greatly facilitated system connectivity and data interchange among B/Ds and assisted B/Ds in implementing more projects using innovative technologies such as artificial intelligence and big data analytics. As at December 2023, over 450 digital government services and over 18 projects for conducting big data analytics have been supported.
- Shared Blockchain Platform: OGCIO implemented a Shared Blockchain Platform in June 2022 to facilitate the development of blockchain applications by B/Ds more conveniently.

"Smart City" roving exhibition: During August 2022 and June 2023, OGCIO held the quarterly "Smart City" roving exhibition with different themes in different districts, enabling citizens to experience how various smart city initiatives can bring convenience to their daily lives through the adoption of technology. The roving exhibition attracted over 78 000 visitors in total.

**Wi-Fi Connected City:** OGCIO has been collaborating with the private sector to promote free public Wi-Fi services at both public and private premises under the common brand "Wi-Fi.HK" since 2014. There are over 47 000 "Wi-Fi.HK" hotspots in town as of December 2023.

**Data Centres:** The Government champions initiatives and measures to develop Hong Kong as a prime location for hightier data centres in the region by putting up land for sale and encouraging conversion of industrial buildings to data centres and use of industrial lots for high-tier data centre development. The Data Centre Facilitation Unit of OGCIO provides information and one-stop support to assist enterprises interested in setting up data centres in Hong Kong and works with government departments on measures to facilitate their business planning.

**Cyber Security:** OGCIO adopts a robust management framework and maintains a comprehensive set of information security policy and guidelines with regular audits to continuously enhance cyber security within the Government. Multi-layer safeguards are in place to protect the digital assets of the Government. A dedicated governmental computer

emergency response team (GovCERT.HK), established under OGCIO, handles information security incidents in the Government in an effective and co-ordinated manner.

In collaboration with key partners such as Hong Kong Computer Emergency Response Team Coordination Centre, Hong Kong Police Force and Hong Kong Internet Registration Corporation Limited (HKIRC), OGCIO promotes awareness of cyber security in the community and industry and provides practical advice to guard against cyber attacks through various channels and means, including the Cyber Security Information Portal (www.cvbersecuritv.hk). contests and school visits. To further enhance Hong Kong's overall capability in dealing with cyber threats, OGCIO works with the HKIRC to administer the Cybersec Infohub, a publicprivate-partnership programme that promotes cross-sector collaboration and sharing of cyber security information on a trusted platform.

**E-Government:** The GovHK portal (www.gov.hk), the one-stop portal of government information and e-services, was launched in 2007 to provide single access to an array of personalised e-Government services. The GovHK portal adopts responsive web design and was revamped at the end of 2019 to further enhance user experience.

A new policy on opening up government data was promulgated in October 2018, stating that government B/Ds should endeavour to release their data for free public use. Around 2 000 new datasets have been opened up since. The Open Data Portal (DATA.GOV.HK) releases government open data in machine-readable format for public consumption with a view to tapping creativity and wisdom of the community in developing innovative applications with open data. User-friendly tools such as visualisation of multiple datasets on a map and city dashboards are provided to facilitate the public to visualise dynamic city data. Around 5 300 datasets were available on the Portal as of December 2023.

The Development Bureau and the Lands Department (LandsD) launched the Common Spatial Data Infrastructure (CSDI) portal (portal.csdi.gov.hk) and the first 3D Visualisation Map dataset in December 2022 for the public's free use. Over 700 spatial datasets from various government departments are made available through the portal, covering different aspects such as planning, lands, buildings, works, population, transport, etc. Framework Spatial Data Themes such as

"Building", "Land Parcel" and "Address" are also available on the portal to provide location references for other datasets.

OGCIO facilitates the implementation of mobile e-Government services by providing support to government departments and developing mobile applications for departments' common use to render public services.

IT Strategy: OGCIO formulates government-wide IT strategy and advises government B/Ds in their formulation of departmental IT strategy to meet specific policy objectives. OGCIO also supports government B/Ds in their planning and implementation of IT-enabled change initiatives in a more agile, cost effective and co-ordinated manner by adopting cloud computing and other emerging technologies. These government-wide initiatives include:

- Electronic Information Management: In line with the government-wide electronic information management strategy that embraces content management, records management and knowledge management, OGCIO is developing a central Electronic Recordkeeping System (ERKS) on the Government's private cloud platform to support full implementation of ERKS in the Government.
- Electronic Procurement: OGCIO is rolling out its cloudenabled electronic procurement service to government B/Ds to enhance efficiency from the automated and integrated procurement processes. Suppliers also reap the benefits of shorter transaction turnaround time and greater business opportunities.

Digital Inclusion: To facilitate access to online information and services by everyone including persons with disabilities, OGCIO has been implementing a Web/Mobile App Accessibility Campaign since 2011 through a multi-pronged strategy. Since 2018, the HKIRC, which is a not-for-profit company managing and administering the registration of Internet domain names under ".hk" and ".香港" country-code top level domains, has become the organiser of the Digital Accessibility Recognition Scheme (formerly known as the Web Accessibility Recognition Scheme) with OGCIO as coorganiser.

Since 2014, OGCIO has been conducting the ICT Outreach Programme for the Elderly to help elderly in elderly homes or those receiving day care services and home care

services to experience the benefits of ICT. The services were extended to cover elderly people with dementia in 2017. An Enriched ICT Training Programme for the Elderly was also introduced in February 2019 to encourage elderly persons with basic ICT knowledge to adopt digital technology and serve as trainers to help more elderly people acquire ICT knowledge. In October 2019, OGCIO launched a web-based

learning portal for the elderly to acquire digital skills anytime, anywhere. From late 2021, OGCIO, in collaboration with service organisations, set up mobile outreach service stations in the community to proactively reach out to the elderly and teach them on commonly used mobile apps.