



Greater Bay Area Update

Tech and Innovation GBA newsletter

February 2021



Technology and innovation is benefiting greatly from the Guangdong-Hong-Kong-Macao Greater Bay Area (GBA) initiative, which aims to transform the region into a world-class technology and innovation hub and centre for emerging industries.

This newsletter includes highlights of recent developments regarding the promotion of the GBA as a technology and innovation hub, drawing insights from the [Keys to success in the Greater Bay Area](#) report published in 2020; and recommendations for enterprises and policymakers from KPMG, HSBC, HKGCC and the Smart City Consortium.

Shenzhen SEZ reforms expected to support technology and innovation development across the GBA



On 14 October 2020, President Xi Jinping spoke on the development of the Greater Bay Area to mark the 40th Anniversary of the establishment of the Shenzhen Special Economic Zone (SEZ). In his remarks, President Xi highlighted the following:

-  The Outline Development Plan of the GBA is a key component of China's regional development plans to create a technological and financial powerhouse for Southern China through increased cooperation and resource mobility.
-  As part of the GBA initiative, Shenzhen is being modelled as a city for further testing of the reform and opening up of China's economy.
-  Innovation will remain central to China's transformation. Shenzhen is positioned to play a role as a leading innovation centre, with linkage between universities, research institutes and innovative corporates.
-  There will be an increased focus on reliance on domestic markets to drive growth in China.

Following President Xi's speech, on 18 October, the National Development Reform Commission (NDRC) announced 27 reform measures and 40 authorised initiatives that would grant Shenzhen autonomy to reform its system to support its further development covering six broad areas, including market-based allocation of factors of production, doing business, technology and innovation, and opening-up. The measures support Shenzhen to fully utilise legislative power in the areas of artificial intelligence, big data, electric vehicles, drones and biotechnology, facilitating increased mobility of skilled resources and the development of a more open business environment.



Business sentiment for investment in the GBA



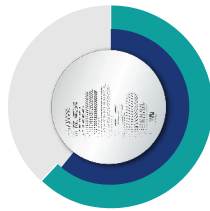
The recent announcements align with the findings of our joint study published in 2020. Key highlights include:



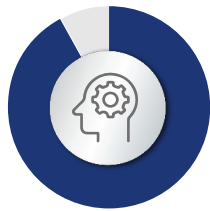
More than half (56 percent) of all businesses polled consider the technology and innovation sector will benefit most from the GBA initiative. Among technology and innovation companies themselves, 79 percent expect the sector will be the main beneficiary of the development.



More than two-thirds (67 percent) of technology and innovation companies surveyed anticipate increasing their R&D spending in the coming three years in the GBA outside of the city in which they are based.



Companies based in mainland China are particularly upbeat about the GBA's prospects, with 61 percent of firms based in one of the nine mainland China GBA cities planning to expand in the region.



92 percent of executives from technology and innovation firms that have a strategic plan for the GBA say that they will be investing in talent recruitment in the coming financial year.



53 percent of technology and innovation executives predict their business revenues to rise at least 30 percent over the next three years, compared to 23 percent of executives across all sectors.

Source: KPMG, HSBC and HKGCC, *Keys to success in the Greater Bay Area*, 2020.



Technology and innovation developments and trends

In addition to the recent reform measures announced for Shenzhen, there have been other significant developments over the past year that will help to promote the development of the GBA as a technology and innovation hub:



Opportunities for smart city as a service: ASEAN cities look up to Hong Kong, which is ranked highly among lists of the world's smartest cities, as a trendsetter in quality and creativity in the smart city space. One of the reasons behind this is better use of advanced technology such as geographic information systems (GIS) in urban planning. Hong Kong and the rest of the GBA should leverage these advantages to advise other cities on smart city development and best practices. In December 2020, Hong Kong unveiled its 'Smart City Blueprint 2.0' containing 130 smart city initiatives covering mobility, healthcare, environmental protection, education, government services and other areas. The 'Blueprint 2.0' also discusses how I&T can be used to combat COVID-19.



In her 2020 Policy Address in November 2020, Hong Kong Chief Executive Carrie Lam proposed a new five-year, HKD 2 billion "Global STEM Professorship Scheme" to attract outstanding R&D talent working overseas to come to Hong Kong. A plan was also announced to provide 2,000 jobs, including in the I&T sector, for university graduates from Hong Kong to work in the GBA under the Greater Bay Area Youth Employment Scheme. As the start-up ecosystem in Hong Kong and the rest of the GBA continues to develop, these initiatives will play a role to generate more interest in STEM among university students and contribute to technology R&D and commercialisation efforts.



In October 2020, China's Standing Committee of the National People's Congress passed amendments to the Patent Law which will significantly change the current law once they come into effect in June 2021. Key changes include protection of partial design, extension of design protection period to 15 years, increase of the ceiling of statutory damages and introduction of punitive damages. The creation of a patent linkage and patent term extension system are particularly relevant to the pharmaceutical sector.



In October 2020, it was announced that Hong Kong Science and Technology Park will partner with City University of Hong Kong to develop a world-class Good Manufacturing Practice (GMP) facility in Hong Kong to accelerate the development of cancer therapies, regenerative medicine and related biomedical technologies. This is a positive step that will help to boost the GBA's biotech ecosystem, support start-ups and attract talent and investors.



E-commerce is accelerating across the GBA for both export and

import-oriented companies to support the international and domestic e-commerce markets. Extensions of the e-commerce sector such as logistics and distribution are also making quick headway and will continue to grow.”

David Harrity

*Managing Director,
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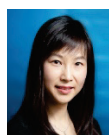
Shift to e-commerce increases demand for “smart manufacturing”: As consumers have shifted to e-commerce amid the Covid-19 pandemic, knowledge of “smart manufacturing” practices that harness data analytics, robotics and internet of things (IoT) to rapidly produce customised, complex goods is becoming a more urgent requirement for Original Equipment Manufacturer (OEMs). The GBA has strong potential to export its “smart manufacturing” know-how to emerging markets such as ASEAN.



In July 2020, Hong Kong Science and Technology Park (HKSTP) launched the Technology Leaders of Tomorrow Programme for science and engineering graduates. Under the scheme, which is being offered through HKSTP’s InnoAcademy, successful applicants will spend 24 months in a full-time R&D role at one of 11 HKSTP partner companies that are at the pilot stage. They also receive innovation leadership training, career guidance and take part in an innovation & technology industry bootcamp. The scheme aims to enable graduates to experience what a career at a technology start-up might be like and help them network in the industry.



In June 2020, the ChiNext start-up board on the Shenzhen Stock Exchange amended rules of new share sales, introducing a registration-based initial public offering (IPO) system. The reform has made ChiNext more comparable to Shanghai Stock Exchange’s STAR Market and will help attract the listings of fast growing and innovative high-tech companies. The changes are an important step towards increasing transparency in China’s capital markets.



With a deep capital pool comprising both institutional and

retail investors, the GBA is an attractive and leading region for listing and trading securities, both for domestic and international businesses. The recent reforms to the ChiNext Board as well as the Hong Kong new listing regime introduced in 2018 have well positioned the GBA to attract listings of growth-oriented, innovative New Economy companies.”

Maggie Lee

*Partner, Audit, Capital Markets
Development, Hong Kong
KPMG China*

- Initially launched in 2009, ChiNext has more than 800 companies listed on it, with a market value of more than US\$1.3 trillion¹ as of Aug 2020.
- The board aims to ease enterprises' burdens and increasing transparency with an open and paperless application review process.
- The board also focuses on loosening trading restrictions.
- In June 2020, the Chinese regulator announced official rules and regulations for the new IPO system and started accepting applications under the registration-based system.²
- Two new exchanges in Guangzhou and Macao are taking shape.



The launch of the Cross-boundary Wealth Management Connect Pilot Scheme in June 2020 is expected to complement existing cross-GBA financial connections, especially for asset management, fintech and insurance. In addition to strengthening Hong Kong’s status as an international financial centre and a major offshore RMB hub, the scheme aims to improve access to cross-border investment in innovation and technology enterprises across the GBA.



New guidelines for financial cooperation across the GBA: In May 2020, Chinese regulators issued 26 specific measures to promote the development of financial services across the GBA. With technological innovation as a key focus area, the document included provisions for deepening fintech cooperation; building a blockchain trade financing information service platform; supporting research on innovative technologies; and expanding cross-border electronic payments.

¹ Currency converted at 1CNY= 0.1488US\$, as on 12th Oct 2020, sourced from Oanda.com

² Bloomberg, China to ease rules on listings for ChiNext board this year, June 2020, <https://www.bloomberg.com/news/articles/2020-06-12/china-to-ease-rules-on-listings-for-nasdaq-like-board-this-year>.



Economic growth and tech and innovation investment indicators

-  Over the three-year period from 2017-2019, the GBA collectively achieved 5.3 percent GDP growth with Shenzhen, the fastest growing GBA city, achieving 8.4 percent growth.³ Shenzhen achieved positive GDP growth in the first three quarters of 2020 despite the challenging economic impacts of the global pandemic.
-  In 2019, the number of new direct investment projects from Hong Kong in Guangzhou was 1,788, the contracted direct investment from Hong Kong amounted to US\$34.42 billion and the realised direct investment from Hong Kong stood at US\$4.62 billion
-  The growth of innovation and technology in the GBA is further propelled by **increasing presence of Fortune 500 companies in GBA, development of smart infrastructure, and the Chinese government's supportive policies** to promote the use of new technology such as fintech, blockchain, big data, and artificial intelligence (AI) to facilitate the growth of emerging industries
 - 21 companies from the GBA were listed on the 2020 Fortune Global 500 List (*20 companies from the GBA were listed on the 2019 Fortune Global 500 List*), including technology companies such as Huawei Investment & Holding, Lenovo Group and Tencent Holdings.⁴
 - Guangdong province aims to invest in new infrastructure projects including 5G networks and has installed roughly 41,000 5G base stations (*86.2 percent of its annual target*) through 1H 2020.⁵
-  Furthermore, **rising investments in the innovation and technology** sector in cities of GBA are expected to boost the growth of the sector
 - The value of Guangzhou's tech (*technology related*) contract deals amounted to approximately US\$14.9 billion in 2019, compared to US\$10.7 billion in 2018, representing 39.3 percent year on year increase.^{6,8} In 2019, Guangzhou spent c.US\$2.2 billion on development of science and technology infrastructure, such as a deep-sea ecosystem, a dynamic wide-range velocity vehicle test unit, and others.
 - As of Jul 2020, Huizhou signed agreements worth US\$714.0 million with Shenzhen Sinlikon Supply Chain Management and Hit Robot Group (China based robotics firm) to develop an industrial estate focusing on 5G telecommunication technology and an R&D centre respectively.⁷
 - Situated between Shenzhen and Guangzhou, Dongguan has positioned itself as a hub for smart manufacturing as well as R&D. Home to the 4th National Comprehensive Science Center, two science parks: Dongguan Songshan Lake Science City and Shenzhen Guangming Science City, as well as the innovation and production base for telecom giant Huawei, the city is home to more than 5,700 high-tech enterprises. The Neutron Science Center of Dongguan, in operation since 2018, boasts mainland China's only spallation neutron source and the fourth such centre worldwide, and is expected to generate a research and industrial cluster for new materials, microparticles and biomedicine.⁸

³ KPMG analysis based on current data from Hong Kong Trade Development Council, HSBC and CEIC.

⁴ Fortune Global 500, 2020, <https://fortune.com/global500/>

⁵ CGTN, Greater Bay Area hosts 17% of China's Fortune 500 companies, July 2020. <https://news.cgtn.com/news/2020-07-31/Greater-Bay-Area-hosts-17-of-China-s-Fortune-500-companies-SzIBm6QNpk/index.html>

⁶ NewsGD.com, Guangzhou to become an innovation tech hub for the Greater Bay Area, 2020, http://www.newsgd.com/news/exclusive/content/2020-01/09/content_190034661.htm

⁷ South China Morning Post, Huizhou draws 5G and robotics investments of US\$714 million as it seeks to upgrade role in Greater Bay Area, July 2-2, <https://www.scmp.com/business/china-business/article/3092997/huizhou-draws-5g-and-robotics-investments-us714-million-it>

⁸ Hong Kong Trade Development Council, "Dongguan, A Global Smart Manufacturing Hub", updated 2020, https://sourcing.hktdc.com/en/info/featured_suppliers/GuangdongDongguan/index.html.



Recommendations for technology and innovation enterprises

There is strong evidence that the GBA is providing a thriving eco-system for the development of technology and innovation through increased public and private investment, regulatory development, and mobility of talent. The combined impact of these will provide a compelling case for investment by corporates across all sectors. To take advantage of the opportunities arising from the GBA, businesses should continue to develop a cohesive strategy for a market that will continue to prosper economically. In light of this, corporates should consider their regional strategy for the GBA in the context of their overall China strategy.

Six key actions to grow profitably while managing costs and risk:



Develop a full understanding of the growth opportunities in the market and align business model accordingly. To achieve continued profitable growth, businesses will need to consider how they can achieve revenue growth through increased penetration of a rapidly expanding market, whilst containing costs and managing risks.



Corporates with operations in multiple GBA cities should treat the region as an integrated unit and adjust their organisation structure and allocate roles and responsibilities accordingly.



The new reality of working presents an opportunity for businesses to look far and wide for talent to support growth aspirations. Amidst a relaxation of rules to attract talent physically to cities as Shenzhen, increasingly we are witnessing corporates hire talent from overseas to work remotely.



We anticipate deeper sector convergence through increased adoption of technology and innovation by all sectors. Businesses will need to review and reprioritise their strategic technology investments; they should consider accelerating their investment through M&A, joint ventures or strategic business initiatives.



For high growth corporates, there is an array of funding options that exist for them across the region. There is an abundance of VC / PE capital looking to invest in technology companies. Many financial institutions have established technology funds that are focused on lending to high growth industries, taking into consideration the different maturity levels of corporates. The ChiNext provides an opportunity for corporates to access China capital markets.



Businesses looking to grow and expand in the GBA should consider how they can integrate in the numerous eco-systems and their related incubators and accelerators, which can provide access to innovative technology.

Tax considerations:

- Preferential tax treatments and incentives are offered by both the tax authorities in Hong Kong and mainland China for companies engaging in R&D activities. Companies are suggested to consider the criteria to enjoy the above incentives to structure their R&D model in order to enhance overall tax efficiency.

- Companies should understand and analyse the relevant preferential policies that apply to companies in the GBA, such as the Preferential Individual Income Tax Policy for the Guangdong-Hong Kong-Macao Greater Bay Area (IIT) and select suitable locations to establish business operations
- Since the GBA consists of three different tax jurisdictions, an enterprise could be liable to tax in multiple jurisdictions if its tax affairs are not properly planned. Enterprises need to carefully manage and establish appropriate operating protocols to ensure they do not create inadvertent Permanent establishment or tax residency risks in the GBA. While related party transactions between different tax jurisdictions will be closely examined by the tax offices, there are planning opportunities for groups of enterprises to enhance their overall tax efficiency.



Recommendations for policymakers

In addition to the recent reform measures announced for Shenzhen, there have been other significant developments over the past year that will help to promote the development of the GBA as a technology and innovation hub:



Cross-jurisdictional coordination and collaboration

- With travel unlikely to return to “normal” anytime soon, GBA cities should work together to ease travel restrictions once the Covid-19 pandemic situation subsides.
- A region-wide agreement could enable certified technology and innovation firms to take advantage of tax incentives and fast-tracked labour mobility schemes. Such an agreement would allow tech firms to base themselves in Hong Kong while capitalising on the opportunities around the region.
- Internal competition within the GBA is healthy, but government objectives should not solely be assessed on the basis of metrics such as the number of businesses in their jurisdiction, but rather how much value such policies create in the whole region.
- Cross-border fast-track customs-clearance measures to facilitate the transfer of scientific research samples, lab reagents and genetic resources within the GBA have the potential to optimise the innovation environment and foster growth of new strategic industries such as biomedicine, high-end medical equipment and DNA genetic testing. This could be a strong driver for the newly formed Health@InnoHK, a research cluster at the Science Park, focusing on healthcare technologies.
- As GBA cities share the same climate change-related risks, it is important for them to collaborate on sustainability initiatives. They could achieve this by making it easier for stakeholders across the region to access sustainable finance instruments and participate in ESG projects; and by harmonising regulations in sustainable finance and green tech.



To ease the entry of foreign talent who are non-Hong Kong SAR residents into the rest of the cities in the GBA, the Hong Kong General Chamber of Commerce has proposed the introduction of a “GBA Card” – a visa system modelled on the APEC Business Card Scheme, in which business travellers can travel among GBA cities with relative ease. The scheme could be launched in phases, first allowing people working for businesses which have operations in the GBA to travel freely, and later expanding the scheme for other business and social needs.”

Pang-chun Yu

Convenor of the GBA Working Group, Hong Kong General Chamber of Commerce



R&D commercialisation and intellectual property protection

- More university/lab-industry partnerships are needed to facilitate the commercialisation of research. Basic scientific research that has no immediate commercial objective but may ultimately be commercialised provides a necessary foundation for technology breakthroughs that can serve as an economic growth engine for the GBA.
- GBA authorities should consider a unified intellectual property registration system: if a Hong Kong firm sets up a subsidiary in Shenzhen to carry out R&D or vice versa, applications for patent registration filed in the GBA could be examined and granted by both the mainland China and Hong Kong patent offices under the unified registration system. This would simplify the application process and lower cost, benefitting SMEs in particular. Mutually recognised qualifications of IP professionals throughout GBA jurisdictions would enhance efficiency and be more cost-effective.
- Harmonisation of patent laws would provide a clear set of guidelines for acquiring, maintaining and protecting patent rights across the GBA. Legal disputes arising from different legal systems can also be avoided.
- Unification of processing systems and resources, such as digital libraries of search and examination reports, would eliminate the duplicated efforts of patent offices in GBA jurisdictions to search and examine applications. This will speed up the patent application process and allow for more efficient allocation of human and financial resources.
- Improving the cross-border IP dispute resolution system would provide better protection to patent owners and users.



Education and talent

- The public sector and educational institutions should encourage businesses and industries to identify industry-specific workforce requirements, and to examine how well those needs are being met. As one example, “new economy indexes” have been used in other cities to track progress in how jurisdictions are growing and managing their assets; improving their innovation processes; and producing better outcomes for the community.
- Schools should be transformed into “incubators” for learning and innovation. One of the major demands for talent is coming from “new manufacturing”, which is expected to offer high quality, high-skill jobs to those who have acquired the relevant technical skills. Educational priorities and business/industry needs should be aligned, so that businesses can recruit the workers they need and graduates can find work for which they are trained.





Hong Kong's strong talent pool, financial resources, excellent

professional services and sound intellectual-property protection, together with mainland China's abundant source of human capital and booming consumer marketplace, will help related industries in the GBA such as fintech and biotech increase competitiveness and move up the value chain.”

Dr. Winnie Tang

*Honorary President,
Smart City Consortium*



Tax

- GBA authorities should consider widening tax alignment policies to include corporate and not just personal income tax: IP jointly developed by Hong Kong entities and mainland China GBA entities, regardless of the location of IP registration, could be honoured by both tax authorities in mainland China and Hong Kong for the granting of R&D-related tax incentives. This would create more synergy across the GBA, helping to build a more competitive environment to breed innovation & technology unicorns.
- To encourage Hong Kong-based funds to invest into high-tech industries in the mainland GBA cities, tax authorities could revisit policies with regard to profit repatriation and divestment. For example, simplified application procedures could be considered for claiming preferential tax treatment under the Double Taxation Agreement between Hong Kong and mainland China. In addition, more clarity could be provided on tax treatment around special investment channels such as the Qualified Foreign Limited Partnership. Tax incentives offered to mainland China investors could also be extended to Hong Kong investors.



Hong Kong-specific considerations

- As a developed smart city and strategic hub for Asia, there is access to a large amount of data flow. Hong Kong could play a key role in facilitating data integration to unlock value locally and for the region. This would also include leading the development of data use and digital trust policies to ensure personal data is appropriately safeguarded.
- Hong Kong should partner with other GBA cities to exchange and assist in the development of smart city standards for ASEAN cities, at the same time promote the export of related solutions and services.
- The 'financial sandbox' for start-ups should be expanded. In 2016, the Hong Kong Monetary Authority (HKMA) launched the FinTech Supervisory Sandbox (FSS), allowing only banks and their partnering tech firms to conduct pilot trials of their fintech initiatives.⁹ The sandbox allows creative financial products to be tested in a controlled environment with real customers before they are officially launched. This not only allows participants/businesses to learn from experience, but also enables the regulatory authorities/government to explore measures required to regulate them. The HKMA should consider widening the FSS scope to allow more innovative fintech start-ups in Hong Kong and the rest of the GBA to participate in the sandbox.
- The Hong Kong SAR government should consider widening tax incentives for tech start-ups to encourage marketing and commercialisation; this will also grow the tech ecosystem.
- To facilitate cross-border collaboration, the Hong Kong SAR Government should consider adding a frontier workers mutual tax exemption clause – similar to what is commonly adopted in the European Union – into the existing mainland China-Hong Kong double taxation agreement, to remove tax obstacles for all professionals and workers moving freely within the GBA.

⁹ Hong Kong Monetary Authority, "Fintech Supervisory Sandbox (FSS)", updated July 2020, <https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech/fintech-supervisory-sandbox-fss/>

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