

Greater Bay Area
- Navigating the
road toward an
international
innovation and
technology hub



Think Ahead



Foreword

The Guangdong-Hong Kong-Macao Greater Bay Area (Greater Bay Area or GBA) was initiated in 2013 as part of a development action plan put forth by the Central Government. That plan included the broad outlines for the future development of an internationally competitive first-class bay area by fully leveraging the composite advantages of the nine municipalities of Guangzhou, Shenzhen, Zhuhai, Foshan, Dongguan, Zhongshan, Jiangmen, Huizhou and Zhaoqing in Guangdong Province and the Hong Kong Special Administrative Region (Hong Kong) and Macao Special Administrative Region (Macao) to create a world-class city-cluster that supports the country's economic development. The development of the GBA is accorded the status of key strategic planning in the country's development blueprint, having great significance in the country's implementation of innovation-driven development and commitment to reform and opening-up.

The GBA is also an important support pillar to facilitate the advancement of the country's Belt and Road Initiative - a significant national development strategy for promoting economic cooperation among countries along the proposed Belt and Road routes. As the GBA develops, its influence is likely to extend beyond the geographical boundaries of its city cluster to play a key role in the Belt and Road Initiative, serving as a key link connecting countries along the Silk Road Economic Belt and 21st century Maritime Silk Road.

To succeed in making the most of the GBA, the support of industry, business and, in particular, finance professionals are integral to making it flourish and thrive. Finance professionals play an important role in forming, developing and safeguarding the policies that governments are putting in place and the cross-border collaboration and integration that are the lifeblood of the GBA. With insights into the impact of government regulations, finance professionals are ideally suited to understand how the GBA is evolving.

The overarching goals of this report, jointly prepared by ACCA Hong Kong and EY, are to explore: (i) how the GBA can be developed into an international innovation and technology (I&T) hub; (ii) what challenges are presented; (iii) what measures should be taken to facilitate the development; and (iv) how finance professionals can help to overcome the challenges and facilitate the development.

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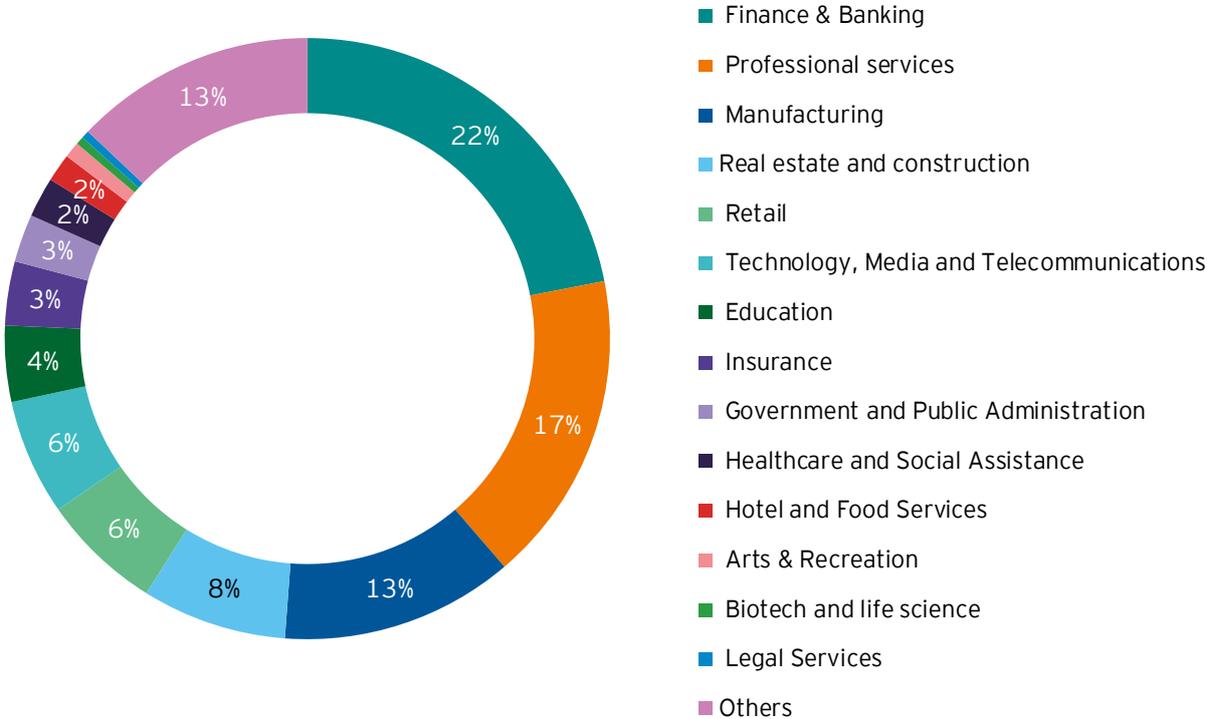
Vice President - Financial Advisory
Haitong International Securities Company Limited

Methodology

The findings of this report are based on quantitative data and qualitative information that analyze the industry's views in developing the GBA into an international I&T hub. The quantitative data comes from a comprehensive survey concluded in September 2018 with the inputs of 535 finance professionals across a range of industries within the GBA, 448 of which are ACCA members. The qualitative information is the result of a broad range of interviews with government officials, heads of innovation-focused organizations and stakeholders from across the labor market and finance industry in the GBA. They have deep insights into the best path to transform the area into an international I&T hub by leveraging policy, finance and talent.

In terms of industry segments, 22% of the respondents are from the finance and banking segment, 17% are from professional services, and 13% are involved in manufacturing. Other industry segments represented include retail, education, technology, media and telecommunications (TMT), real estate and construction, insurance, government and public administration, healthcare and social assistance, hotel and food services, arts and recreation, biotech and life science, legal services, and a few others.

Breakdown of responses by industry segment



Executive summary

Government policy, access to finance and talent supply are the three key elements to the development of the GBA into an international I&T hub of global significance, according to the joint ACCA and EY study.

This report analyses the industry's views based on a comprehensive survey from over 500 finance professionals, supplemented by deep insights collected from a wide range of interviews across multiple industries.

The GBA is stepping up in the I&T development with outstanding capability of research and development (R&D) in different cities. Shenzhen, Guangzhou, Hong Kong and Macao are core cities in the technology and innovation corridor as specified in the Outline Development Plan, and have a pivotal role as creation centre, gateway city, international hub and tourism centre of the GBA respectively.

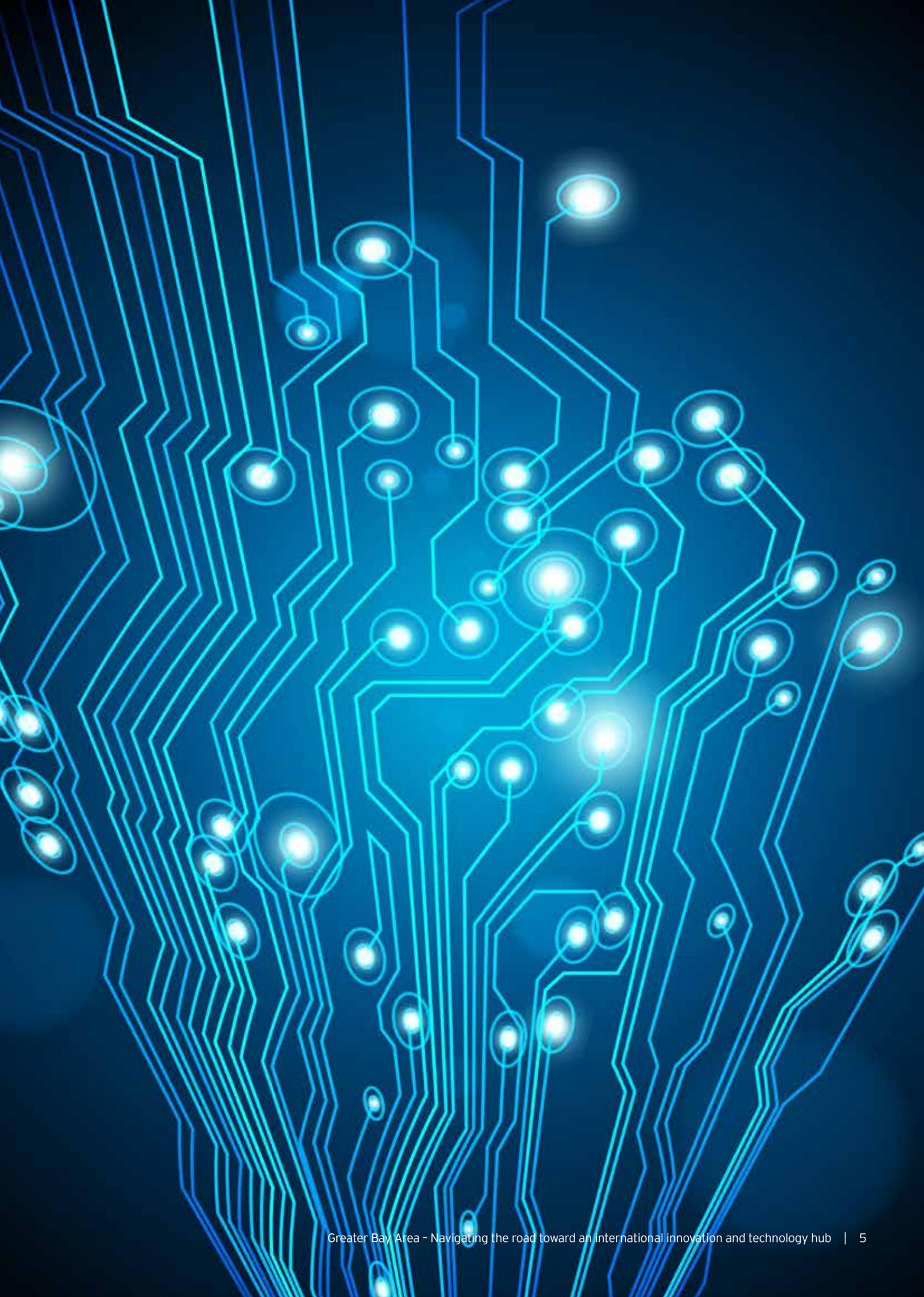
The study confirms the positive impact the GBA's transformation into an I&T hub would have on businesses including new market and revenue, accelerated development of R&D projects that will produce innovative goods and services, and greater access to high-calibre R&D talents. Several key technology areas also come into focus from interviews with industry leaders and stakeholders, such as artificial intelligence, big data and analytics, and smart cities.

Developing the GBA into an international I&T hub would create tremendous opportunities for the businesses in the region. To realize the potential, the GBA must focus on a number of specific areas. Among all, government policies outscore all other factors as the most critical priority in shaping the I&T development of the GBA. This requires supportive regulations such as tax incentives and IP protection which are essential to create a business-enabling environment. As an example, the government can consider granting exemption on import tax or duties on equipment for all R&D institutes and leveraging the international status of Hong Kong to develop it as an IP hub.

Funding is key to I&T particularly in the tech startup world. From the survey, PE, VC funds and angel investors are the highest-ranked sources of finance of new businesses. Having a legal framework that can facilitate various financing options would be highly favorable to the I&T development in the GBA. For example, encouraging more funds to set up in the GBA and make it a regional headquarter would increase the supply of funding.

Increasing talent supply is of utmost priority to the I&T development. This needs to be achieved by offering favorable employment terms to attract world talent. On this, cities should adopt an open mindset, embrace diversity and recognize international talent. The survey also suggests a need to harmonize policies to facilitate freer flow of talent. Relaxing border controls and extending exemption of work permit to Hong Kong and Macao residents can be considered.

Finance professionals have an important role to play in the development of the region. To this end, we recommend finance professionals to develop entrepreneurial mindsets; develop a familiarity with game-changing technologies; help facilitate fundraising; and provide assurance to investors to seize the opportunities that the GBA could bring.



Research findings at a glance

Critical factors for I&T development



Benefits of I&T hub



Top 3 government policies of concerns



Top financing sources



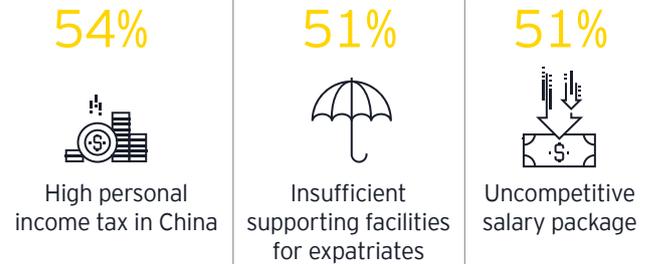
Talent supply



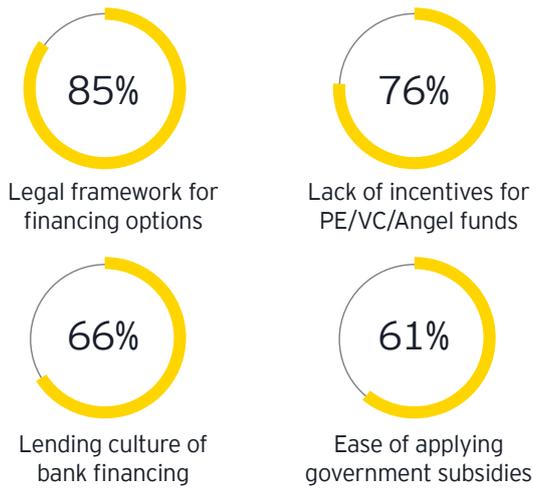
Policies challenges



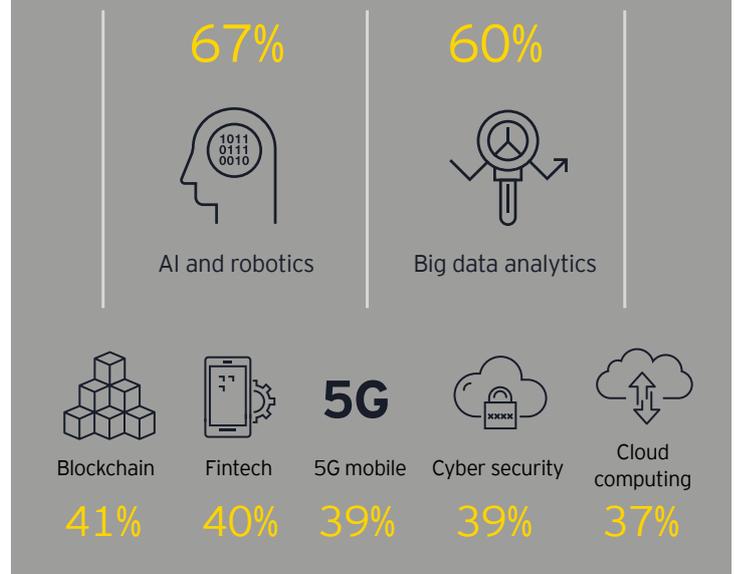
Talent challenges



Financing challenges



Technologies of greatest impact



Introduction

One of the five strategic positions of the GBA is to transform the nine Pearl River Delta municipalities and the two SARs into a globally influential hub of technology, innovation and economic vibrancy, which enjoy a comparable status with other world-class bay areas. This plan reflects the country's ambitions for further advancing I&T as part of its national strategy.

In February 2019, the China's State Council released the Outline Development Plan for the GBA ("the Plan"), giving the directions for the current and future cooperation and development of the GBA. As one of the key strategic positioning, Chapter 4 of the Plan highlights the importance of developing the GBA into an international I&T hub. Specifically, it aims to i) build an open community for coordinated innovation in the region; ii) develop quality I&T carriers and platforms; and iii) enhance the environment for innovation in the region. The establishment of the I&T hub will serve as the future platform for the Belt and Road Initiative I&T solutions, and will provide a foundation to nurture next generation corporations and entrepreneurs.

The engines of I&T development in the GBA

Guangdong, Hong Kong and Macao - the three places that make up the Greater Bay Area - are stepping up cooperation in the field of economic development, including I&T. The three places have outstanding capabilities in scientific research and development (R&D) and commercial application, and are home to numerous universities, scientific research institutes, and high-tech enterprises. They are expected to introduce further measures and mechanisms designed to increase cooperation. This is providing an excellent foundation for the GBA to develop into an international I&T hub.

Technological R&D in Guangdong is booming in recent years, with pilot measures of comprehensive innovation and reform well underway. The development of national innovation demonstration zones has been expedited. Guangdong's RMB234 billion R&D expenditures in 2017 continued to top all provinces in China, representing 13% of the national GDP. Specifically, the four cities in the GBA - Shenzhen, Guangzhou, Foshan and Dongguan - accounted for 82% of Guangdong's R&D expenditures¹.

¹ *Guangdong Statistical Yearbooks*

R&D capabilities across the GBA cities

| | R&D expense (RMB billion) | R&D expense as % of GDP | R&D personnel per 1,000 inhabitants |
|-----------|---------------------------|-------------------------|-------------------------------------|
| Shenzhen | 97.7 | 4.3 | 18.6 |
| Guangzhou | 53.2 | 2.5 | 6.8 |
| Foshan | 22.3 | 2.4 | 12.5 |
| Dongguan | 18.8 | 2.5 | 8.8 |
| Huizhou | 8.3 | 2.2 | 9.1 |
| Zhongshan | 7.9 | 2.3 | 13.9 |
| Zhuhai | 6.7 | 2.5 | 13.1 |
| Jiangmen | 5.1 | 1.9 | 5.0 |
| Zhaoqing | 2.4 | 0.9 | 2.8 |
| Hong Kong | 16.8 | 0.8 | 3.9 |
| Macao | NA | 0.2 | NA |
| Guangdong | 234.4 | 2.6 | 6.2 |



Note: Figures for Hong Kong are for 2016; R&D expenses converted with exchange rate of HKD1.1689
 Source: Guangdong Statistical Yearbook 2018, Hong Kong Annual Digest of Statistics 2018, World Bank

As one of the most innovative cities and home to many domestic I&T giants, Shenzhen is set to lead the I&T hub development. The Plan specifically pinpoints the construction of I&T corridor across the four core cities - Guangzhou, Shenzhen, Hong Kong and Macao. This requires supporting policy measures to facilitate the cross-border movement and regional integration of talent, capital, I&T, which constitute the key elements for innovation.

To step up the I&T efforts, each of these cities have a role to play within the GBA and must bank on their own strengths:

Shenzhen

As a special economic zone and a national innovative city, Shenzhen is striving to become a creative centre with global influence and is already home to innovative technology companies and a technology-focused stock market. Shenzhen is adequate in many aspects, including supply chain, hardware, logistics and production line. The city is also strong in mobile and internet-based services and communications.

Guangzhou

Guangzhou would take a leading role as a national core city and an integrated gateway city. Its goal is to give full play to its role as a city of national importance and comprehensively enhance its functions as an international business and trade center and integrated transportation hub, as well as a technological, educational and cultural center, and develop into a global metropolis.

Hong Kong

Hong Kong should consolidate and enhance its position as an international finance, shipping, trade and aviation hub and promote the development of high-end and high-value-added finance, commerce, logistics, and professional services. It also has strong I&T development ecosystems. In terms of I&T, Hong Kong has a solid foundation in terms of hardware and customer-oriented business model, the international financial center is also known for its capabilities in financial technology (FinTech) and biotechnology.

Macao

Macao is positioned to prosper as a world tourism and leisure centre and a commerce and trade cooperation service platform between China and Portuguese-speaking countries. It will also promote its example of a multicultural city, where Chinese culture is the mainstream and diverse cultures coexist.

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Each city should build on its own foundation and strengths, they need to identify their strengths and decide on their positions [in the GBA].

Duncan Chiu
President

Hong Kong Information Technology Joint Council

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The universities in HK have been renowned for the high quality R&D which many of them are ranked top globally. It is encouraging to see an increasing trend of R&D commercialization by the HK universities in recent years. This technology transfer from academy to market is indeed the cornerstone for the promising future of Hong Kong's I&T development.

Peter Mok

Head of Incubation & Acceleration Programmes
Hong Kong Science and Technology Parks Corporation

Other GBA cities also have a role to play in the future I&T hub. For example, Zhongshan and Foshan have a competitive edge in medical devices, and industrial manufacturing respectively, while Zhuhai has more on digital lifestyle. They will best utilise their strengths and foster I&T coordination and development within the city cluster.

In terms of I&T development, the GBA as a whole is already highly comparable to other international bay areas as well as Israel taking into consideration of the total output value, according to one of the interviewees. While Shenzhen is an innovative city which is more hardware-driven and Internet-focused, output commercialization rate from upper upstream and basic research projects in China remains relatively low to date. Despite the gap, the GBA has a very strong foundation to develop R&D in the upper value chain due to the presence of world-class universities, which rank high in science and engineering subjects in the world.

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Hong Kong has the advantage to build vertical markets on top of three fundamental factors: its position as an international finance centre, multiculturalism, and strong data protection environment.

Peter Yan
CEO

Hong Kong Cyberport Management Company Limited

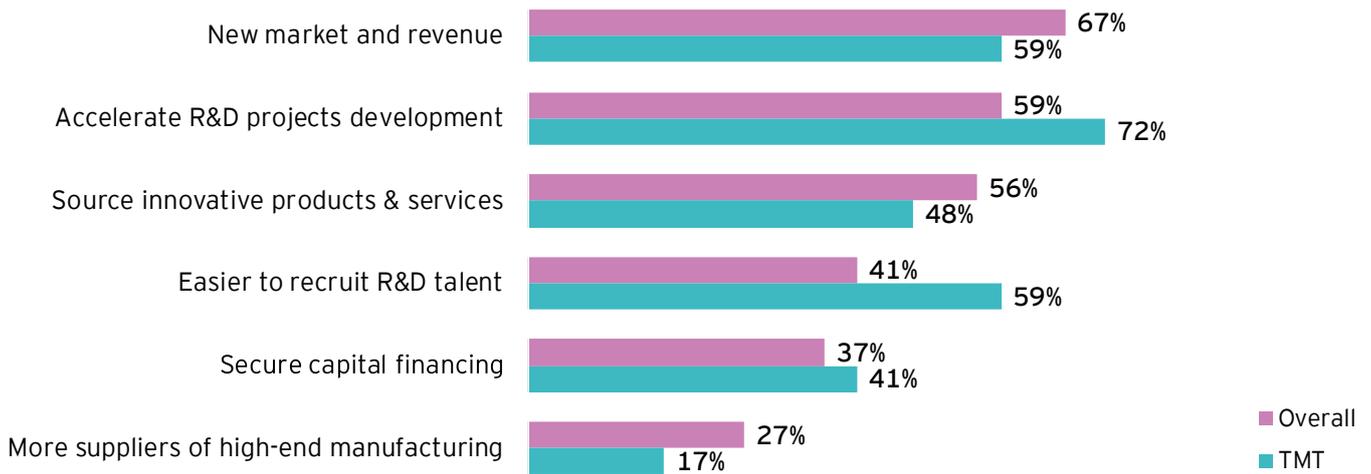
Business opportunities arising from the promotion of I&T

Developing the GBA into an international I&T hub would create tremendous opportunities to the businesses in the region.

The findings of the survey confirm a very positive attitude towards the future I&T development in the GBA and underpin the hypothesis that the development of the GBA would benefit different industry sectors in the long run.

A majority of respondents believes that the top benefits associated with the GBA will come from the broad categories of "open up new markets or revenue growth opportunities" (67%) and "accelerate R&D projects to develop more innovative goods and services" (59%) but large groups of executives in some industries also consider that the GBA will primarily help "source innovative products or services and solutions more easily".

Benefits of international I&T hub to GBA enterprises



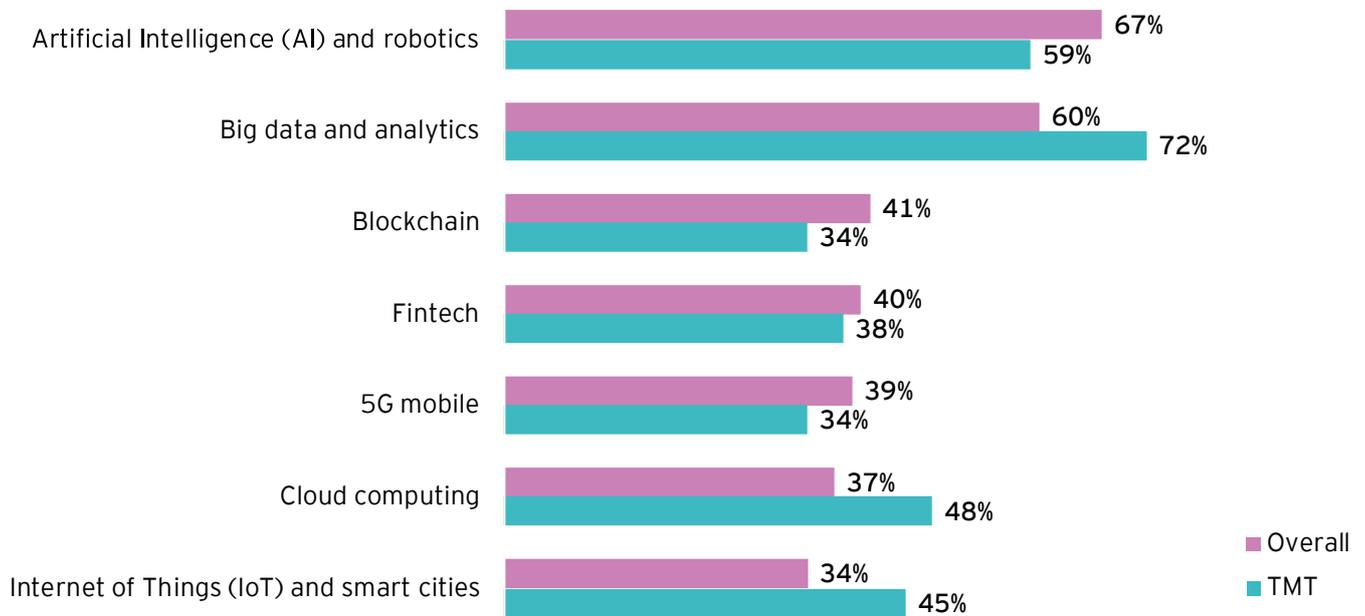
When we look at I&T, the TMT segment stays at the forefront of the I&T value chain, and would be the primary driving force in the I&T hub of the GBA. Their perspectives and priorities in the GBA could thus provide important insight for the development of the hub. With this, executives from the TMT segment believe the main advantage will be to "accelerate R&D projects to develop innovative goods and services" (72%) while recruiting the right R&D people to kick start projects (59%) and opening up new market opportunities (59%) tied for the second most important benefit.

This reveals that the pressure and importance to recruit right R&D talent to drive R&D projects development is greater than opening up new markets. There is always a market present for innovative goods and services. The key question is how to recruit talent to develop innovative products to exploit the market. With this awareness, the main focus of government and business leaders would be to attract global talent to improve the I&T capability of the GBA.

Technologies in focus

The GBA is host to thousands of high-tech companies that develop leading-edge technologies for export to the world. A number of technologies will have the most significant impact on industries over the next three to five years. Many of these technologies are in fact inter-related and some are enablers. These technologies are going to heavily drive investment priorities, and create jobs in the GBA.

Most significant technologies in the next 3-5 years



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Big data can be a big deal in Hong Kong. HKUST is actively involved in applying big data for social and people management (among other goals).

Naubahar Sharif

Associate Professor

Social Science and Public Policy, Hong Kong University of Science and Technology

Some 67% of respondents consider artificial intelligence (AI) and robotics will be the technologies with the greatest impact in the GBA, while 60% believe it will be big data and analytics, followed by blockchain and FinTech which received 41% and 40% of responses respectively. Among the respondents in the more forward-looking TMT sector, cloud computing (48%) and Internet of Things (IoT) and smart cities (45%) are also considered as significant technologies for the future.

Many industry players are actively pursuing a course of transformation and upgrading. They are investing in automation and adjusting their supply chain strategies, while also ramping up their technology R&D. Businesses are actively exploring solutions not just to provide cost savings and streamline existing processes,

but also to transform their business models that can generate new revenue growth. This has encouraged more and more enterprises as well as universities to focus on advanced technology areas, such as IoT applications, big data and analytics, next-generation communications, and AI and robotics applications. They are looking to develop value-added business and find technology partners and services within the region and beyond with whom they can upgrade their overall technological level and enhance competitiveness.

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Hong Kong can only be part of the Industrial 4.0 transformation as we lack land and human power in the whole set up, that's why we need better integration with the GBA in logistics and tax arrangements.

Duncan Chiu

President

Hong Kong Information Technology Joint Council



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Smart cities and Industry 4.0 are inseparable. Smart cities alone cannot create industries to diversify the economy and export the expertise to other countries. It also requires re-industrialization that builds on policies. How to achieve re-industrialization in the GBA is a challenge.

David Chung

Under Secretary for Innovation and Technology
of the Hong Kong SAR

Smart cities are also a big theme across mainland China to elevate people's standard of living and achieve sustainable development in the long run. As part of a drive to provide infrastructure support to smart cities build-out in the GBA, the Plan has proposed to start exploring the feasibility of reasonable reductions in long-distance and roaming telecommunications service fees, as well as the establishment of common standards, developing interconnected public application platforms, cloud and information service platform.

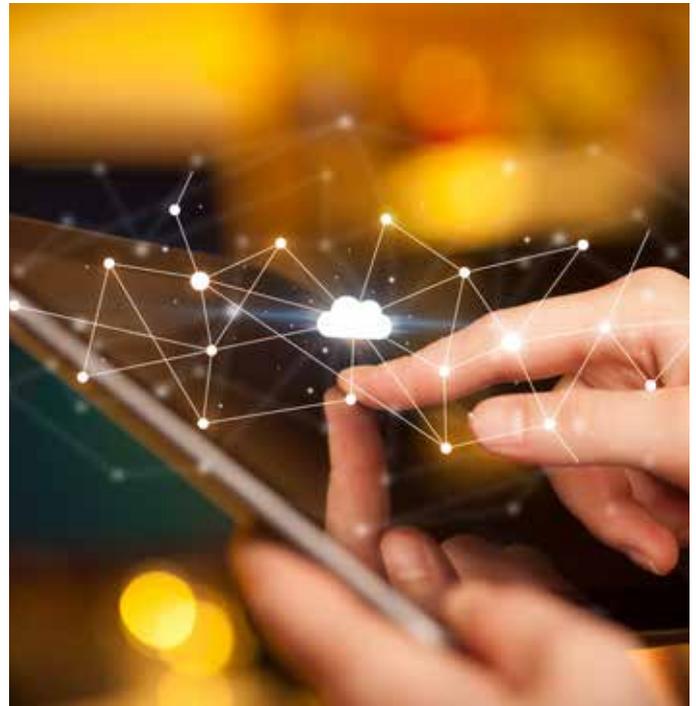
It is interesting to see that 5G - the recently hyped technology - is not perceived as a significant technology by many financial professionals. However, our interviews with the TMT industry segment suggested that 5G mobile and IoT deserve more attention since the broader industry has yet realize the potential impact of the imminent mobile technology and its applications. The Mainland and Hong Kong are expected to be among the earliest to commercialize 5G services as early as 2020. The GBA will be at the heart of 5G innovation given the key Chinese 5G technology vendors are all based in Shenzhen.

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Enabled by edge computing, 5G and IoT are going to bring tremendous impact to the future IT ecosystem... But across the board, AI and big data are the two most fundamental and ubiquitous technologies that can boost the value of other technologies.

Long Wang

Vice President
Tencent Cloud



Three steps to cultivate I&T growth

The TMT segment is excited to be a part of the GBA's development into an international I&T hub. Market participants hope to see a boost in their outputs and will allow the financial markets to flourish.

While developing the I&T hub in the GBA is still in the early days, government facilitation should provide a good motivation to succeed with achievable goals. Facilitating the efficient and orderly flow of people, capital, goods, services and information across the GBA are vital in this sense.

Concurring with our observation, the results of the survey reveal a number of specific areas that the GBA must focus on its journey to develop as an international I&T hub. These areas are government policies, finance and talent.

The Role of Government

Policies pave the way for future success

Government policies outscore all other factors as the most critical priority in shaping the I&T development in the GBA. A majority of the respondents (84%) believe that favorable government policies and regulations are most important, followed by 61% who consider an abundant supply of talent, and another 61% who say ease of access to finance are essential.

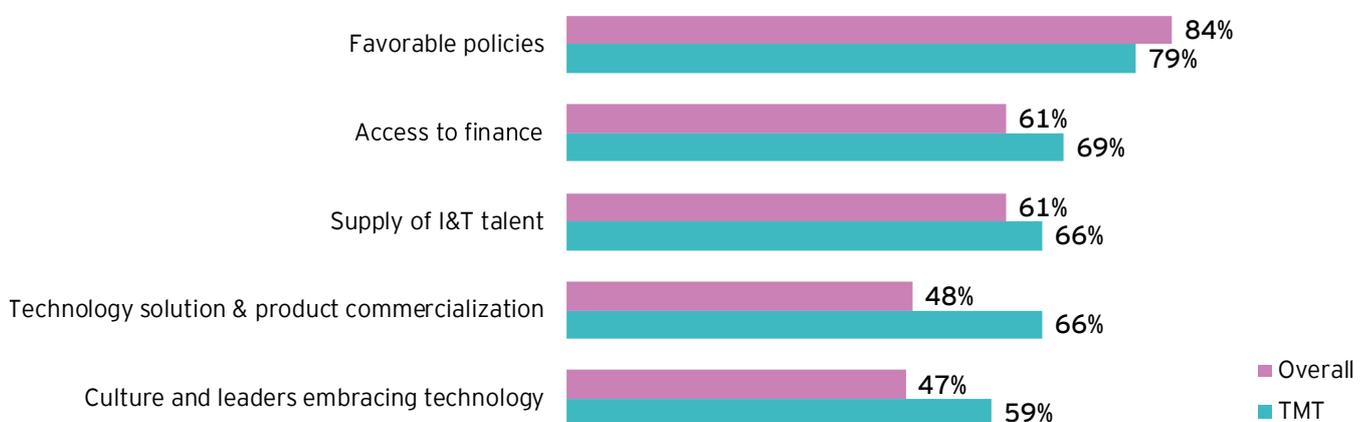


The two new research clusters established on healthcare tech and on AI and robotics will pool and nurture more technology talent in Hong Kong.

David Chung

Under Secretary for Innovation and Technology
of the Hong Kong SAR

Factors that shape the GBA's development



Establishing an international I&T hub would require supportive domestic regulations and tax incentives. Preferential policy would be highly important to drive efficiencies and lower cost for tech companies to carry out research and engage business activities in the GBA, as well as enhance market openness of the Mainland to favor investment decisions.

Across the GBA cities, governments are stepping up efforts in I&T development. For example, the Guangdong government was planning to increase financial subsidies and grants to ensure that local governments have the basic financial capacity for development. The Hong Kong government has introduced enhanced tax deduction for qualifying R&D expenditure, where the first HK\$2 million eligible R&D expenditure will enjoy a 300% tax deduction with the remainder at 200%.

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The I&T ecosystem must be built by collaborative efforts, where government is a key driving force. Apart from basic IT infrastructure, government policies should support nurture of talent and encourage enterprises to engage long-term planning to incentivize investment.

Long Wang
Vice President
Tencent Cloud

People working in high-tech sectors consider a broader range of factors to be more pressing than those in non-high-tech sectors. If we take a closer look at the respondents from the TMT segment, they feel abundant supply I&T related talent (66%); technology solution and product commercialization support (66%) and corporate culture and business leaders embracing technology (59%) weight more important than respondents in other sectors. To them, digital transformation should be a company journey that involves upskilling and changing employee mindsets, adapting structures and ways of working, and creating teams that can maximise the new technologies being introduced.

The role of government is like a facilitator to create a business enabling environment. Governments should focus on promoting the culture of embracing and adopting I&T, attracting and retaining talent and developing technical know-how. They should also consider relaxing regulations for funding to encourage more I&T related debt and equity financing within the GBA through the development of a comprehensive, international and cross-regional system for I&T investment and financing.

With the “one country, two systems” governing principle in Hong Kong and Macao, the two SARs and Guangdong’s municipal governments should work together to enhance communication and cooperate with mutual respect to ease the cultural difference.

Tax and IP protection are top concerns

The market expects more government measures to stimulate I&T development in the GBA. These measures include tax concessions and more stringent IP protection, coupled with a number of initiatives to attract talent and encourage mobility, in effect leveling the playing field across the GBA. Of these, concessions on tax and customs rank the highest (73%), followed by IP protection (64%) and talent mobility (60%). Other priorities for respondents are cash subsidies from government (52%) and dedicated infrastructure (51%).

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Government could work out measures to facilitate the flow of resources including people and equipment across the boundaries as it is a very important element to drive exchange and collaboration for technology innovation in the GBA.

Wing Chu
Business Advisory Manager
Hong Kong Trade Development Council

The responses echo ACCA's recommendation for the Hong Kong budget 2017-2018 that super tax deductions should apply not just to expenditures associated with the "production, creation, registration and acquisition of intellectual properties" but the "income generated from the subsequent exploitation of these intellectual properties should also be subject to a reduced tax rate."

Tech companies are generally subject to customs duty on equipment import unless they can qualify as R&D centres. Technological innovation also requires a lot of intellectual property protection to encourage creative intellectual endeavor in the public interest. This is crucial to foster a healthy I&T business environment and ecosystem. Without a favorable tax concession and a clear direction in IP law, it would hinder the prosperity of I&T research and thus slow the I&T development in the GBA.

On this, the Plan looks to develop a mechanism and platform for the exchange and sharing of IP-related information in the GBA. This would likely strengthen IP rights protection and encourage academic and technology exchange throughout the GBA.

Interesting to see, the TMT segment ranks government policies to facilitate talent mobility (76%) higher than IP protection (72%). It reinforces that critical success factor is getting the right talent. Building infrastructure and providing cash subsidies are also essential to them.

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Hong Kong can become an integrator of different technologies. It is a perfect place for arbitration and disputes settlement in the IP ecosystem.

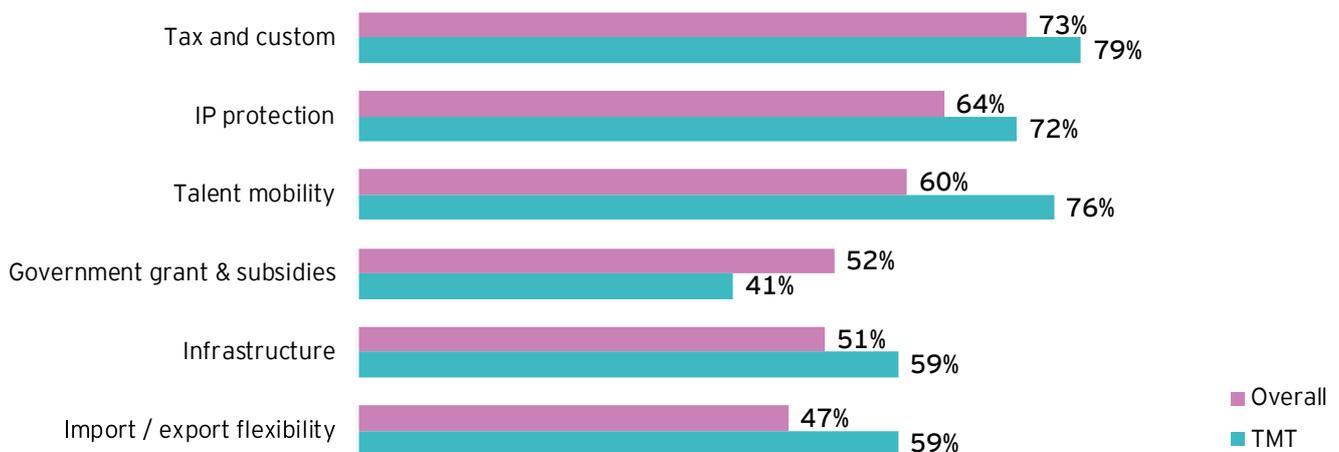
David Chung
Under Secretary for Innovation and Technology
of the Hong Kong SAR

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This change in the general technology environment that is leaning towards data protection and data sovereignty which Hong Kong may have a future role to play.

Peter Yan
CEO
Hong Kong Cyberport Management Company Limited

Critical policies that shape the GBA



Challenges in policy formulation

While government policies are critical to the success of the GBA, the survey respondents outlines a concern that some aspects of the policies, if not well developed, could hinder the development of the GBA into an international I&T hub.

At the top of the list was “policies are not well-articulated to facilitate the development of I&T” where 80% of respondents are hoping to see definitive and supportive policy directions on the GBA I&T strategy. This was followed by policies that are “not promptly formulated” (74%) and policies that are “difficult to implement effectively” (74%). These particular concerns rank in roughly the same order across most industries and companies of different sizes. Policy formulation must not be delayed to capture the momentum and accelerate the transformation. Even policies are formulated, policymakers have to ensure that these measures can be implemented effectively across the GBA cities.

Policies that hinder the GBA



The success of the GBA will depend on the cooperation of each city while leveraging each other’s strengths. While each city has a role to play in the journey of forming the GBA, they must set aside differences while protecting their own core values, and work together to build an international I&T hub. To ensure success in the integration, it needs to have a clearer direction in how to mitigate intercity rivalry, and how governments can step in and mediate when disputes or disagreements surfaced.

The Plan stated that a leading group for the development of the GBA would be established for examining and resolving “major issues concerning policy implementation, project arrangements, breakthroughs in systems and mechanisms as well as the development of cooperation platforms that may arise during the course of the development of the GBA”. This mechanism in place could coordinate policies implementation if it functions well.

Recommendations

1

To attract global I&T talent to work in the GBA, we welcome the recent tax equalization policies introduced by the Mainland government in March 2019. Hong Kong and overseas talent working in the I&T sector would get tax subsidies for any amount of tax paid in excess of 15% of their salaries. The list of professionals and jobs entitled to such subsidies is yet to be confirmed. While we trust the Mainland government would include a very comprehensive list to make this initiative attractive to the global talent, we are of the view that talent should not be limited to the I&T field. The GBA needs all kinds of talent to make it a success. We recommend the internationally recognized professionals, such as ACCA certified finance professional, should be entitled to such tax subsidies.

3

The mainland Chinese government can consider granting exemption for import taxes or duties on equipment to all R&D institutes and advanced manufacturing companies (e.g., biotech) situated in the GBA.

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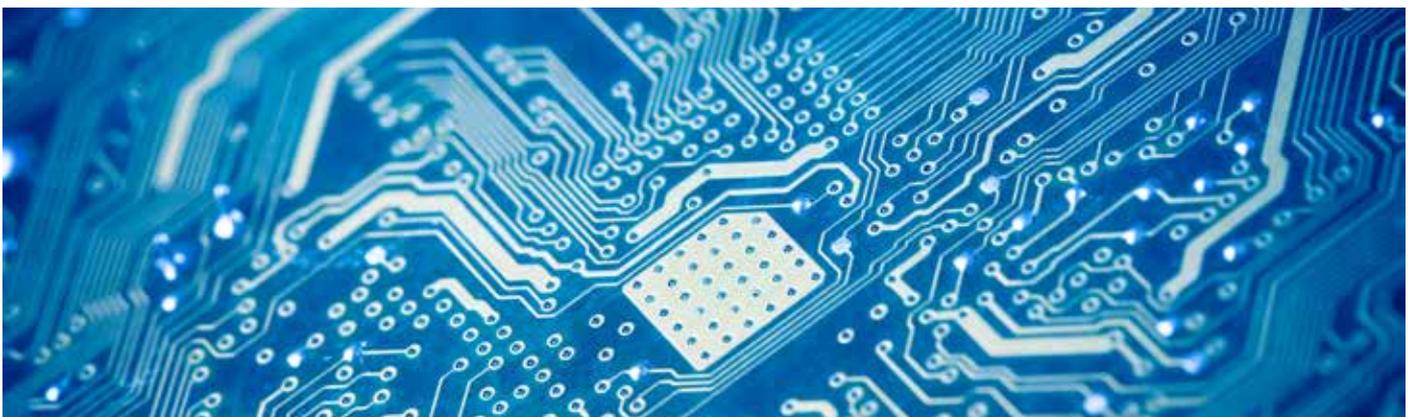
Currently, China's High and New-Technology Enterprise (HNTE) Program provides a reduced tax rate of 15% against the standard 25% tax rate for innovative companies that meet specific qualification criteria. To drive innovation in the GBA, the mainland China government can consider granting a tax incentive of 15% Corporate Income Tax (CIT) rate to qualified R&D institutes situated in the GBA as well.

4

The mainland China government can also consider expanding the preferential customs measures on the flow of goods currently applied in Qianhai and Hengqin to other cities in the GBA.

5

Hong Kong can position itself as an international IP hub. Many multinational companies already house their headquarters here so having Hong Kong as the IP hub for Asia Pacific aligns with their operations. The IPs do not necessarily need to be created in Hong Kong and can be acquired or licensed. Instead Hong Kong can integrate the different technologies that it acquires from other countries and cooperate with experts in the Mainland and the rest of the world to be the IP hub. As Hong Kong is the only city in the GBA adopting common law, it can play the role of an IP registration centre and establish a strong regulatory framework for Hong Kong.



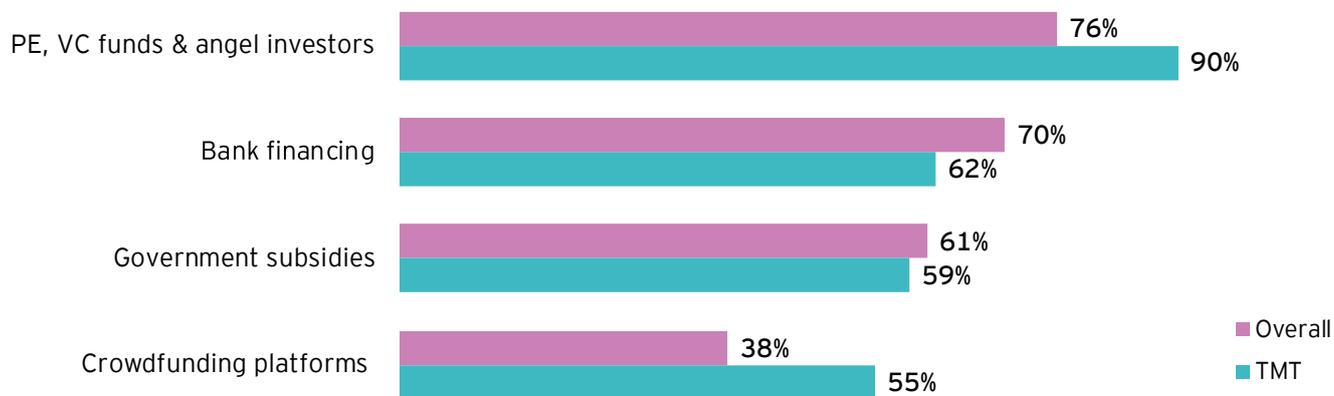
Access to finance

PEs/VCs are primary sources of finance in I&T

Funding is key to business growth and innovation. In the tech start-up world where capital is used to fuel the hyper growth necessary to disrupt the establishment, venture capitalists and private equities play the kingmakers. These funds are supplemented by those established VC funds from the large telecom and technology firms that specialize in growth capital and late-stage start-up investments. From our survey, PE, VC funds and angel investors are the highest-ranked sources of finance by respondents (76%), followed by bank financing (70%).

Comparing respondents from the TMT segment versus the rest of the group, there is an overwhelming response from the TMT segment considering PE/VC as the most important sources of finance (90%), while the other industries tend to be more balanced between PE/VC and bank financing. It indicates that getting funding from banks and traditional financial institutions by companies in the TMT segment is relatively more difficult. This may be attributed to the lending culture of banks and traditional financial institutions (especially those in Hong Kong) are focusing on properties backed financing. In such circumstances, PE/VC funds become the most important sources of finance for I&T related activities embraced by the TMT segment in the GBA.

Most important sources of finance



Throughout our research, we hear contrasting views from the market on the funding supply and demand for I&T related activities. On the demand side, the industry generally hopes to see higher availability of funding sources in the GBA to finance their R&D projects and innovation originated there. That said, the number of angel investors in the GBA is relatively limited compared to the San Francisco Bay Area, which indicates a vast room for augmenting. Angel investors are vital in the early growth phase for start-ups, helping them to achieve the scale that is attractive for VC funds to invest in. Without a good supply of angel investors, I&T start-ups in the GBA would be hungry for alternative finance like government subsidies and bank financing.

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A lot of people have this misconception that start-up companies do not have good access to funds, but that is not the case. It's the quality of their technology that decides whether they would get funded or not.

Jennifer Zhu

Vice President - Financial Advisory
Haitong International Securities Company Limited

On the other hand, the PE/VC industry are optimistic about the supply of funding in the GBA. The issue is that PE/VC funds only invest in companies that deliver a profitable return, regardless of the industry domain (e.g., I&T) or the geography (e.g., the GBA). The key question to them is whether there are enough attractive investment deals to invest. It is a chicken-and-egg dilemma. In broad strokes, good quality start-ups across the GBA often do have access to the funds they need.

Equity crowdfunding presents alternate opportunity to the start-ups and level the playing field for the fundraising landscape. Yet crowdfunding remains a minor source of funding today, not just in the GBA but across the Mainland China, due to the relatively limited reach of crowdfunding platforms. While crowdfunding can be an effective way to tap into the power of the greater public with an innovative idea, there remains a number of issues such as regulatory compliance, intellectual property, quality of the crowdfunding platforms, and sophistication of investors that need to be investigated further. In this sense, these platforms have not gained as much traction in the Mainland as they have in the U.S. and Europe. Nevertheless, 38% of the respondents considers crowdfunding to be a vital source of funds for innovative ideas and emerging businesses. Respondents working in the TMT segment even sees it more important than those working in other fields, showing that it should be both explored and developed further.

The Plan has shown some support to the financing of I&T enterprises. It will vigorously expand different financing channels, including establishing a financial support platform through the equity market, supporting Hong Kong PE funds to participate in the GBA financing projects, allowing I&T companies to secure listing in Hong Kong for capital financing, and develop Hong Kong into a financing centre for high-tech industries in the GBA.





Hong Kong lacks long-term funding (especially from private sectors) to finance long-term R&D projects that may take years to materialize. Take South Korea as an example. Their government is willing to put in funding in projects that would not yield profits in the short-run which most private investors would not prefer. Yet these R&D projects often lay down strong I&T foundation of many industries.

Duncan Chiu
President

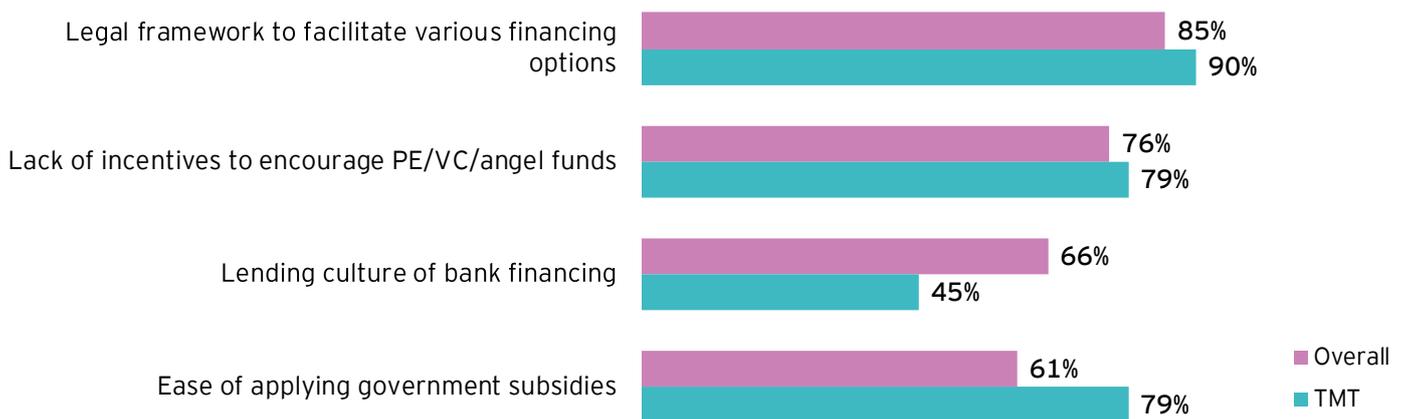
Hong Kong Information Technology Joint Council

Key challenges in securing finance in the GBA

Difficulties in securing finance in the GBA would hamper the growth of I&T. According to the respondents, the top challenge identified in securing finance is having the 'legal framework to facilitate various financing options' (85%) followed by 'lack of incentives to encourage PE/VC/angel funds' (76%).

While PE/VC funding is at the top of mind, the TMT industry segment is seeing difficulties in applying government subsidies (79%) as a discouragement for them to go for that route for financing. In the high-tech industry, government subsidies and incentives have been an important source of funding for private companies to expand their operations and drive sales. In Guangdong, the private sector, which accounted for the bulk of the 330,000 high-tech companies in the province, contributed to more than half of its GDP in 2018, but it has been starving of government support². To sustain the I&T development within the GBA, it is therefore vital for the relevant governments to put in place stronger financing support, both in terms of amount and ease of application, focusing the private sector.

Key challenges in securing finance



A supportive legal framework could help businesses cope with the rapid changes in the digital world, encourage investment not only from PE, VC funds and angel investors but also from traditional banks and crowdfunding. Finance professionals also have a role to play by helping business improve their corporate finance practices and raise funds from a wider variety of sources.

² "Guangdong's growth slump is seen as a turning point for China's economy, say analysts", South China Morning Post, 30 January 2019

Recommendations

1

Encourage more funds setup in the GBA. The choice of domicile for a private equity and venture fund is driven more than ever by an investor's need for tax-efficient and transparent structures, concurrently balanced with strong governance, reputation and access to top talent. The availability of funds will hugely facilitate the fundraising activities that are critical for I&T start-ups. To attract global funds into the GBA, therefore, the governments should focus on incentives to encourage these investors to set up in the GBA, such as by granting financial subsidies to Renminbi funds and QFLP funds for investments made in encouraged projects in the GBA and specifying that the financial subsidies are exempted from CIT.

3

Encourage more investors to set up regional headquarters in Hong Kong. To strengthen the role of Hong Kong as the regional headquarter and lure more China and foreign investors to set up their regional headquarters in Hong Kong in serving their investments in Asia, ACCA Hong Kong also recommended to the HKSAR government to consider offering concessionary tax rates (e.g., half rate) for regional headquarters' activities which are of a substantial scale and are of the nature of investment, general management, financial management, and marketing with broad geographical coverage.

2

Encourage multinational corporations to set up centralized management and financial functions in the GBA. Currently, the Mainland China government offers various financial subsidies to Chinese holding companies (CHC) that act as centralized hubs for Mainland investment by foreign investors. The government could encourage more PE and VC funds to invest in the GBA by considering increasing the financial subsidies for CHCs and specifying that the financial subsidies are exempted from CIT which would increase the flow of fund and promote re-investment by corporations.

4

Improve access for RMB funds. At the moment, there is no shortage of investors interested in setting up RMB-denominated funds to invest in the Mainland. In order to incentivize experienced investors to set up these funds and invest in key industries in the GBA, authorities could consider subsidizing the tax payable by the general partners.

Talent development

Increasing talent supply is of utmost priority

People, not companies, create value and those who attract and retain the right talent win the world. Even more so than other sectors, talent is imperative to the development of I&T. Managing the supply of talent and talent retention in the GBA is therefore critical to its I&T success.

The GBA houses a number of top universities in the world, mostly located in Hong Kong. This provides a major source of talent development for this economic zone. Yet the industry still sees a major shortage of top-notch talent and schools required to boost the I&T development in the GBA.

“

Like any other innovation-driven technology hubs, there is a shortage of high-calibre talent in the GBA, especially in the fields of AI, cloud computing, big data, chip technology, life sciences, smart vehicles, new energy and other related fields.

Patrick Liao
CEO and founder
Career Executive

The results from the survey suggest most respondents (77%) believe that efforts to “offer favorable employment terms to attract world talent” is the most important means to develop talent for companies and organizations within the GBA. The second most-frequently cited arrangement would be to “harmonize policies to facilitate freer flow of talent” (70%). These obviously are quick fix to the talent shortage problem. Governments in the cities of the GBA can work together further to remove hurdles of talent mobility. Enabling these talents to work seamlessly and effectively across the GBA region not only improve the talent supply in the GBA significantly, but is also critical to maximize the R&D productivities and efficiencies.



The government has set up a fast-track talent system that allows graduates from top-100 universities to come to Hong Kong and conduct R&D.

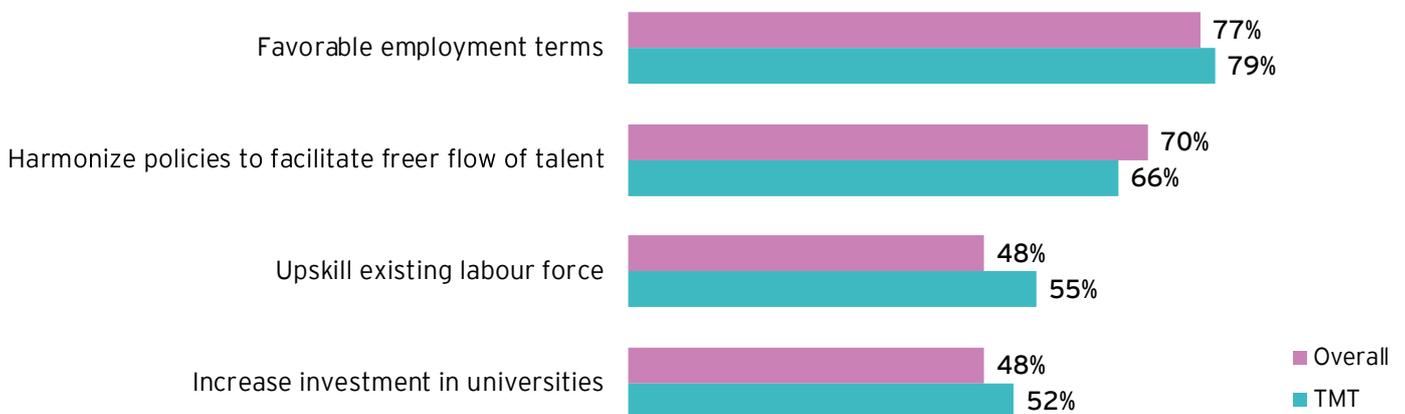
David Chung

Under Secretary for Innovation and Technology of the Hong Kong SAR

TMT sector sees “upskill existing labour force to embrace I&T” (55%) and “increase investments in universities to nurture talent” (52%) higher than other respondents. This shows a great demand of technical skills in their sectors where they look at more diverse channels to increase the talent source. It shows culture and mindset change of existing workforce and grooming future generations to embrace new knowledge and technology would be the long-term solutions to secure sustainable and abundant supply of talent.

As a move to drive the development of an international I&T hub, the Plan sets out a goal to provide more opportunities and better conditions for Hong Kong and Macao youths to start businesses in the bay area. It also aims to allow Hong Kong and Macao R&D firms to have the same treatment as mainland companies and benefit from national and provincial policies. To support education, higher-education institutions from different cities will be supported in running schools and programmes directly. In December 2018, the Hong Kong University of Science and Technology (“HKUST”) signed agreements with the Guangzhou Municipal Government and Guangzhou University to establish Hong Kong University of Science and Technology (Guangzhou). Within two years, HKUST is set to replicate a campus in the southern part of Guangzhou, with a focus on its core expertise areas such as AI and data science, robotics and autonomous systems, biomedicine, advanced materials and manufacturing, and FinTech. The establishment is funded by the Guangzhou government while HKUST will run and manage the new campus. The collaboration hopes to enhance knowledge transfer in Hong Kong and the region which will be beneficial to the science and technology development in the GBA.

How to improve the supply of talent



Challenges in securing talents

The top three key challenges in developing and attracting the right talent to work in the GBA are high personal income tax in China (54%), insufficient supporting facilities (e.g., accommodation, food, medical and education) for families of expatriates (51%) and uncompetitive salary packages (51%).

Meanwhile, the GBA must address higher costs of living and doing business, which have driven talent and migrant workers out to cheaper, inland regions. The area's advantage of offering good salaries to migrant workers is fading, as inland places are catching up on development.

Challenges in developing and attracting I&T talent



Talent training is another major issue in driving supply. As one of the interviewees mentioned, talent training in the I&T area is seriously insufficient in the GBA currently. In most cases, this is heavily led by the private sectors especially a few giant corporations. While it is important to have their involvements, they will develop the skillsets that are required for their businesses (e.g., handsets). It thus limits the breath of skills that can be developed. As a result, it is worth exploring how semi-government organizations or education institutions can take the lead in driving longer-term science and technology R&D.



Recommendations

1

Focus on workforce mobility. Governments can introduce policies to facilitate a free flow of talent throughout the GBA. They may consider relaxing border controls and extending exemption of work permits (currently implemented in Qianhai) for Hong Kong and Macao residents. Capitalizing on the electronic identification for residents in the GBA could also be a good step.

3

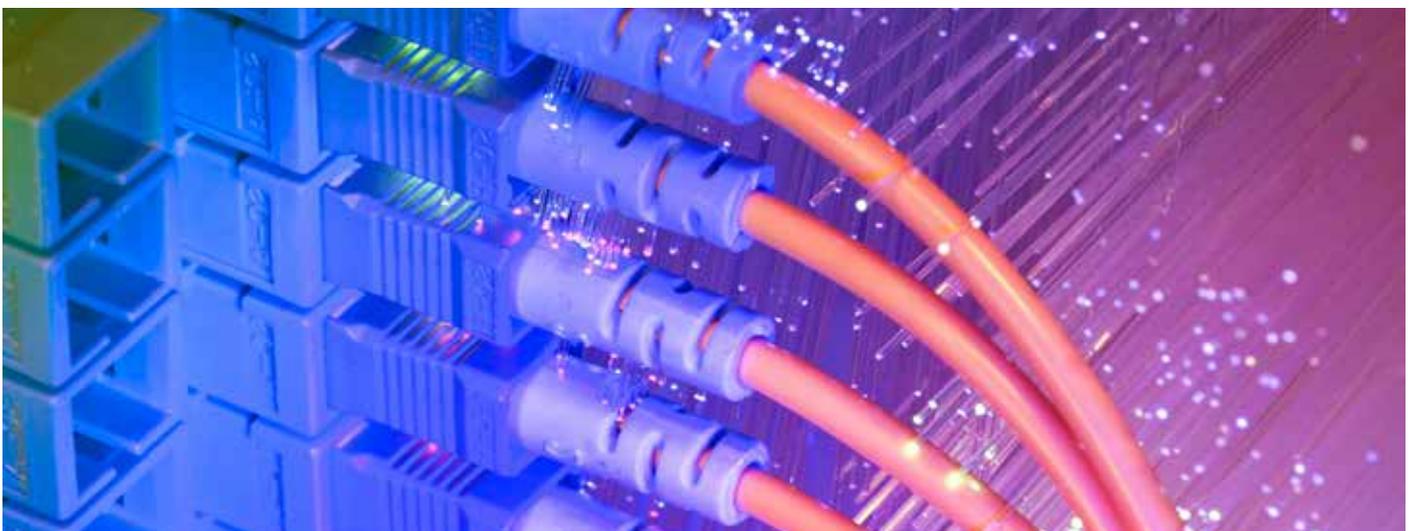
Provide more IT and different kinds of trainings to upskill labor. To better develop and expand the talent bank and reduce the reliance of technical training on the private sector, semi-government organizations, education institutions, and professional bodies can take the lead in providing different types of training, including but not limited to longer-term science and technology training, to upskill the workforce in the GBA. We believe that the GBA requires talent of different streams and should not be just restricted to the I&T sector. To facilitate this, the relevant governments can consider implementing policies that simplify the set-up requirements of training schools and encourage life-long learning.

2

As it evolves into an I&T hub, the GBA needs talent from a variety of streams. Cities should adopt an open mindset, embrace diversity and recognize international talent, which would not only increase the supply of talent but also help develop local talent. Lower individual income taxes, easier-to-access entry permits, removing hurdles to talent mobility and improving support facilities would also help. While salary levels are a commercial decision, I&T businesses should pay more attention to incorporate a more inclusive and diverse business culture, embrace open thinking, accommodate different opinion and encourage transparent conversation.

4

Encourage I&T talent and international recognized talent from the rest of the world to work in the GBA. To attract global expatriates specializing in innovative industries to work in GBA cities, a welcoming measure is seen recently with the announcement of a favorable tax policy for overseas high-end talent and professionals in short supply that work in the nine GBA cities, where they will get subsidies from municipal governments to offset the individual income tax differentials between mainland China and Hong Kong. We recommend the list of professional and jobs that entitled to such subsidies should cover all encouraged industries in the GBA and internationally recognized professionals such as ACCA certified finance professionals.



Recommendations to finance professionals

Finance professionals with a stake in the future development of this unique group see plenty of synergies at play among the cities that make up the GBA. Finance professionals are key to drive the development of the GBA but have to take an active hand to understand technology and drive business growth in its path to become an I&T hub.

Results from the survey and interviews suggest a number of key recommendations for finance professionals:

- 1. Entrepreneurial mindsets that work and grow together with businesses.** In the GBA, finance professionals are needed across multinational corporations to launch IPOs, provide financing, facilitate M&A, drive investment, ensure legal compliance, manage risk, improve corporate governance and drive globalization efforts. Small to medium enterprises also have demand for compliance and accounting work. There are ample career and business opportunities for the development of finance professional. To help finance professional capitalizing these benefits, ACCA identified that there are seven quotients that finance professionals need to acquire to become successful in rapidly changing business environment. ACCA offers numerous technical trainings and market updates to equip our members with necessary knowledge and skills to help business thrive.
- 2. Technology is a game-changer for business.** Finance professionals need to upskill themselves and understand technology developments. Being the subject matter for FinTech and blockchain, they can facilitate the cultivation of corporate culture to embrace technology, facilitate mindset transformation, and corporate change management. Only when equipped with the understanding of the latest developments of technology can financial professionals identify risks and opportunities when leveraging I&T to drive business success in other industries. ACCA also collaborates with technology companies to provide technology trainings and workshops to groom them to become tech-savvy finance professionals.
- 3. Finance professionals driving the fund-raising exercise.** Funding is vital to turn research ideas into commercial products. However, startups and innovative entrepreneurs may lack the finance knowledge and, most importantly, investor pitching skills. Finance professionals should bridge this gap by helping business monetize their innovative ideas and present them in well-articulated business plans and budgets. Finance professional are recommended to take proactive roles in providing financing expertise to business leaders, startups and large corporations, and help 'selling' their innovative businesses to PE/VC in getting the necessary investments.
- 4. Providing assurance to investment projects.** Investors and business leaders often need to evaluate different investment projects. Besides analytical work, finance professionals can provide assurance on the appraisal of various projects. ACCA's trained finance professionals are not only equipped with technical knowledge, but also ethical mindsets. They have the ability and credibility to deliver assurance work that help business leaders and investors to screen projects and make optimal business decisions.

Conclusion and key takeaways

The ambition of transforming the Greater Bay Area into an economic powerhouse of global influence is, as this report shows, eminently achievable. The path shown in the Outline Development Plan for the GBA provides a roadmap to accomplish this ambition.

Guangdong, Hong Kong and Macao are already stepping up efforts to work closer together in broad areas with the potential to drive economic development and, particularly I&T development. More measures are expected as cities build on their existing strengths. Government, laws and regulations, and forward-looking policies will all have a role to play in driving this development. Cooperation will be key.

As this report shows, there are three key findings that, if properly addressed, will greatly facilitate the rapid development of the GBA:

Establish a level playing field for all GBA cities

There should be a level playing field across the GBA. Policies in the 11 cities across the area should be accommodative and consistent.

“Implementing policies for adopting new technologies is more of an uphill battle because there are so many stakeholders that have a vast interest in these things,” says Peter Mok, Head of Incubation & Acceleration Programmes at the Hong Kong Science and Technology Parks Corporation.

“The inconsistency causes confusion; the value of the GBA, apart from the technological and manufacturing strengths, is the freedom of movement and a level playing field.”

Support PE / VC and angel investors

Government policies should focus on offering benefits and favorable terms to PE, VC and angel investors.

Survey findings show that PE, VC and angel investors are key to providing sufficient financing to innovative companies. There is, at the moment, a great amount of capital that could be potentially be deployed through the GBA but effective regulatory and policy support should be put in place for this to happen.

Boost the supply of talent

Favorable policies can help groom more talents for the GBA, talent that should come from a variety of sectors.

Giving talent the mobility it needs to support the development of the GBA will go a long way towards helping companies in the region grow. Businesses should also leverage the GBA’s role as an I&T hub to upskill their employees to stay on top of the technology wave and embrace technology more actively, which will, in turn, drive business growth.

Finance professionals have an important role to play in the development of the region. By developing an entrepreneurial mindset, staying on top of technological developments, facilitating access to funding for companies and providing the assurances that investors need, the finance and accounting professions can play a foundational role in the future development and evolution of the Greater Bay Area.

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ACCA supports its 208,000 members and 503,000 students in 179 countries, helping them to develop successful careers in accounting and business, with the skills required by employers. ACCA works through a network of 104 offices and centres and more than 7,300 Approved Employers worldwide, who provide high standards of employee learning and development. Through its public interest remit, ACCA promotes appropriate regulation of accounting and conduct relevant research to ensure accountancy continues to grow in reputation and influence.

As the first global accountancy body entering into China, ACCA now has 25,000 members and 108,000 students, with 11 offices in Beijing, Changsha, Shanghai, Chengdu, Guangzhou, Shenzhen, Shenyang, Qingdao, Wuhan, Hong Kong SAR, and Macau SAR.

Founded in 1904, ACCA has consistently held unique core values: opportunity, diversity, innovation, integrity and accountability. It believes that accounting professionals bring value to economies in all stages of development and seek to develop capacity in the profession and encourage the adoption of global standards. ACCA's core values are aligned to the needs of employers in all sectors and it ensures that through its range of qualifications, it prepares accountants for business. ACCA seeks to open up the profession to people of all backgrounds and remove artificial barriers, innovating its qualifications and delivery to meet the diverse needs of trainee professionals and their employers.

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