Singapore's collaboration with the Chinese in Suzhou and Tianjin has shed light on the evolving needs of China over the years. When China accelerated its pace of urbanisation in the 1990s, Suzhou Industrial Park provided the platform through which China could learn Singapore's industrial development model and development capabilities, and enable the transfer of public administration software. In the 2000s, when environmental problems arising from industrialisation became a major problem for China, Tianjin Eco-City was established as a platform for sharing Singapore's experiences on balancing growth and environment protection.

Looking ahead, China's market, which comprises maturing industrial development and a strong economy, is looking to upgrade to knowledge-based and higher value-added industries—as illustrated in the case of Sino-Singapore Guangzhou Knowledge City.

“Guangzhou Knowledge City is a best-in-class example of enterprise-led, government-supported large-scale city development. This capability is crucial as the world urbanises faster and faster. The learnings gained in prior Sino-Singapore collaborations and put to work in Guangzhou Knowledge City are crisply captured in this Urban Systems Study, across five critical elements of city development and staged phases of large project evolution. This is a hands-on window into Singapore’s world leading expertise in creating competitive new cities.”

Mr John D. Macomber, Senior Lecturer, Harvard Business School
SINO-SINGAPORE
GUANGZHOU
KNOWLEDGE CITY:
A NEW PARADIGM IN
COLLABORATION
Set up in 2008 by the Ministry of National Development and the Ministry of the Environment and Water Resources, the Centre for Liveable Cities (CLC) has as its mission “to distil, create and share knowledge on liveable and sustainable cities”. CLC’s work spans four main areas—Research, Capability Development, Knowledge Platforms, and Advisory. Through these activities, CLC hopes to provide urban leaders and practitioners with the knowledge and support needed to make our cities better. For more information, please visit www.clc.gov.sg.

Research Advisors for the CLC’s Urban Systems Studies are experts who have generously provided their guidance and advice. However, they are not responsible for any remaining errors or omissions, which remain the responsibility of the author(s) and CLC.

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ISBN 978-981-11-3383-1 (print)

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Cover photo:

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Singapore has transformed itself into a highly liveable and sustainable city. How can Singapore build on its urban development experience and share its knowledge base? How can Singapore continue to develop urban solutions for current and future challenges that are also relevant to other cities?

In 2010, the Sino-Singapore Guangzhou Knowledge City (SSGKC) project was launched to leverage Singapore’s urban development experience in the economic transformation of Guangdong, China. The project aimed to help revamp the economy from a lower-value manufacturing one to a high value-added, knowledge-intensive one. Following the successful adoption of Singapore models in Tianjin Eco-City and Suzhou Industrial Park in the past, both of which were government-to-government (G2G) level collaborations, SSGKC explored a new mode of collaboration that would pave the way for the future.

The unique characteristic of SSGKC lies in the governance model underpinning its development. The private sector takes the lead in multiple aspects: from master planning and development, to negotiations with private and public stakeholders, and formulation of policies and business strategies to attract profitable investments. This model is government-supported but enterprise-led and market-driven. It is in recognition of the private sector’s capacity to drive business activities and to ascertain market demand for products and services, upon which it can execute effectively and build a healthy ecosystem to attract target industries.

SSGKC seeks to integrate high-tech business parks with residential, commercial, recreational and public amenities, through the establishment of well-connected transportation and info-communication infrastructure. A comprehensive urban design plan featuring parks, water bodies and other landscape elements, has also been developed to enhance visual appeal within the Knowledge City. Meanwhile, a highly accessible, active mobility system is being put in place to complement these elements. This use of integrated master planning and development will enable SSGKC to achieve three key objectives: to provide a high quality of living; to create a competitive economy; and to maintain a sustainable environment.
The SSGKC project carries a strong emphasis on knowledge sharing through its adoption of Singapore’s economic transformation and public administration experiences. A prominent highlight among the knowledge sharing programmes is the launch of the Intellectual Property (IP) Hub in SSGKC. The IP Hub is the first overseas representative office set up by the Intellectual Property Office of Singapore (IPOS), which aims to create a law-based environment favourable to investors and firms through improving intellectual property awareness and usage. It does so by demonstrating the importance of building a culture of good governance within sound institutions.

The successful launch of the SSGKC project is a result of the close communication and engagement, as well as the strong and harmonious collaborative relationship among stakeholders. The project is yet another step in the bilateral cooperation between China and Singapore, supporting the long-term vision set out by both countries to build strategic partnerships for future collaborations. The development of SSGKC was one of the first major projects undertaken by Singbridge, a company focusing on master development in large-scale urban projects. The merger of Ascendas and Singbridge in June 2015 enabled Ascendas-Singbridge to combine their capabilities in urban development and real estate solutions, and apply them to SSGKC.

Ascendas-Singbridge would like to thank the Centre for Liveable Cities (CLC) for the research and documentation that has led to the publication of Sino-Singapore Guangzhou Knowledge City: A New Paradigm in Collaboration.

PREFACE

The Centre for Liveable Cities’ (CLC) research in urban systems looks into the system components that make up the city of Singapore, capturing knowledge not only within each of these systems, but also the threads that link these systems and how they make sense as a whole. The studies are scoped to venture deep into key domain areas the CLC has identified under the Singapore Liveability Framework, attempting to answer two key questions: How Singapore has transformed itself into a highly liveable city within the last four to five decades, and how Singapore can build on our urban development experience to create knowledge and urban solutions for current and future challenges relevant to Singapore and other cities through applied research. Sino-Singapore Guangzhou Knowledge City: A New Paradigm in Collaboration is the latest publication from the Urban Systems Studies (USS) series.

The research process involves close and rigorous engagement of the CLC with our stakeholder agencies, and oral history interviews with Singapore’s urban pioneers and leaders to gain insights into development processes and distil tacit knowledge that has been gleaned from planning and implementation, as well as governance of Singapore. As a body of knowledge, the USS, which covers aspects such as water, transport, housing, industrial infrastructure and sustainable environment, reveals not only the visible outcomes of Singapore’s development, but the complex support structures of our urban achievements.

The master developer of Sino-Singapore Guangzhou Knowledge City, Ascendas-Singbridge, has accumulated extensive knowledge in development and fostered close partnerships with the Chinese. As CLC’s research collaborator, Ascendas-Singbridge shared their expertise in exporting Singapore’s development model capabilities, as well as efforts in the enabling of knowledge sharing. The research conducted for this publication documents the development of the project from inception to 2016. CLC would like to thank Ascendas-Singbridge and all those who have contributed their knowledge, expertise and time to make this publication possible. I wish you an enjoyable read.

Khoo Teng Chye
Executive Director
Centre for Liveable Cities
ACKNOWLEDGEMENTS

The Centre for Liveable Cities (CLC) gratefully acknowledges Ascendas-Singbridge for assistance provided in the preparation of this book.

The CLC would like to extend special thanks (in alphabetical order) to Almond Ko, Chin Phei Chen, Khor Poh Hwa, Ko Kheng Hwa, Miguel Ko, Michael Koh, Victor Li, Lim Chee Onn, Liu Thai Ker, Moh Wung Hee, Ng Kok Siong, April Oh, Phua Yung Keat, Jasper Tan, Teh Bin Tean, Wong Kan Seng and Nina Yang for taking valuable time off to be interviewed by CLC for the Urban Systems Studies series.

The CLC is also grateful for the assistance and advice from the following urban pioneers: Lim Neo Chian and Wong Kai Yeng.

The researchers, Phua Shi Hui and Zhou Yimin, would also like to extend special thanks to Joanna Tan, Nicole Chew, Cheong Kay Teck, Xu Yuting, Alan Tan, Sarah Wong and Sylvia Sin for their support.
THE SINGAPORE LIVEABILITY FRAMEWORK

The Singapore Liveability Framework is derived from Singapore’s urban development experience and is a useful guide for developing sustainable and liveable cities.

The general principles under Integrated Master Planning and Development and Dynamic Urban Governance are reflected in the themes found in Sino-Singapore Guangzhou Knowledge City: A New Paradigm in Collaboration.

Integrated Master Planning and Development

Think Long Term

To create a conducive environment that is attractive to knowledge-intensive industries, the concept master plan of the Sino-Singapore Guangzhou Knowledge City (SSGKC) places a strong emphasis on creating a “Live, Work, Learn, Play” ecosystem.

(see Concept Master Plan, p. 33)

Fight Productively

During the initial period, the local Chinese officials were eager to begin constructing physical developments to attract investments from Fortune 500 companies and the research and development (R&D) industry. The master developer had to convince local stakeholders that fostering an investor-friendly environment in China to attract high value-added investments requires more than just physical buildings and infrastructure. To bridge gaps in perception, the master developer also explained to local officials in Guangdong the difference in development timeframes across industrial, residential and commercial sectors.

(see Bridging Perception Gaps, p. 22)

Execute Effectively

For the first phase of development, the southern Start-Up Area was conceptualised as a microcosm of a Knowledge City. High standards were set for construction, urban management, and business investment for the city, spearheading the future direction for expansion and growth.

(see Phase One: The Southern Start-Up Area, p. 42)

Dynamic Urban Governance

Lead with Vision and Pragmatism

The mode of collaboration in SSGKC has enterprise taking the lead with government playing a supporting role, which helps to ensure the commercial viability of the development project.

(see New Mode of Collaboration: Led by Enterprise, p. 14)

Cultivate Sound Institutions

The Intellectual Property Office of Singapore (IPOS) established its first overseas representative office—the State-level Intellectual Property Rights Utilization and Protection Hub—in SSGKC to facilitate knowledge sharing. This is a significant milestone to support the cultivation of IP protection awareness in the Chinese market.

OVERVIEW
SINO–SINGAPORE GUANGZHOU KNOWLEDGE CITY: A NEW PARADIGM IN COLLABORATION

“
The Sino–Singapore Guangzhou Knowledge City project, which is led by the private sector and is government-backed, will be one good model to follow for Singapore investment projects in China, going forward.”

Lee Hsien Loong, Prime Minister of Singapore

Singapore's continuous collaboration with the Chinese on development projects in Suzhou and Tianjin has provided insights on the evolving needs of China over the past few decades.

When China accelerated its pace of industrialisation and urbanisation in the 1990s, Suzhou Industrial Park provided the platform through which China adapted Singapore's industrial development model and development capabilities. The project enabled the sharing of industrial development and public administration knowledge from Singapore to China. In the 2000s, the Tianjin Eco-City was established as a platform for sharing Singapore's experience in balancing growth and environmental impact.

As China evolved through different developmental phases, Singapore has been able to fit in with its changing landscape, broadly demonstrated through the Sino–Singapore collaborations. As Chinese industrial development reaches maturity, its growing market economy is looking to upgrade itself with knowledge-based and higher value-added industries.
Singapore and China have a long-standing history of bilateral relations. However, it was not until 3 October 1990 that official diplomatic relations were established between the two nations. Since then, Sino-Singapore relations have been closely fostered through a range of extensive partnership projects.

The two flagship government-to-government (G2G) collaborations—the Suzhou Industrial Park (1994) and Tianjin Eco-City (2007)—have been instrumental in sustaining good relations and close communication between China and Singapore. The Prime Minister of Singapore, Lee Hsien Loong, had asserted a positive outlook for continued partnership and enhanced cooperation in the sectors of culture, tourism, business, economy and tertiary education. He also echoed the potential to export the “Singapore brand” to China and spoke of great prospects for the bilateral relationship during his visit to Guangzhou on 12 September 2014. What will chart the future direction for Sino-Singapore collaborations?

The successful adoption of Singapore’s development and public administration experience in Suzhou and Tianjin has led to collaboration on Sino-Singapore Guangzhou Knowledge City (SSGKC). Guangdong Province has been Singapore’s top trading partner for the past 25 years—a testament to the strong bilateral ties between the two regions. In addition, bilateral trade between Singapore and Guangdong has been growing at an average of 4.5% annually since the formation of the Singapore-Guangzhou Collaboration Council (SGCC) in 2009, with a record of US$19.2 billion in trade in 2014. Meanwhile, Singapore’s investments in Guangdong also reached a record of US$1.27 billion in 2014, accounting for more than a fifth of its total investments in China. How does the new mode of collaboration in Guangzhou differ from its predecessors and shed light on future partnerships between the two nations?

The Urban System Studies of Sino-Singapore Guangzhou Knowledge City reviews the enterprise-led, government-supported and market-driven development model to identify broad planning and development principles. The research study identifies key challenges as well as documents the process of adapting Singapore’s urban solutions in the master development of the SSGKC.
BIRTH OF A KNOWLEDGE CITY
**IMPETUS FOR ECONOMIC RESTRUCTURING IN GUANGDONG**

“*We have to innovate creatively within some of the more traditional manufacturing sectors, in order to develop high-end technology. Only then, can we truly ‘empty the bird cage and let the right birds in’.*”


Located at the heart of Pearl River Delta and established in 1984, the Guangzhou Development District (GDD) is among China’s first batch of National Economic and Technological Development Zones. It is located within a two-hour drive to other major cities such as Hong Kong, Shenzhen, Macau, and Zhuhai.

For the past three decades, the district’s economic growth has been augmented predominantly by lower-value manufacturing activities. While Guangdong is one of the more economically competitive provinces in China with strong per capita growth, its industrial content has remained at fairly low levels of manufacturing output.

In the late 2000s, China experienced the bitter aftermath of an economic crisis due to the global financial meltdown and the European debt crisis. Guangdong—the renowned export hub of China—was severely affected. Small- and medium-sized enterprises in manufacturing industries encountered a massive wave of bankruptcies, resulting in a high unemployment rate.

Wang Yang, then Party Secretary of Guangdong (current member of China’s Politburo Standing Committee and Vice Premier of China), visited Singapore in September 2008. He expressed admiration for how Singapore had been successful in continuously transforming its economy despite only having commenced economic development from the 1960s, learning from the West, while retaining its Asian identity. Wang projected that China could continue to transform its economy while preserving its traditions by tapping on Singapore’s economic and public administration experiences, in order to respond to the economic hurdles facing Guangdong.

Wang’s ambition to propel China’s economy to the next stage of development by transforming the existing low-value, labour-intensive manufacturing industrial sector to an advanced, knowledge-based economy led to the birth of the Sino-Singapore Guangzhou Knowledge City (SSGKC).
PREPARATION AND CONCEPTUALISATION OF SINO–SINGAPORE GUANGZHOU KNOWLEDGE CITY

To facilitate Guangdong’s exploration of economic upgrading opportunities, a delegation from Guangdong visited some of the key projects by Keppel Corporation in 2008. Mr Lim Chee Onn, then Executive Chairman of Keppel Corporation (2000–2008), was part of the team that hosted the delegation. In 2009, Lim put together a team to explore ideas for a joint development with the Guangdong local government. Upon completion of feasibility studies, the proposal to develop SSGKC with the Guangzhou Development District was articulated.

“The main thing was to show the Chinese how we [Singaporeans] could conceptualise, design, implement, market and manage an integrated town which was essential for economic development.”

Lim Chee Onn, Senior International Adviser, Ascendas-Singbridge

On 24 March 2009, Guangdong and Singapore signed a Memorandum of Understanding (MOU) on the joint development, and Sino–Singapore Guangzhou Knowledge City (中新广州知识城) was selected as the official name of the project. The concept of a “Knowledge City” was based on a development model that would facilitate the transformation of Guangdong’s economy from being labour-intensive to knowledge-intensive. The ground-breaking ceremony of SSGKC took place on 30 June 2010.
VISION AND OBJECTIVES

Geographically, SSGKC is located on a 123-square kilometre greenfield site northeast of Guangzhou City, between the Second Ring Road and Third Ring Road, at the core of the Pearl River Delta region. Wang Yang referred to the selected site as the “last precious land” amongst the undeveloped regions of the Guangdong Province. Lesser resettlement work was required for this area compared to other plots of land in the province.

Conceptualised as a testbed site for new development ideas, the SSGKC is a complex, large-scale project. It integrates a multitude of critical elements such as urban planning, human resources, economic development, business incubation and environmental management, while nurturing a harmonious community. Leveraging Singapore’s successful development experience, SSGKC is poised as a key economic development catalyst and model for the Guangdong Province, as envisioned by the province’s leaders. According to Zhu Xiaodan, then Governor of Guangdong, SSGKC would be the “dragon head” (龙头) for the development of the province.

“Sino–Singapore Guangzhou Knowledge City will become the new benchmark for a knowledge-based economy, an important base for transformation and upgrading, a new engine for innovation, and play an ‘initiate, lead and exemplary’ role.”

Zhu Xiaodan, Former Governor and Vice Party Secretary of Guangdong (2011–2016)
This bilateral collaboration would also provide economic expansion opportunities for Singaporean companies. SSGKC is envisioned to be a unique, vibrant and sustainable city that would attract talent, skilled manpower and knowledge-based industries. With a targeted live-in population of 500,000, the Knowledge City aims to catalyse economic transformation and enhance the environment in the Guangdong Province. The three key objectives set for SSGKC are: to achieve economic transformation and industrial upgrading; to foster a law-based investment environment; and to realise knowledge sharing from Singapore’s experience (see Exhibit 1 below).

Exhibit 1: Key Objectives of SSGKC

**Economic Transformation and Industrial Upgrading**

An exemplary development base for emerging industries. It will play a leading role in accelerating the transformation and industrial upgrading of Guangzhou and the Greater Pearl River Delta region.

**Law-Based Investment Environment**

A unique development with excellent public housing, industrial property management, industrial upgrading, higher education and social management.

**Knowledge Sharing**

A model smart city that supports vibrant and sustainable growth in Guangzhou. Its focus is on knowledge sharing, and applying Singapore’s experience to the areas of restructuring and upgrading.
As the Master Developer, we need to balance our roles as a private real estate developer and as a government-like entity with responsibilities such as industry development and knowledge sharing. To succeed, it is vital that the collaboration model is as well-supported by the government as it is commercially viable.”

Nina Yang, CEO for Sustainable Urban Development, Ascendas-Singbridge

The governments of Singapore and China jointly oversaw two previous developments—Suzhou Industrial Park (SIP) and Tianjin Eco-City (TEC). Using a multi-tiered government-to-government (G2G) platform, lead government bodies and working-level agencies collaborated on a range of issues including setting common goals, resolving differences, and coordinating developmental and operational issues. As the G2G projects involved a large amount of government resources, the Singapore government was mindful to ensure that these joint efforts would remain financially viable.

As the SSGKC development (2008) was proposed only one year after the TEC project had been formalised (2007), both the Singapore and China governments were cautious about allocating additional resources to oversee and manage another G2G project. Instead, they opted to try out a more market-driven collaboration model. With the emergence of development opportunities in China resulting from its then booming economy, Singapore was seeking to go beyond the G2G model, by establishing a new mode of collaboration where the private sector could be mobilised to apply Singapore’s development experiences overseas.

Both governments recognised that for the knowledge-intensive industries that SSGKC hoped to attract, the private sector would be better-equipped to encourage and promote crucial elements such as innovation and creativity. It would offer more flexibility and better efficiency in the process of development. At the same time, it would be difficult for private companies to embark on a project of SSGKC’s scale without government support. Therefore, China and Singapore decided to adopt a collaboration approach that was enterprise-led, government-supported and market-driven. Government support would be key to sustaining a healthy rate of progress, while allowing the project to reap commercial benefits.
The collaboration model adopted for SSGKC is described as “enterprise-led, government-supported and market-driven” (企业先行，政府推动，市场运作 in Mandarin).

In Singapore, the government’s emphasis has been on the enterprise-led dimension of the collaboration. The third dimension of being “market-driven” was added into the mix to complement and provide rationalisation for the direction set by the enterprise leadership. The Prime Minister of Singapore, Lee Hsien Loong, expressed that the “enterprise-led, government-supported and market-driven” model could be further leveraged in future Sino-Singapore investment projects. When asked if this model would be better than the traditional G2G model, Prime Minister Lee highlighted that context is critical in determining a project’s approach. In SSGKC’s case, this particular model was more suitable, given the government’s limited resources at the time, and weighing that against the private sector’s ample experience, resources at hand, as well as interest to invest.

On the other hand, China has leaned towards a “government-driven” approach rather than one that is “government-supported”. The second element of the concept description, “government-supported”, in Mandarin, is “政府推动”. This literally translates as “the government pushing into action”. It paints a more proactive role played by the government than what the English term implies. Indeed, the Chinese government has been actively involved in the master development of SSGKC. Out of the eight SSGKC investment fairs organised in 2011, five were headed by local officials in the GDD (Guangzhou Development District), Guangzhou Municipal or Luogang District.
FORMATION OF A JOINT VENTURE COMPANY

While the two governments may have taken different approaches towards this project, the commercial nature of this endeavour necessitated that a private enterprise, the Sino–Singapore Guangzhou Knowledge City Investment and Development Co. Ltd (GKC Co.), had to be set up to oversee its development. Established as a 50–50 joint venture company, GKC Co. was formed by Singapore’s Ascendas-Singbridge and Chinese state-owned enterprises that came under the Guangzhou Development District Administrative Committee (GDDAC). GKC Co. began its operations as the master developer of SSGKC in September 2011.

To oversee the operations of GKC Co., Ascendas-Singbridge is represented by a holding company, Knowledge City Private Limited (KCPL), while companies under the GDDAC have formed a consortium. Representatives from both parties sit on the board of GKC Co.

“GKC Co. operates on an enterprise structure, with a management board, a commercially-driven operation model and knowledge sharing. Though we face some challenges, GKC’s operations benefit from the flexibility and mobility of the private sector.”

Ng Kok Siong, CEO of GKC Co.

Exhibit 3: Shareholding Structure of Joint Venture Company, GKC Co.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Sino-Singapore Guangzhou Knowledge City Investment and Development Co., Ltd (GKC Co.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guangzhou Development District Administrative Committee (GDDAC)</td>
<td></td>
</tr>
<tr>
<td>Chinese Consortium</td>
<td></td>
</tr>
<tr>
<td>Knowledge City Private Limited (KCPL)</td>
<td></td>
</tr>
<tr>
<td>Ascendas-Singbridge</td>
<td></td>
</tr>
</tbody>
</table>

Responsibilities of GKC Co.

The GKC Co. was tasked to lead and drive strategic plans and visions agreed upon by the two shareholding entities of SSGKC. Its role includes physical development to provide the basic infrastructural platform for economic transformation, industry development, and collaborative efforts that tap on Singapore’s experience in social management.

Working closely with the local Chinese government department of Construction Management Centre (CMC), GKC Co. implements physical developments within the SSGKC. While GKC Co. sees to project design, initiation, planning and costing, CMC handles legal issues and ensures regulatory and political compliance in the actual construction and the supervision of contractors. The management centre, representing the Guangzhou Development District, also operates as a coordinating office for construction—an idea adapted from Singapore’s integrated urban solutions.
PRIVATE MASTER DEVELOPER’S STRATEGIES AND CONSIDERATIONS

In previous Sino–Singapore G2G collaborative projects, a multi-tiered governance structure was well-institutionalised to monitor progress and manage implementation. Benefitting from top-level political support and resources, the projects progressed smoothly and efficiently. Investor confidence was further boosted by government involvement.

Unlike the previous two projects, the SSGKC faced unique challenges in its earlier developmental process. Being an enterprise-led and market-driven development, it prioritises financial viability and profitability to ensure sustained interest from the private market. However, with the administration of the SSGKC coming under the purview of GDD, the amount of resources that the local government provides has been limited. The absence of policy support from the government could translate into lower efficiency in the implementation of development projects, causing delays in the developers’ schedules. The SSGKC has thus been making the best use of resources available at the district level by working with the existing policies and procedures.

As the master developer, Ascendas-Singbridge has been addressing these constraints via prudent strategies that tackle challenges presented at each stage of development. It has and will continue to do so by assuming the roles played by the respective government agencies under a master developer framework. Exhibit 4 illustrates the three key components of this framework, namely: profit drivers, qualifying factors and key enablers.

“The business model has to be carefully crafted and negotiated, so that it is not only viable now, but over a long period of time. Specific roles and responsibilities for various stakeholders must be clearly defined so that each party knows what to bring to the table and how they can have a shared common vision.”

Ko Kheng Hwa, Former CEO of Singbridge (2009–2013)\(^\text{16}\)

Another factor that set the enterprise-led developments apart from previous G2G projects is the fact that the master plan had to be completed after the contract was signed and before the commencement of commercial negotiations. Thus, feasibility studies on various components, such as industrial development, infrastructure, project management and development phasing, had to be conducted well in advance.
In the initial period, there was a gap in perception between the local authorities in China and GKC Co. in the project’s positioning. Local authorities and officials were eager to begin with physical developments to attract investments from Fortune 500 companies and the research and development (R&D) industry. However, GKC Co. preferred to focus first on creating a conducive, business-friendly environment across industries, especially in the knowledge-based sector. In Singapore’s experience, high-value corporations and R&D companies favour the following factors when setting up in new locations: political stability, consistency in policy, availability of upstream and downstream suppliers, and an adequate consumer base and talent pool. During the early stages, SSGKC had yet to meet these desired conditions. For instance, there were frequent changes within the local Chinese leadership, and China’s industrial sector was not yet defined by high value-added activities. While GKC Co. could draw on Singapore’s positive experiences to foster an investor-friendly setting, creating a broader economic ecosystem in China requires more time.

The final development time frame is set to span 15 to 20 years: the laying of infrastructure and start-up development would take three to five years; the actual growth of the various developments another five years; and a further five to ten years is to be devoted towards accelerating these developments across the industrial, residential and commercial sectors, and to establish the eco-system of the Knowledge City. Having seen the success of such a natural and gradual developmental model in Suzhou Industrial Park, GKC Co. managed to convince its local counterpart and stakeholders to adopt a similar philosophy.

In Phase One, it was misconstrued that the joint venture company was simply pushing for profit from the residential developments, as the residential building blocks—typically over 20 storeys high—were more visible than the low-rise business parks. Furthermore, residential properties, which are essentially business-to-consumer (B2C) in nature, could be marketed and sold prior to the development’s completion; whereas industrial properties, which are business-to-business (B2B), could only be leased out once the development has been completed. This added to the disparity, giving rise to the impression that residential projects were being prioritised.

The teams on the ground subsequently addressed the issue and bridged the perception gaps by highlighting and reaching a common understanding of the differences in mechanisms between the two property types. These measures ensured that developments progressed according to a schedule that would benefit the city as a whole without favouring particular segments.

**SUPPORT FOR SINGAPORE-REGISTERED COMPANIES INVESTING IN SSGKC**

While SSGKC is primarily a commercially-driven project, government support is still essential, especially in the areas of knowledge sharing and social development. Knowledge sharing, which provides support for training and skills upgrading, is facilitated through International Enterprise Singapore (IE Singapore). IE Singapore provides assistance to Singapore-based companies that are interested in investing and establishing operations in SSGKC.

**IE Singapore Established the Singapore Centre**

In June 2012, IE Singapore signed a Memorandum of Understanding (MOU) with Ascendas-Singbridge to establish a Singapore Centre in the Knowledge City. This centre supports and facilitates the market entry and growth of Singapore-based entities into China through the SSGKC platform. Hosted in Ascendas OneHub GKC, the Singapore Centre is the first integrated, one-stop service platform in China which organises resources for Singapore-based entities seeking to invest in the Chinese market.

Through the Singapore Centre, companies are able to complete their business registration in China within five working days—a process that would otherwise take weeks or months. The centre enables the delivery of this level of efficiency by tapping into local government resource networks to expedite registration. It also functions as a useful resource
for business development activities such as market feasibility studies and test-bedding. Jointly founded and supported by both China and Singapore, the centre comprises the following organisations:

i. International Enterprise Singapore (IE Singapore)

ii. Sino–Singapore Guangzhou Knowledge City Administrative Committee (SSGKC AC)

iii. Sino–Singapore Guangzhou Knowledge City Investment and Development Co., Ltd. (GKC Co.)

iv. Action Community for Entrepreneurship Ltd. (ACE)

The market entry and facilitation services that the Singapore Centre offers to Singapore-based entities are tabulated in Exhibit 5.

Exhibit 5: Services Provided in the Singapore Centre

IE SINGAPORE

- Market Readiness Assistance (MRA) and Global Company Partnership (GCP) grants.
- Government facilitation.

SSGKC AC

- Streamline government administration processes.
- Innovation and entrepreneurship services.
- Competitive investment policy support.

GKC CO.

- Investment consultation and value-added services.

ACE

- Facilitate exchanges between incubators and start-ups in China and Singapore.

As part of IE Singapore’s Global Company Partnership, SSGKC continues to work strategically to build companies’ capabilities, and provide market access, manpower development and financing support to grow globally-competitive companies. For instance, the Market Readiness Assistance scheme offers critical statistics, industry reports and market updates to provide companies with essential business information. In addition, IE Singapore also conducts business export and advisory workshops, and provides financial assistance to firms participating in overseas missions and trade shows.


A significant milestone in the SSGKC’s development was the establishment of the first overseas Intellectual Property Representative Office by the Intellectual Property of Singapore (IPOS) in the Knowledge City.

Notably, China has the third highest number of international patent applications filed under the World Intellectual Property Office (WIPO), after the United States and Japan. The State-level Intellectual Property Rights Utilization and Protection (IP) Hub was set up with the aim of enforcing IP rights and enhancing the protection of IP licences. On top of giving Singapore-based entities entering the Chinese market greater IP assurance, the IP Hub also supports the export of Singapore IP services to Chinese companies.

On 27 October 2014, an MOU was signed between IPOS and the State Intellectual Property Office of China (SIPO), recognising SSGKC as a “model zone for IP cooperation” between Singapore and China. The MOU expands on Singapore’s existing collaborations with China, such as the Patent Prosecution Highway (PPH) agreement signed in May 2013. The initiative to build a vibrant IP hub received a boost in July 2016, when the Chinese state council approved a comprehensive reform on intellectual property rights utilisation and protection, recognising SSGKC as the first and only pilot zone for reforming China’s intellectual property rights.

(For more on knowledge-sharing programmes, see State-level Intellectual Property Rights Utilization and Protection (IP) Hub, p. 60.)
Ascendas OneHub GKC is an integrated business park situated on a 30-hectare site, which will provide a total gross floor area of 600,000 square metres when completed. As one of the pioneer development projects in the Knowledge City’s southern Start-Up Area, it was conceptualised as a multi-functional “Live, Work, Learn and Play” space and aims to attract leading enterprises from the infocomm technology and innovation clusters.

The CEOs of three Singaporean private companies share the reasons behind their interest in Ascendas OneHub GKC.

**Jasper Tan, Group CEO of Dentalthon Medtech**

For Jasper Tan, Group CEO of Dentalthon Medtech, a company that specialises in making denture models using 3D printing technology, location was key. The medical markets in Shanghai and Beijing were already saturated, and he saw Pearl River Delta as a good business operation site, with its links between Guangzhou on the mainland, to Hong Kong and Macau. While the Knowledge City is a distance away from Guangzhou’s city centre (35 kilometres), Tan is confident that with the supporting infrastructure put in through the enterprise-led development model, the location would not be a hindrance. He also believes that the “Singapore element” in the bilateral development project would encourage other enterprises to set up operations in SSGKC. Tan appreciates the assistance provided by IE Singapore in expediting the process of acquiring the research approval permit from the China Food and Drug Administration (CFDA) for medical devices and equipment. He commends the resourcefulness of the Singapore government agencies involved in helping to link his company up with other local business partners, and for providing the research and initial start-up funds. This type of support has jumpstarted Dentalthon Medtech’s setup and operations in SSGKC.

Located at the core of SSGKC, Ascendas OneHub GKC comprises both residential and commercial spaces. Image courtesy of Ascendas-Singbridge.
The development of the IP Hub in the Knowledge City is another plus for Tan. He notes that the IPOS has brought in similar enterprises in the medical industry to create economic agglomeration and this is contributing to positive knowledge spillovers.18

Dentalthon Medtech’s co-founder, Teh Bin Tean, also agrees. He feels that the strategic location of SSGKC would provide significant opportunities for the firm to foster close research collaboration with academic institutions such as the Sun Yat-Sen University (中山大学) Cancer Centre in Guangzhou, and South China University of Technology (SCUT)’s dental school,19 which is one of the largest in the country.

“As Dentalthon Medtech engages in R&D, having SIPO’s Patent Examination Cooperation Guangdong Centre and Guangdong IP services park within the same location... better safeguard[s] research patents and cutting-edge technology produced by the company.”

Jasper Tan, Group CEO of Dentalthon Medtech20

Victor Li, CEO of Lion TCR

Victor Li, CEO of Lion TCR, a biomedical firm researching cell-immunity treatments, was attracted to Ascendas OneHub GKC because of the "Singapore-style" of business services provided. He has benefited from a waiver of charges for business registration and appreciates the sense of operating in a familiar environment.

“The column-less layout of the business park closely resembles JTC Corporation’s Medtech One in Singapore. This added a sense of familiarity as we established our research lab in the premises.”

Victor Li, CEO of Lion TCR21

Almond Ko, CEO of Sang Choy International

Almond Ko, CEO of Sang Choy International, believes that China’s market provides tremendous potential for business expansion for his printing company. He first learnt about Ascendas OneHub GKC at a seminar organised by the Singapore Manufacturing Federation (SMF). Ko became attracted to SSGKC because of its conducive business environment and ease of administration facilitated by IE Singapore and Ascendas-Singbridge via the Singapore Centre.

“Compared to my former experiences, setting up operations in SSGKC required a much shorter lead-time which was an added advantage.”

Almond Ko, CEO of Sang Choy International22
SINGAPORE–GUANGDONG COLLABORATION COUNCIL AS A PLATFORM

Singapore–Guangdong Collaboration Council (SGCC) was formed on 24 March 2009 to promote cooperation between Singapore and Guangdong to include areas beyond the economy, such as training, tourism and educational exchanges. SGCC comprises leaders, government officials and private sector representatives from Singapore and Guangdong, and is a useful platform for promoting frequent interactions between members of the political leadership.

The council also serves as an important channel of knowledge-sharing between the Singapore and Guangdong governments at multiple levels. The SGCC holds regular meetings to provide a strategic review of the SSGKC’s development progress. When necessary, the SSGKC project would be discussed at the Joint Council for Bilateral Cooperation (JCBC), which comprises cabinet ministers and senior officials from both countries and is co-chaired by the Deputy Prime Minister of Singapore and Executive Vice Premier of China. The council has been and continues to be an effective platform for Ascendas-Singbridge to escalate issues to the higher levels, in order to garner greater political attention and support.

Singapore-Guangdong Collaboration Council MOU signing ceremony. The signing ceremony at Singapore-Guangdong Collaboration Council was witnessed by Minister Ong Ye Kung and former Guangdong Governor Zhu Xiaodan in 2016.

Image courtesy of SSGKC Investment and Development Co., Ltd.
You should never look at your project as an island. In the Singapore brand of planning, we do not plan this place as an island, but as part of the larger environment.”

Liu Thai Ker, Planner-Architect of the Initial Conceptual Master Plan and Urban Design Plan for the Southern Start-Up Area of SSGKC

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CONCEPT MASTER PLAN

Of the total 123 square kilometres of land set aside for the SSGKC, only 60 square kilometres is to be developed so as to preserve the natural greenbelts and water bodies, with Maofeng and Fuhe mountains in its vicinity.

The initial concept Master Plan for SSGKC was drafted in 2009 by Dr Liu Thai Ker, a renowned Singaporean architect-planner. He explained that it was important for the Knowledge City to be self-sufficient. Dr Liu also highlighted that a population size of a million people would be ideal to support the operation of SSGKC as an independent city.

“I have a general planning theory that when you have a supersized city, don’t treat it as one city. You should treat them as a collection of cities, which I call Constellation Cities.”

Dr Liu Thai Ker, Planner-Architect of the Initial Conceptual Master Plan and Urban Design Plan for the Southern Start-Up Area of SSGKC

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Maofeng and Fuhe Mountains in vicinity of SSGKC.

More than half of the total land area in SSGKC is being preserved as natural greenbelts and water bodies.

Image courtesy of Ascendas-Singbridge.
Coupled with the population of proximate districts of Zengcheng (增城) and Conghua (从化), the total population of SSGKC would indeed add up to a million people. Thinking in broader terms, Dr Liu adopted Singapore-style planning elements to integrate the development of SSGKC with its surrounding environment. This meant maximising connectivity as much as possible in order to create conditions that would be beneficial to the sustained growth of the city.

“One look and you can tell there is some Singaporean DNA there—the way the building is designed, the park is designed and how the roads are laid out. Those are typical Singaporean concepts in master planning.”

Khor Poh Hwa, Former Senior Consultant of Singbridge (2009–2012)

After Dr Liu’s initial concept master plan for SSGKC was closely reviewed by the Guangzhou Development District (GDD), detailed planning was carried out, with adjustments made where necessary to cater to evolving needs.

“Our master plan consisted of very balanced integrated developments: one-third commercial and residential, one-third business and government amenities, and one-third public space with greenery and other social amenities.”

Ng Kok Siong, CEO of GKC Co.

The initial master plan has since been further refined into the SSGKC Master Plan and Detailed Control Plans, which have been gazetted by the Guangzhou Municipal Government.
DEVELOPING FOR FUTURE TRANSPORTATION NEEDS

At the backbone of the transportation network in SSGKC is an efficient rail system. The existing rail network also connects SSGKC to Guangzhou’s Baiyun International Airport situated 25 kilometres away. However, a multi-pronged approach would ensure that the transportation infrastructure caters to the mobility needs of both the live-in and working populations.

Under the infrastructural plan, access to the Knowledge City is being further improved by the construction of mass rapid transit, an inter-city high-speed rail and a network of expressways. In particular, the Guangzhou Municipal Government has been supporting the extension of the Guangzhou City metro network to the SSGKC, as well as the Guangzhou-Dongguan-Shenzhen fast-rail line. At the time of writing, the metro network is at an advanced stage of construction, and is expected to be operational in 2018. With the inter-city high-speed rail, it will take only 15 minutes to commute from SSGKC to the Baiyun International Airport.29

In addition, the opening of the Guanghe Expressway has provided rapid road linkage to Guangzhou City and to Guangzhou Baiyun International Airport, enabling access from these locations to SSGKC in 30 minutes. While the Guangzhou-Dongguan-Shenzhen fast rail line may take longer to plan and construct, the connectivity of SSGKC to nearby cities will be further enhanced upon its completion.

Delays in the infrastructure construction for projects of this scale are common. During the development of the Tianjin Eco-City, there were delays in the implementation of rail transport lines. Learning from past experience, the master developers of SSGKC had anticipated this and made allowances to buffer for such delays.
In 2008, before the SSGKC was conceptualised, the China Academy of Urban Planning and Design conducted a preliminary planning and research exercise on the northern area of Guangzhou Science City covering the period from 2008 to 2020.

The research outcomes outlined the planning scenario of "百里国际科学谷、山水生态知识城", which can be translated as "An International Science Valley stretching across a hundred li (or 50 kilometres), with an ecological knowledge city nested among mountains and water bodies."

The ideas developed at this early stage already took into account the natural environment and local terrain. These considerations were largely retained and laid the foundation for subsequent master plans.

**Initial Concept Master Plan—RSP Architects Planners & Engineers**

In 2009, RSP Architects Planners & Engineers, led by Singapore’s renowned architect Dr Liu Thai Ker, was engaged to develop the conceptual master plan of SSGKC, as well as the urban design plan for the southern Start-Up Area. In the master plan Dr Liu presented in 2010, he retained the green belt and clustering layout, and proposed a spatial structure of “one axis, two corridors, three clusters.” Separated by natural ecological corridors, each cluster was to carry a distinct focus for development. The northern new town would focus on manufacturing industries; the central town would favour research institutes; while the southern town would develop high-tech industries. A unique point about the RSP master plan is the fixed land allocation quota to each land-use types. The plan is characterised by a strong Singapore urban-planning identity, in its integrated land-use planning, organic ecology and creation of micro-environments.

**Modifications to the Master Plan by Guangdong Development District**

Subsequently, in February 2011, the Guangzhou Municipal Government introduced a new planning principle that emphasises "东方风格、岭南特色" (Eastern style, featuring characteristics unique to Lingnan) in urban development.

Tongji University refined RSP’s master plan to highlight spatial characteristics and features specific to Lingnan in the SSGKC, with the aim of integrating people, culture industry and city with the Guangzhou Eastern Scenic City. As with many similar town-planning projects in China, the refined master plan featured a large man-made lake as an iconic centrepiece.

Spatial structures of the region were modified to further enhance the status of the zones near to the lake, forming seven clusters surrounding one core. The core comprises the man-made lake with an island in it, while the seven surrounding clusters feature integrated, multi-focus developments.
Another revision to the plan also earmarked 10 scenic highlights of the city to further enhance the image of SSGKC. However, due to lack of prior consideration for the local topographical and ecological conditions, these scenic additions demanded a substantial increase in construction costs and were extremely difficult to implement.

The revised master plan has undergone major changes deviating from the initial concept plan presented by Dr. Liu. Various rounds of adaptation and adjustment has revealed the differing interests of the stakeholders involved, and the plan has since undergone continuous fine-tuning to mediate these differences and reshape planning outcomes in SSGKC.
PHASE ONE: THE SOUTHERN START-UP AREA

The first phase of SSGKC’s development focused on the southern Start-Up Area (SUA). This 6.27-square kilometre plot was selected because it required relatively lesser resettlement work compared to other regions.

Microcosm of the Knowledge City

The SUA was conceptualised as a microcosm of the Knowledge City. High standards were set for construction, urban management, business and investment, to spearhead the future direction for expansion and growth of the Knowledge City.

When completed, the SUA will house a projected population of 78,000 and provide 38,000 jobs. Balanced land-use allocation—one-third to residential development; one-third to business parks; and the remaining one-third to government, public amenities and green spaces—will provide residents with ready access to commercial districts with retail offerings, and job opportunities in high-tech industries.

Chin Phei Chen, then CEO of GKC Co., describes the plan as having “a deeper meaning” and one that “reflected the Sino–Singapore strategic relationship well, integrating key characteristics of Singapore’s urban planning with local features for greater synergy.”

The pilot development projects in the SUA include Vanke Happiness and Ascendas OneHub GKC’s residential component, Central Park. Other integrated developments include the Guangzhou Greenland City, which comprises hotels, offices, apartments and commercial spaces. Another residential development by Horizon (Guangzhou) Property Development Co. Ltd., Times Horizon, also showcases good integration of Singapore’s and China’s master planning models.
Fenghuang Lake Park of the southern Start-Up Area.

Image courtesy of Ascendas-Singbridge.
INDUSTRIAL DEVELOPMENT PLAN: 6+1 PILLAR INDUSTRY CLUSTERS

Guangzhou has traditionally been an important industrial manufacturing centre in South China. Guangzhou’s conventional three pillars of industries—automobile manufacturing, electronic communications and the petrochemical sector—account for about one-third of the city’s industrial output value. The advancement of technology and industrial upgrading has also given rise to new high-tech industries specialising in electronic communications, electrical appliances, fine chemicals and petrochemical products.

As the largest commercial and communications centre in South China, Guangzhou’s tertiary industry sector has concurrently developed into an important industrial structure encompassing communications and transport, commerce and trade, social services and tourism, and real estate, as well as finance and insurance services.

The identification and clustering of the 6+1 pillars of industry drives efforts to generate higher value-added employment opportunities for Guangzhou. SSGKC is aligned with the 6+1 pillars of industry clustering: next-generation information and communications technology (ICT), new energy and clean technology, culture and creativity, new generation materials, biotechnology and pharmaceuticals, science and education, and an economy boosted by hosting operational headquarters of corporations.

With the industrial development plan as its backbone, SSGKC has identified four areas of technologies—eServices, eMobility, eHealth and eNergy management—as key economic pillars of the smart-city ecosystem. While Intellectual Property (IP) protection and services function as a common enabler, strong support from research institutions and government (through policies and incentives) forms the foundation on which such an ecosystem is built.

Joint Research Institute by Nanyang Technological University and South China University of Technology

To engineer an environment for high value-added industries, SSGKC has been facilitating collaborations between academic institutions to establish a platform for researchers from both local and foreign institutes to obtain market outreach and come up with innovative solutions.

The Sino-Singapore International Joint Research Institute was set up jointly by the Nanyang Technological University (NTU) Singapore, the SSGKC Administrative Committee, the SSGKC Investment and Development Co., Ltd and South China University of Technology (SCUT). In November 2015, the agreement was formalised in a ceremony witnessed by Singapore’s Prime Minister, Lee Hsien Loong, and China’s President, Xi Jinping. The Institute, which will occupy 20,000 square metres in SSGKC, is being supported with RMB200 million ($44 million) worth of funding for the initial five years.

The institute will focus on research that translates into new technologies for implementation at SSGKC. Several research areas have been identified, including: next-generation electric vehicles and intelligent urban transportation systems; nutrition and food science; sustainable urban development; pollution control and environmental restoration; as well as biomedical materials and medical instruments. Leveraging NTU’s expertise in drawing multinational companies together to conduct joint research, the Institute will be a platform for faculty, students and the industry to interact and exchange knowledge.
Exhibit 6: Industrial Development Plan of SSGKC

INDUSTRIAL PLAN OF SSGKC

THE FOUR

- QUALITY LIFESTYLE & ENVIRONMENT
- eSERVICES
- eMOBILITY
- ENVIRONMENT TO SUPPORT A SMART CITY ECOSYSTEM

AN ENGAGING COMMUNITY AND QUALITY LIVING
SSGKC is not just another high-tech business park. It is a working city with the local government, SSGKC will be furnished with a wide array of social amenities and healthcare facilities.

ECONOMIC PILLARS

- eHEALTH
- ENERGY MANAGEMENT
- COMMUNITY ENGAGEMENT

ENABLER: STATE-LEVEL RIGHTS UTILIZATION AND
As an enabler, the provision of IP protection and knowledge-intensive industries exchange ideas. Work is currently underway to develop the IP Hub.

GOVERNMENT CLUSTER

- Guangzhou Intellectual Property Court
- Singapore (IPSG) Intellectual Property Representative Office
- China SPC Patents Examination Centre
- Potential setup of Guangzhou’s specialized Patenting Academy and collaboration with overseas IP experts

INTELLECTUAL PROPERTY PROTECTION HUB (IP HUB)

services will create a conducive environment that allows and exploits business opportunities from broadly categorized into Government and Business Clusters.

BUSINESS CLUSTER

- Guangzhou Intellectual Property Exchange
- Market access for foreign IP players
- Guangzhou Intellectual Property, Accelerator Co Ltd

TALENT DEVELOPMENT

- Establishing a smart-city ecosystem requires constant flow of talent, such as those from the Sino-Singapore International Joint Research Institute (IJRI), a collaborative with Nanyang Technological University and South China University of Technology. Together with institutions such as Tsinghua-Peking Nanhai Institute of Research and Guangdong Smart Manufacturing Technologies Research Institute, SSGKC’s talent ecosystem can flourish with the support of a strong pool of expert knowledge.

CAPITAL

- Discussions are currently underway to co-create an IP fund to support the sustainable development of enterprises. Plans are being formulated to develop industry-specific financing platforms to help companies that have already grown into mature companies looking for new funding as start-ups.

SOLUTIONS

- Strong government support is critical to the development of a smart-city ecosystem. Preferential policies and the setting up of smart technology pilot zones can help nurture an inclusive environment that enables enterprises to grow, regardless of scale of investment and size of company.

POLICIES AND INCENTIVES

- Image courtesy of Ascendas-Singbridge.
CHAPTER 4

INNOVATIVE URBAN SOLUTIONS IN SSGKC
To differentiate from other Chinese cities, SSGKC will be focused on a smart-city concept to bind the pillars of industry clusters. We are riding on the greenfield development as an opportunity to testbed and showcase new technologies.”

Nina Yang, CEO for Sustainable Urban Development, Ascendas-Singbridge

The “Smart City” concept has been a critical initiative for the Sino-Singapore Guangzhou Knowledge City (SSGKC) to showcase its vision for a knowledge industry set within a state-of-the-art “Live, Work, Learn, Play” environment. The Guangdong government views software infrastructure, talent management, technological innovation and good governance as integral to achieving well-balanced economic and social growth. The SSGKC is demonstrating this by adopting notable urban solutions to develop platforms for innovation and change.

INFRASTRUCTURE

Water Management System

The SSGKC is setting exemplary standards through its investments in resource-saving technologies in areas such as water conservation, and the use of alternative water sources (e.g. recycled water and rainwater). The water management system integrated in SSGKC’s urban design features a multi-layered and multi-functional rainwater collection and storage system. Implemented at both household and community levels, this system ensures efficient use of water resources, which will help alleviate potential water-logging problems and improve groundwater recharge.

In addition to tapping on two nearby rivers for water supply, SSGKC also utilises recycled water, rainwater, as well as treated wastewater in its municipal and ecological systems. These efforts contribute to building a robust and secure water supply.

In this regard, Singapore’s national water agency, Public Utilities Board (PUB), has shared its valuable water planning and management expertise with SSGKC and Guangzhou. PUB held talks and presentations for local Chinese officials and executives on sustainable water strategies, legislation, planning, networking and quality control of Singapore’s water supply.

Common Services Tunnels (CST)

The Common Services Tunnel (CST) is a utility tunnel that houses cables, pipes and power lines for multiple uses in a single underground tunnel. Unlike typical buried cables, the CST’s innovative design avoids roadwork-related inconveniences caused by the installation of underground utilities or by maintenance services. The CST’s pipelines also have a longer service lifespan and are easier to maintain. The Marina Bay area in Singapore is an example of where a CST has been built and is being used successfully.

Common Services Tunnel in SSGKC. Innovatively designed tunnels house common services in SSGKC as part of their smart-city concept.

Image courtesy of SSGKC Investment and Development Co., Ltd.
A collaborative effort between GKC Co. and GDD, SSGKC now features a comprehensive network of CSTs involving a 15.8-kilometre utility tunnel and a 19-kilometre electric tunnel. To date, 6.7 kilometres of the utility tunnel has been completed. This is the first application of a CST design in Guangdong, and a strategic infrastructure innovation that has become a stellar precedent for future developments in China.

“SSGKC is the first in Guangdong province to implement the Common Services Tunnel. The state council announced the plan at the end of 2015, and intends to implement it countrywide.”

Ng Kok Siong, CEO of GKC Co.

Transportation Network

Strong emphasis has been placed on enhancing access to and from, as well as within, SSGKC. To cater to the mobility needs of the workforce, an extensive transportation network is being constructed to attract businesses, and to entice people to work and live in SSGKC. The construction of the high-speed inter-city rail, subway system and inter-city highways will all contribute to this integrated regional transport system.

Achieving low carbon emissions is another target of SSGKC’s transportation management. A series of measures have been introduced to promote low-carbon transportation, including government subsidies and policy incentives, to support the use of an advanced energy-saving lighting system. For instance, walkways and other facilities along roads are lined with highly energy-efficient LED lights and intelligent lighting control software to provide bright, safe, yet energy-efficient lighting. In addition, advanced information technology and traffic engineering is enabling better monitoring and management of traffic flow in the city.

“How do we integrate the master plan and urban designs, encourage interactions among residents and workers and create vibrant communities and economic clusters? More importantly, how does this knowledge city plug into a wider Pearl River Delta area? The answer lies in transportation. SSGKC has to be connected by an efficient network of rails, roads and MRT systems, both within SSGKC and with the wider region.”

Ko Kheng Hwa, Former CEO of Singbridge (2009–2013)

SMART-CITY VISION

As a greenfield site, SSGKC has the unique opportunity to be developed into a living showcase for smart-city technologies. Selected in 2013 by China’s Ministry of Housing and Urban-Rural Development (MHURD) to be a state-level, smart-city pilot site, SSGKC will be a testbed for innovative technologies, such as next-generation ICT, cloud computing and the Internet of Things (IoT), for a proposed world-class smart city.

A reliable supply of power is imperative to providing a conducive living environment in a knowledge-intensive economy. SSGKC has taken this a step further by using digital enhancements to deliver power in an environmentally-friendly way to its users. Smart grid planning and design supports sustainable development of SSGKC by adopting low-carbon and energy-saving principles, which focus on new energy, transmission, power transformation, distribution, power dispatching, communication and information services. The innovative photovoltaic power generation system has positioned SSGKC as a state-level exemplary zone where solar photovoltaic development is concerned. In addition, features such as petal-shaped connections and intelligent self-restoration control technology have been planned to maximise power-supply reliability.

(Before and after) Construction of the transformer station in SSGKC.

Image courtesy of Ascendas-Singbridge.
The initiatives under the Smart City vision also include the development of Smart Homes. The Smart Home concept features the integration of audio control technology, intelligent home systems, as well as home-and-building automation systems that will greatly enhance the convenience and comfort in common households. The Smart City will also include Smart Education, entailing innovative course design and creating a smart learning environment, to promote long-distance e-learning and other pedagogical methods to encourage lifelong learning. A Smart Traffic system will also be adopted in which ICT, electronic sensors and modulation technology will be applied to ease traffic congestion, and support safe, speedy and hassle-free travel.
The reality is that China already has the resources, capability and experience to initiate its own development programmes. But local governments see the value of the “Singapore brand” in attracting foreign investments, and in their relationship with the central government.”

Lee Hsien Loong, Prime Minister of Singapore

As explained in Chapter 1, Wang Yang, the former Guangdong Party Secretary, regards Singapore as a model of a successful, modernised country in Asia. He believes that with continued dialogue on software development, and increased exchanges of knowledge and experience between both parties, new business opportunities will arise for Singapore and Guangdong.

The Chinese government has also expressed a keen interest in studying Singapore’s public administration system in order to improve its own administrative efficiency. According to Wong Kan Seng, Chairman of Ascendas-Singbridge and former Deputy Prime Minister of Singapore, the Chinese have been keen to develop know-how in balancing economic growth, environmental protection and social harmony. Lui Tuck Yew, the former Minister for Transport and co-chairman of the Singapore Guangdong Cooperation Committee, also remarked on China’s admiration for Singapore’s whole-of-government approach in urban software development, its people-oriented public service system, and its ongoing adaptation of international best practices.

Strategic Development Programmes

In June 2011, Ascendas-Singbridge and Guangzhou Development District (GDD) launched the Software Collaboration initiative in Sino-Singapore Guangzhou Knowledge City (SSGKC). This collaborative initiative covers methodologies, policies and processes pertaining to infrastructure planning and management, environmental protection, economic development, social management, township development and public administration. The objectives were to share Singapore’s experiences in social development and urban management, and to seek ways to combine both China’s and Singapore’s development strengths and expertise in SSGKC.

The chart below summarises the six main focus areas of the Software Collaboration initiative.

Exhibit 7:
Software Collaboration Programmes in SSGKC
Through various projects, Singapore’s urban development experiences and execution processes will be adapted and integrated to meet the evolving needs of SSGKC, the wider Guangdong province, and eventually, other parts of China.

**STATE-LEVEL INTELLECTUAL PROPERTY RIGHTS UTILIZATION AND PROTECTION (IP) HUB**

A knowledge-based economy must be built upon a robust and well-regulated foundation of intellectual property protection. In the initial conception of SSGKC, Wang Yang placed a strong emphasis on software development and creating an impartial, law-based investment environment that is not influenced by “guanxi” (关系).42 This dual emphasis led to the establishment of the state-level Intellectual Property Rights Utilization and Protection (IP) Hub in SSGKC.

Besides advising SSGKC and helping companies to commercialise and develop their intellectual property, the IP Hub also facilitates knowledge-sharing for intellectual property services and talent development between China and Singapore. In addition, the IP Hub enables the development of intellectual property-related financial products such as qualified equity listing, and also conducts intellectual property valuation and appraisal.43

Successfully convincing one of the three intellectual property courts in China to operate in SSGKC has been one of significant milestones for the IP Hub. The Intellectual Property Office of Singapore (IPOS) and the State Intellectual Property Office (SIPO) of China have also agreed to use SSGKC as their testbed site for pilot collaborations. In July 2016, the IP Hub development received a further boost when the Chinese state council approved a comprehensive reform on intellectual property rights utilisation and protection. This approval recognises SSGKC as China’s first and only pilot zone for reforming China’s intellectual property rights.

The IP Hub was visualised as part of a twin platform concept where Chinese companies could venture into Singapore and leverage the presence of a regional intellectual property framework and linkage to the international intellectual property framework. Likewise, the IP Hub also serves as a facilitating platform for multinational companies keen to enter the Chinese market. For the IP Hub to be successful, it is critical that both China and Singapore maintain consistent standards. Hence, companies applying for patents in China can expect the IP Hub platform to be faster, easier to use, and better protected.
CREATING AN ECOSYSTEM FOR THE KNOWLEDGE ECONOMY

The successful development of a knowledge-based economy requires the creation of a “Live, Work, Learn, Play” environment to attract high value-added industries.

During the initial phase of development in 2009 and 2010, the private residential market in SSGKC experienced strong growth in the southern Start-Up Area. This, in turn, raised concerns from the local government about the comparatively slower growth of industrial sector development. As explained in Chapter 2 (Private Master Developer’s Strategies and Considerations), residential properties can be marketed and sold before their final completion, whereas industrial properties are promoted for sale only upon the building’s completion.

In response to the local government’s concerns, the Sino–Singapore Guangzhou Knowledge City Investment and Development Co. Ltd (GKC Co.) reiterated its rationale in creating a supporting ecosystem for the innovation economy. This comprises a good balance of business parks, residences and commercial amenities, to boost investor confidence. It also cited Singapore’s One-North as an example of a development which has achieved a good balance between industrial and residential elements, as evidenced by its “Live, Work, Learn, Play” environment and development phases.

ECONOMIC TRANSFORMATION AND INDUSTRIAL UPGRADING STRATEGIES

Singapore’s ability to constantly transform its economy and upgrade its industrial capability has been a trait that the Chinese leaders seek to emulate. In the post-independence period from 1965 to 1984, Singapore’s economy was supported by export-led industrialisation. The ability to attract multinational corporations to set up operations in Singapore greatly enhanced industrial growth. Industrial properties and infrastructure were developed while the Singapore government invested concurrently in education, with an emphasis on the relevant technical skills required to meet the country’s industrialisation needs.

Since the 1980s, Singapore has successfully moved up the value chain towards more capital-intensive and skills-intensive activities. Financial, business, info-communications and service industries rose as engines of growth alongside manufacturing. As a result, towards the 1990s and into the 2000s, there was an emergence of high value-added industries and a knowledge-based economy.

The Singapore government has consistently introduced supporting programmes to ensure continuous industrial upgrading and economic restructuring. The Singapore Budget 2016 announced a $4.5 billion package for firms and industries under a new Industry Transformation Programme (ITP). The fund, which targets longer-term economic transformation, provides support for innovation at both the firm and industry levels. An “Adapt and Grow” initiative targeting professionals, managers, executives and technicians (PMETs) was launched in 2016, to offer wage support schemes and professional conversion programmes to aid PMETs venturing into the design and information and communications technology (ICT) sectors. Meanwhile, the SkillsFuture programme encourages all Singaporeans to develop skill sets throughout their lives. These government initiatives have been designed to help Singapore move towards its next phase of becoming an advanced economy and inclusive society.

Sino–Singapore Talent Development Platform

Singapore’s economic progress over the past few decades holds valuable knowledge for our Chinese counterparts. The skills-upgrading measures put in place in Singapore are particularly relevant to workers from Guangdong’s manufacturing industry, who are looking to update and better their skills to adapt to a knowledge-based economy.

To facilitate transfer of Singapore’s knowledge to Chinese local officials, the Sino–Singapore Talent Development Platform runs capability development programmes and promotes knowledge exchanges that address specific needs of SSGKC. As part of their urban development training, Chinese officials visit Singapore to study topics like integrated estate management, and neighbourhood and hawker centre development. They also attend Meet-the-People sessions—feedback and redress sessions conducted by Singapore’s Members of Parliament to meet citizens and attempt to resolve issues that they face. Besides facilitating these training programmes, SSGKC also organises the annual Sino–Singapore Knowledge Forum to promote the exchange of knowledge between experts and Chinese government officials.
CENTRE OF EXCELLENCE FOR SOFTWARE TRANSFER (CREST)

In 2015, the Centre of Excellence for Software Transfer (CREST) was established in SSGKC in partnership with Singapore’s Nanyang Technological University (NTU). CREST is an open learning platform for public and private organisations to learn about China’s development. Companies and individuals interested in working or investing in China can attend training courses at CREST. Chinese firms and individuals seeking to expand their business overseas, especially in Singapore and Southeast Asia, can also benefit from relevant training and education courses.

**Exhibit 8:**
**Key Missions of CREST**

- Training base for companies and individuals interested to invest or work in China.
- Organise forums and workshops for knowledge-sharing and exchange.
- Provide relevant programmes for Chinese companies and individuals seeking to expand their business into Singapore.
- Training base for Chinese government officials and senior executives of local companies to take up short- and long-term courses.
- Offer consultation and research services.

SOCIAL MANAGEMENT

Wang Yang’s objective in his first visit to Singapore in 2008 was to learn about Singapore’s experience in economic transformation. However, during his second visit to Singapore in 2012, the focus began to shift towards learning about Singapore’s experience in society-building.46 Wang Yang was impressed by Singapore’s social stability throughout the decades amid fast economic growth. He was keen to learn the underlying principles behind this stability, and to adapt them for the Guangdong context. At the government level, Singapore provided concessions and support for both social and hard infrastructure, as well as legislative support. Hence, the development project involves a whole panoply of policies, and is not just focused on economic development.

**Building Integrated Community Service Centres**

In Guangdong, the regulations for forming community organisations have been relaxed to allow local communities to provide social services, which were previously overseen by the government. In 2011, Singbridge started working with Thye Hua Kwan Moral Society in Singapore to set up family service centres in SSGKC and Guangzhou. Thye Hua Kwan Moral Society, a well-known volunteer welfare agency in Singapore, provides a variety of community services and has broad experience in managing welfare agencies.
Thye Hua Kwan Moral Society has since helped to set up a cluster of integrated community service centres in Guangzhou. Notably, five former centres previously supported and funded by local authorities have been consolidated into one single centre in Jiufo Town (九佛镇), called Jiu Long Family Service Centre (九龙家庭综合服务中心). Serving the needs of children and youth, families, the elderly and people with disabilities, the centre has been well-received by residents in the area since it commenced operations in 2011. Jiufo Town, which is next to SSGKC’s southern Start-Up Area, has been targeted as part of the second phase of SSGKC’s development. The next phase of SSGKC development will continue to incorporate these planned integrated community service centres.
Our officials have observed how China’s interest in Singapore has changed over the years. In the beginning, the officials wanted to know how we attracted businesses and investments, and built modern industrial parks. In recent years, the interest has been in social management. While it is impossible to transplant Singapore’s model into China, the Chinese officials are studying our system closely.”

Lee Hsien Loong, Prime Minister of Singapore

China’s President Xi Jinping introduced the “Belt and Road” initiative in 2013 to strengthen land and sea trade with its neighbouring countries. As an important confluence point in the initiative, Guangzhou, and therefore, Sino-Singapore Guangzhou Knowledge City (SSGKC), plays a key role in fostering these regional collaborations.

With the maturing of China’s economy, its leaders intend to scale up the manufacturing value chain. For instance, the “Made in China 2025” plan identifies and prioritises sectors that will receive the latest information technology and newest materials. SSGKC’s focus on knowledge-intensive industries fits well into the Chinese government’s envisioned strategic development path, and enables Guangzhou to function as a model of economic transformation and upgrading.

**CHALLENGES ENCOUNTERED**

As the first phase of development in SSGKC approaches maturity, the rest remains a work-in-progress. With a forward-looking approach, the project maintains a good balance between long-term planning and shorter-term adaptation to evolving economic circumstances. More importantly, the foundation built in the early years will prove critical for the development of a robust ecosystem that will sustain future growth even though SSGKC has encountered its share of challenges along the way.

**State-Level Project Status**

Initially, SSGKC was not given the status of a state-level project, and thus faced difficulties in project planning and implementation, particularly due to land and policy restrictions. Unlike its competitors Nansha and Qianhai, SSGKC lacked government support in the areas of taxation and industry development. Furthermore, SSGKC was not regularly discussed at state-level interactions between political leaders of both countries. To this end, Guangzhou’s leaders urged the central government to upgrade the Knowledge City project to a national-level strategic project, so that it could enjoy greater benefits and gain more central government attention and support.

In 2015, China’s central government agreed in-principle to elevate the status of the SSGKC to a “state-level strategic project.” This status elevation gives it the advantage of having more policy support, and helps to level the playing field with other state-level projects in the Guangdong province.

“We are now waiting for the next step to be put forth to the Singapore government. Once that is done, I will see more cooperation between Guangzhou, Guangdong and Singapore.”

Goh Chok Tong, Emeritus Senior Minister of Singapore
SUMMARY OF GUIDING PRINCIPLES OF THE SSGKC DEVELOPMENT

At this juncture, SSGKC’s development has been characterised by the guiding principles described in the following sections.52

A Strong Harmonious Relationship Between the Singapore Government and the Chinese Local Government

“You need to recognise the government as the government, not as a private enterprise. You cannot expect precision in terms of deliverables and timing as you would with a private enterprise. Governments do change officials often, so you need to be flexible and accept their way of doing things.”

Miguel Ko, Group CEO of Ascendas-Singbridge53

Since the two government-to-government (G2G) collaborations in Suzhou Industrial Park and Tianjin Eco-City, both China and Singapore have focused on nurturing a harmonious relationship. Likewise, the fostering of trust between both nations has been a cornerstone of SSGKC. The respective governments have maintained constant communication, despite leadership changes, and have adapted to changing circumstances. Miguel Ko, the Group Chief Executive Officer (CEO) of Ascendas-Singbridge, highlighted the importance of a strong relationship, especially with the government as a partner.

Alignment of Interests

“The big challenge is in having an alignment of objectives. The broad objectives, we can all agree on. The specific objectives, however, require more alignment.”

Wong Kan Seng, Chairman of Ascendas-Singbridge54

The strategy is not to look for quick wins, but to adopt a macro approach in achieving longer-term goals, one involving a balance between long-term planning, software initiatives and demonstrating early results through hardware construction. While it is important to “find low-hanging fruits for a quick harvest” to demonstrate quick progress, there are other aspects that will require a longer timeframe before results can be seen. As such, constant and proactive engagement between governments is critical in maintaining mutual trust on issues, particularly on progress and delivery commitments.

“Aside from building, we want to construct a portfolio of projects forming a microcosm of a knowledge city, so as to better explain our plans. We also want some of the key projects to set the standards. The start-up phase of development may be a bit slower because we need to do all these things.”

Ko Kheng Hwa, Former CEO of Singbridge (2009–2013)55

The following infographic illustrates five critical elements of SSGKC development (Exhibit 9).
EXHIBIT 9:
Five Critical Elements of SSGKC Development

ECONOMIC TRANSFORMATION
- Facilitate industry development, build a robust ecosystem of MNCs, SMEs and start-ups.
- Promote research.
- Development marketing.
- Talent attraction.
- Skills training.

SOCIAL DEVELOPMENT
- Create a harmonious community within SSGKC.
- Resettlement of residents into high-rise residential blocks.
- Construct social housing to encourage interaction between residents of different income groups.

ENVIRONMENTAL MANAGEMENT
- Reduce carbon footprint of SSGKC and achieve sustainable growth.
- Control of air and water quality.
- Waste management.
- Energy management.
- Public health.

PHYSICAL DEVELOPMENT
- Integrate land uses through urban design strategies.
- Boost land connectivity to encourage interaction among workers/residents.
- Extensive integrated transportation network to connect SSGKC to the wider Pearl River Delta.

GOVERNANCE
- Provide regulations and incentives to enhance quality of life of residents and workers in SSGKC.
The three platforms that cut simultaneously across these five elements relate to Smart City, Eco-City and Learning City (Exhibit 10). Embodied in the planning of SSGKC, the three platforms underlie and permeate every aspect of the development, making SSGKC a hub for innovative, knowledge-based industries as well as an ideal living space. As Chinese cities continue to undergo industrial upgrading, these pertinent principles can be adopted for China’s future development projects.

Exhibit 10: SSGKC’s Three Platforms of Development

**SMART CITY**
- A world-class city where residents can live and work in a safe, smooth-running and resource-efficient environment, by leveraging ICT technology to serve the needs of residents and enterprises.
- A pervasive convergence of info-communications and media technology applied in government, business and society.
- Integration of urban management systems, powered by advanced information and telecommunication technologies, to drive sustainable economic growth, provide high quality of life, and ensure effective resource management.
- A testbed for cutting-edge technology: Next-generation ICT, cloud computing and the Internet of Things (IoT).

**ECO-CITY**
- Sino-Singapore Guangzhou Knowledge City (SSGKC) will be an Eco-City, integrating urban planning with energy efficiency, water efficiency and other sustainability solutions.
- Application of ecological technology to develop an environment where man and nature co-exist in harmony, amid a thriving green economy.

**LEARNING CITY**
- A centre for learning and innovation, and a hub for universities and research institutions.
- Integral to the knowledge-based economy. Comprises creative and motivated individuals who continually upgrade their skills and drive a high-value economy.
- SSGKC will be a learning city that provides the foundation for its transformation into a knowledge-based economy. Its residents will have access to information resources and quality education. New technologies and innovative teaching methodologies will combine to nurture a literate, well-informed community committed to lifelong learning in SSGKC.

Evolving Approach to Match China’s Development

“Singapore must continue to find ways to be relevant to China’s development phases and needs.”

Wong Kan Seng, Chairman of Ascendas-Singbridge

China’s needs have evolved over the years. When China’s pace of industrialisation and urbanisation accelerated in the 1990s, the country used Suzhou Industrial Park as a platform to learn about Singapore’s industrial development model and capabilities, and transferred this knowledge to its local industrial development and public administration software. In the 2000s, as China grappled with environmental problems arising from rapid industrialisation, the Tianjin Eco-City collaboration enabled it to harness Singapore’s experience in balancing growth while protecting the environment. As industrial development reached maturity, supported by a strong economy, China is now looking to upgrade to a knowledge-based economy driven by higher value-added industries. Through various phases of China’s development, Singapore has and will continue to play an active role.

Nina Yang, CEO for Sustainable Urban Development at Ascendas-Singbridge, describes China’s development in terms of three waves:

“The first wave of China’s development involved rapid industrialisation and attracting FDI [foreign direct investments]. It was in this phase that Suzhou Industrial Park was established. The second wave, in the 2000s, saw Chinese cities move into an age of infrastructure: high-speed trains were built to improve connectivity between coastal cities and the inner-city. Towards the end of the 2000s, China aimed to achieve more social harmonisation and lessen the disparity between high- and low-income parts of its population. The country is presently at its third development stage. Fast becoming a knowledge economy, China is transforming from a manufacturing economy to one defined by advanced manufacturing and innovation.”

Nina Yang, CEO for Sustainable Urban Development, Ascendas-Singbridge
Looking Ahead: Ensuring Relevance and Sustaining Engagement

Going forward, it is essential for Singapore and China to sustain close ties through continuous partnerships. This is contingent upon Singapore’s ability to consistently come up with innovative urban solutions. While China is keen to take a leaf from Singapore’s book in terms of successfully balancing economic growth, environmental impact and social harmony, Singapore also needs to keep pace with the needs of a rapidly evolving Chinese market. For Singaporean companies to grow and thrive in China’s emerging markets, they must continue to innovate in the areas of new technology, ideas and solutions.

“We need to adopt a more collaborative learning model that facilitates constant exchange of knowledge and expertise. A strong partnership and keen alignment of interest is fundamental to the success of any project.”

Ko Kheng Hwa, Former CEO of Singbridge (2009–2013)

Singapore’s advantage lies in its status as a hub for regional financial services, aviation, transport and logistics. This has enabled Singaporean companies to expand their presence into the wider Association of Southeast Asian Nations (ASEAN) market, and more broadly into other parts of Asia and Eurasia. With Chinese companies also looking to enter the global market, Singapore can serve as a regional hub for Chinese companies to establish their operations. Chinese and Singaporean companies could also jointly invest in other developing countries in the region.

The “Made in China 2025” initiative aims to transform China from a builder of basic products and assembler of parts, to a world manufacturing power in its own right, with its own innovations and designs. Singapore can take advantage of its existing talent pool and expertise in research and development to play a positive role in China’s development in this area. Along with China’s push for innovation, the Global Innovation Alliance initiated by the Singapore government can enable Singaporean and Chinese companies to build deep connections to global innovation and technology networks.

There are tremendous opportunities for Chinese companies to set up international headquarters in Singapore. Singapore could be China’s gateway to India or the Silk Road, for instance. In addition, Sino-Singapore collaboration projects can also provide platforms and create opportunities for Singaporeans to engage in grand master planning, engineering, project management and entrepreneurship in China.

“We have to create opportunities for our young Singaporeans to venture into master planning, engineering, project management, and entrepreneurship. We need to create that platform, and that is a principal purpose why Singapore is involved in these large-scale development projects.”

Khor Poh Hwa, Former Senior Consultant of Singbridge (2009–2012)

With Ascendas-Singbridge playing the role of the master developer in SSGKC, Singaporean companies can continue to learn through their involvement in Chinese development projects. Thus, it is imperative to adopt a more collaborative learning model that facilitates the constant exchange of knowledge and expertise. In the process of mutual learning, a strong partnership and keen alignment of interests, as seen so far in this project, are fundamental to achieving the desired outcomes.
Artist's impression of the completed SSGKC's core area.

Image courtesy of SSGKC Investment and Development Co., Ltd.
TIMELINE: KEY MILESTONES OF SINO-SINGAPORE GUANGZHOU KNOWLEDGE CITY

September 2008
- Wang Yang meets with Lee Hsien Loong during a 400-member delegation visit to Singapore.

March 2009
- Signing of the SSGKC Project Memorandum of Understanding (MOU).

June 2010
- SSGKC groundbreaking.

July 2009
- Completion of the SSGKC feasibility study.
November 2010
- Signing of the Sino-Singapore Guangzhou Knowledge City (SSGKC) joint-venture agreement.

December 2010
- Inauguration of the SSGKC Administrative Committee.

January 2011
- Master Plan approved by the Guangzhou Municipal Government.

March 2011
- SSGKC Start-Up Area (SUA) Project approved by the National Development and Reform Commission.

April 2011
- Commencement of the SSGKC road and infrastructure construction.

April 2011
- GK C Co and Nanyang Technological University (NTU) Singapore jointly hold the “Sustainable Development: Innovation and Entrepreneurship” symposium.

June 2011
- Launch of the Software Collaboration Programme; launch of the Thye Hua Kwan Integrated Family Service Centres in Luogang and SSGKC.

September 2011
- MOU Signing; incorporation of SSGKC joint-venture company.

Chapter 6
Sino-Singapore Guangzhou Knowledge City: A New Paradigm in Collaboration
March 2012
- Groundbreaking of Ascendas OneHub GKC--first integrated business park in SSGKC.

June 2012
- MOU signings with IE Singapore, AGT Smart City Public Safety Project, NTU Education Collaboration Project, Huhu Studios (Huhu) and Guangzhou GET Corporation Ltd (GET) Animation Collaboration Project, Siemens Green+Hospital Pilot Project, Smart Library Collaboration Project, Social Development, and Township Management Collaboration Project, China Unicom Information and Communication Technology Infrastructure Project, Three-Year Talent Training Programme.

November 2012
- NTU South China Office opens in SSGKC.

August 2013
- Signing of a Framework Agreement for Smart Grid Construction; letter of intent for South China University of Technology (SCUT)--NTU-Technische Universität München (TUM) Tripartite Collaboration in Graduate Research and Education.

October 2013
- Groundbreaking of SSGKC central area.

March 2012
- Groundbreaking of Ascendas OneHub GKC--first integrated business park in SSGKC.

June 2012
- MOU signings with IE Singapore, AGT Smart City Public Safety Project, NTU Education Collaboration Project, Huhu Studios (Huhu) and Guangzhou GET Corporation Ltd (GET) Animation Collaboration Project, Siemens Green+Hospital Pilot Project, Smart Library Collaboration Project, Social Development, and Township Management Collaboration Project, China Unicom Information and Communication Technology Infrastructure Project, Three-Year Talent Training Programme.

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October 2013
- Groundbreaking of SSGKC central area.

March 2015
- State Intellectual Property Office of the People’s Republic of China (SIPO)--Intellectual Property Office of Singapore (IPOS)--Guangdong government meeting further emphasises the importance of leveraging Singapore’s experience in the area of intellectual property and important measures to promote the IP Hub in SSGKC.

July 2014
- First Sino–Singapore Youth Exchange Programme initiated successfully in Singapore and Guangzhou.

October 2014
- MOU signing between SIPO and IPOS to enhance intellectual property cooperation between the two countries.

December 2014
- GKC Co. and Greenland’s joint integrated retail, commercial, business and residential project signing ceremony.

June 2015
- Merger of Singbridge Pte Ltd with Ascendas Pte Ltd to form the Ascendas-Singbridge group.

July 2015
- Launch of the Singapore Centre @ SSGKC in Ascendas OneHub GKC.

November 2015
- Signing of the agreement for NTU, SCUT, Knowledge City Administrative Committee (KCAC) and GKC Co. to jointly develop the Sino–Singapore International Joint Research Institute in SSGKC.
ENDNOTES


7 From 1984 to 1988, the first 14 National Economic and Technological Development Zones were established after the State Council gave its approval. These economic zones were located in Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Minhang, Hongqiao, Caohejing, Ningbo, Fuzhou, Guangzhou and Zhanjiang.


9 In dragon dance, the dragon head leads the rest of the troupe who have to follow in its motion. In this instance, it implies that the SSGKC as leading the rest of the pack—the greater area around Guangdong—in economic development.


24 Ibid.

25 Ibid.


30 A traditional unit of distance, one li is approximately half a kilometre. The Guangzhou Knowledge City is a little less than 50 kilometres away from Guangzhou Science City, as this saying aptly describes.


Sino-Singapore Guangzhou Knowledge City:  
A New Paradigm in Collaboration


42 Literally translated as “relationship”, this refers to the practice of conducting business affairs with a bias towards parties that one has a special relationship with, rather than on the basis of merit.


44 One-north (the lack of capitalisation in the name is deliberate) is a 182-hectare development designed to host a cluster of world-class research facilities and business park spaces, and to support the growth of biomedical sciences, infocomm technology (ICT), media, physical sciences and engineering. Co-located with educational institutes, residences and recreational amenities, one-north was designed to be an ideal work-live-play-learn environment with a targeted live-in population of 138,000. The flexibility of land zoning within the area enables regular review and adaptation of the masterplan as the ground gets developed. To date, over 3,000 MNCs from America, Europe and Asia have established operations in one-north.


52 These characteristics were derived from the interviews with the various stakeholders of the project.


Endnotes
BIBLIOGRAPHY

Books, Exhibitions

Government Press Releases


Newspaper, Magazines


Interviews, Speeches


Websites


Sino–Singapore Guangzhou Knowledge City: A New Paradigm in Collaboration

Bibliography
# APPENDIX A

## Institutions Involved in Sino-Singapore Guangzhou Knowledge City

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Description</th>
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<tbody>
<tr>
<td>Intellectual Property Office of Singapore (IPOS)</td>
<td>The IPOS is a statutory board under the Ministry of Law. IPOS is an innovation agency that uses intellectual property (IP) expertise and networks to drive Singapore’s future growth. Its focus is on helping enterprises grow through IP and innovation strategies, developing skills and expertise in these areas, and creating a vibrant ecosystem where today’s ideas become tomorrow’s assets.</td>
</tr>
<tr>
<td>International Enterprise (IE) Singapore</td>
<td>IE Singapore is the government agency promoting international trade and partnering Singapore companies in going global. Its vision is a thriving business hub in Singapore with globally competitive companies (GCCs) and leading international traders.</td>
</tr>
<tr>
<td>Nanyang Technological University (NTU), Singapore</td>
<td>Young and research-intensive, NTU is ranked 13th globally (QS World University Ranking 2016).</td>
</tr>
<tr>
<td>South China University of Technology (SCUT)</td>
<td>The SCUT is one of the leading educational institutions in China, a public research-intensive university that is directly governed by the Chinese Ministry of Education. Located in the city of Guangzhou, a thriving metropolis in South China, it today covers a total area of 294 hectares, consisting of two campuses: the Wushan Campus and the University Town Campus.</td>
</tr>
<tr>
<td>State Intellectual Property Office of the People’s Republic of China (SIPO)</td>
<td>The State Intellectual Property Office of the People’s Republic of China (also known as the Chinese Patent Office) is the patent office of the People’s Republic of China (PRC). It was founded in 1980, when it was known as the Patent Office of the People’s Republic of China, the predecessor of SIPO. It is responsible for patent work and comprehensive coordination of the foreign-related affairs in the field of intellectual property.</td>
</tr>
<tr>
<td>Thye Hua Kwan (THK) Moral Society</td>
<td>THK Moral Society is a non-profit voluntary welfare organisation that has been active since 1978. It provides community-based services in social, health, emotional, educational, family and disability to all. THK helps anyone who needs help regardless of race, creed, language, culture and religion. THK is committed to providing all-rounded support and good service to the community.</td>
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</table>
Singapore’s collaboration with the Chinese in Suzhou and Tianjin has shed light on the evolving needs of China over the years. When China accelerated its pace of urbanisation in the 1990s, Suzhou Industrial Park provided the platform through which China could learn Singapore’s industrial development model and development capabilities, and enable the transfer of public administration software. In the 2000s, when environmental problems arising from industrialisation became a major problem for China, Tianjin Eco-City was established as a platform for sharing Singapore’s experiences on balancing growth and environment protection.

Looking ahead, China’s market, which comprises maturing industrial development and a strong economy, is looking to upgrade to knowledge-based and higher value-added industries—as illustrated in the case of Sino-Singapore Guangzhou Knowledge City.

“**Guangzhou Knowledge City is a best-in-class example of enterprise-led, government-supported large-scale city development. This capability is crucial as the world urbanises faster and faster. The learnings gained in prior Sino-Singapore collaborations and put to work in Guangzhou Knowledge City are crisply captured in this Urban Systems Study, across five critical elements of city development and staged phases of large project evolution. This is a hands-on window into Singapore’s world leading expertise in creating competitive new cities.**”

Mr. John D. Macomber, Senior Lecturer, Harvard Business School