OUR HONG KONG FOUNDATION
團結香港基金

Land and Housing Policy Research Report

Strategic Land Development for Jobs: From Brownfields to Modern Logistics

July 2020

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Executive Summary

Introduction

Amid the global COVID-19 pandemic, the logistics industry has demonstrated its importance to Hong Kong's society and economy. It is instrumental not only in maintaining the flow of essential goods such as food and household supplies, but also in supporting the paradigm shift in retailing, which is the process of migrating purchasing activities from offline to online. This is a trend that has emerged in recent decades, with the growth of e-commerce serving as the catalyst.

Globalisation of supply chains and changing consumer behaviours have made logistics an increasingly crucial link throughout the value chains. On the one hand, product manufacturing is taking collective efforts across different countries to make product parts and perform final assembly, with logistics smoothing the process. On the other hand, consumers are increasingly making their purchases online instead of going out to brick-and-mortar stores, with logistics performing last-mile deliveries to people's doorsteps. All these changes have prompted the logistics industry worldwide to continuously evolve and grow its operations and services.

With intensifying geopolitical tensions worldwide, however, accompanying deglobalisation moves could hurt international trade and pose additional challenges to the logistics industry. In this context, a reconfiguration of the global supply chain is inevitable. As the rest of the world is moving swiftly to adjust to the shifts in global trading practices, Hong Kong, a premier trading and logistics hub, must also take forward-looking measures to keep pace with its peers and competitors.

Challenges faced by the logistics industry in Hong Kong

Although Hong Kong as a logistics hub benefitted from many geographical and inherent advantages, including strategic location, excellent connectivity, efficient customs operations and its free port status, the logstics industry's edge is diminishing. This is due to rising labour costs, inadequate government support and especially a continual shortage of land supply. These constraints are a direct consequence of the Government's lack of a strategic economic and industrial blueprint.

Take the maritime and port industry for example: Hong Kong Port (HKP) used to be the busiest port in the world, but 2019 saw its global ranking drop to eighth place. A comparative analysis shows that HKP has the smallest yard area as a proportion of throughput among the world's top ten ports. This is particularly problematic considering HKP's expanded role as a transhipment hub, which requires a large container yard area to park transhipment containers that wait for the next vessel bound for their final destination. To make matters worse, our proprietary analysis indicates that over 40% of the land designated for port back-up uses near Kwai Tsing Container Terminals (KTCTs) is at present under-utilised.

By contrast, Hong Kong's airfreight sector is performing strongly, and Hong Kong International Airport (HKIA) is still ranked as the world's busiest cargo airport. But HKIA is also facing potential space constraints, with one of the lowest ratios of airport logistics space to air cargo tonnage handled among the world's top ten airports.

The above examples are just a tip of the iceberg threatening the logistics industry. In fact, the supply of logistics space is far behind the industry's demand. While the trading and logistics sector's GDP contribution grew by 51% from 2009 to 2018, built-up industrial land recorded only a meagre increase of 8%. In particular, a supply vacuum of new warehouse spaces in the past decade has pushed down vacancy rates and driven up rents. Meanwhile, the existing flatted factories in the city, designed during the industrial era, are simply not suitable for the market's needs, as logistics operators look for modern facilities with a large floor plate, high ceilings and direct ramp access.

The under-supply of industrial space has pushed logistics operators to operate on sites without proper planning and infrastructure in the New Territories, resulting in the emergence of brownfield. Currently, of the 1,414 hectares of active brownfields, 651 hectares, or 46%, are occupied by logistics-related industries. Unfortunately, operations on brownfields are far from optimal, with unplanned development polluting the environment and upsetting nearby residents. This outcome is a negative externality that is currently borne by the community.

To support sustainable growth of the logistics sector, we believe that the way forward is for the Government to commit to a timely and adequate provision of land and facilities. Equally important is to implement policies under an effective governance structure in support of our strategic industries as a whole.

In this regard, this report presents a set of five policy recommendations with the aims of driving the long-term sustainable growth of our logistics industry and paving the way for our future economic development. These recommendations address the current issues from both the 'hardware' and 'software' perspectives.

'Hardware'

Recommendation 1: Develop dedicated logistics nodes

In anticipation of the future demand of the trading and logistics industries and other strategic sectors, the Government should develop dedicated logistics nodes in the New Territories. With well-planned development, these logistics nodes could eliminate the negative externality generated by existing unorganised brownfield operations. As a relocation option for current brownfield operators, the logistics nodes will also facilitate the reapportioning of brownfield sites for other development such as housing.

Four logistics nodes are proposed at strategic locations identified in the New Territories, namely the Hong Kong Boundary Crossing Facilities Island, Lung Kwu Tan and Tuen Mun West, Northwest New Territories and New Territories North. Each of these locations is designed with respective roles and functions that are to be complementary with one another. These logistics nodes can provide up to 930 hectares of land and accommodate up to 125,000 jobs, thereby providing the necessary space for the logistics industry and other strategic industries that may emerge in the future.

Recommendation 2: Reform site allocation mechanism

To provide a level playing field for companies of all sizes and to underpin the healthy development of the industry, the Government needs to rethink its site allocation mechanism within the aforementioned logistics nodes, instead of succumbing to the old path of open bidding to achieve the highest profit for the sites. The logistics nodes could be managed by a statutory body with a mission to drive the long-term development of the industry. This report touches on several operation models based on overseas experience, which could serve as a good reference for management of the logistics nodes.

Recommendation 3: Relocate Kwai Tsing Container Terminals

In our previous report *From Large Scale Reclamation to an Ideal Home,* we proposed the relocation of the KTCTs to an outlying island. One possible relocation site is Cheung Chau South. Some have also proposed building a mega port outside Hong Kong waters to consolidate all major ports in the Greater Bay Area. By relocating the KTCTs, not only can it create an opportunity to upgrade our port infrastructure for modern transhipment business, but it can also release valuable land in the urban core area for residential and commercial development.

‘Software’

Recommendation 4: Conduct economic reviews and formulate industrial policies

The absence of strategic economic reviews and industrial blueprints creates ambiguities in cross-department coordination within the Government on policy support for local industries. This report suggests that the Government should carry out regular economic review and devise policies to facilitate growth of our strategic industries, such as logistics. A clear economic strategy and industrial blueprint will provide straightforward guidance for Hong Kong's strategic land use planning, so that the land demand of the city's strategic industries can be fulfilled in a timely and organised manner.

Recommendation 5: Establish a statutory body for the development of strategic industries

The Government should establish a statutory body dedicated to the development of strategic industries such as logistics. While the sector already has advisory bodies, they are mostly consultative in nature and lack the necessary resources and executive power to implement suggestions put forward by the industry. A standalone statutory body with authority to manage industrial properties and with its own independent financial resources will be much more flexible in spearheading the development of our strategic industries. The new statutory body does not need to start from scratch. This report recommends that the Government may consider upgrading or consolidating the Hong Kong Maritime and Port Board, Hong Kong Logistics Development Council, and Hong Kong Trade Development Council into a strategic economic statutory body to look after the future development of the logistics and other strategic industries.

Conclusion

The coronavirus pandemic and growing geopolitical tensions have transformed the overall picture, demanding new responses from our logistics industry. In the face of the pandemic, the industry has shown strong resilience and adapted itself to offer reliable contingency services arising from new e-commerce demands and the need for Personal Protection Equipment (PPE) and pharmaceuticals. In preparation for the potential reshuffling of the global supply chain, we believe that now is the time for the Government to face up to its responsibilities and act in a timely manner in the interests of society and industry. With an advanced, forward-looking industrial blueprint and policy measures to guide and support the long-term growth of our strategic industries, Hong Kong will remain a competitive, dynamic yet sustainable economy, one that the world can count on as a dependable partner in all areas of trade and logistics.

1 Introduction

The logistics industry is an unsung hero of our economy. It forms the backbone of the trading and logistics industry, which is the largest of the four key industries in Hong Kong, contributing one-fifth of its value-added GDP and total employment.

Hong Kong's natural advantages including geographical positioning, free port status, and simple tax regime helped the city to become an international trading and logistics hub. However, the modern logistics industry is advancing at a stunning pace, moving hand-in-hand with a prospering e-commerce sector. While Hong Kong's traditional strengths are still there, it is important for the Government of the Hong Kong Special Administrative Region (the Government) to provide sufficient policy support for the industry to catch the next wave of development.

However, the Government's support for the logistics industry has been far from adequate. In particular, the development of the industry has long been constrained by the insufficient availability of land, a direct consequence of the Government's lack of a strategic economic and industrial blueprint. To make the matter worse, there has been a call in recent years for reapportioning all brownfields for residential use. Brownfield sites in Hong Kong are not idle or abandoned land, but are important economic ancillary lands that support an array of economic activities, many of which are run by logistics operators in the city.

In this report, we wish to highlight the importance of the logistics industry in Hong Kong, and make policy recommendations that advocate a balanced approach to fostering the sustainable development of the industry.

Trading and logistics are strong pillars of Hong Kong's economy

Hong Kong, translated literally as 'fragrant harbour', is a harbour city known for its status as a free port and entrepot for South China, since the city opened its port in the mid-1800s. With the reform and opening-up of mainland China in the late 1970s, Hong Kong became the de facto gateway for the world to tap into the Chinese market.

From then on, the local trading and logistics industry prospered and acted as a strong driver for Hong Kong's economy and employment opportunities. Currently, the trading and logistics industry is deemed to be one of the four key industries for the city, together with financial services, tourism, and producer and professional services.

Figure 1. **Percentage share of value added by key industries to GDP (2018)**

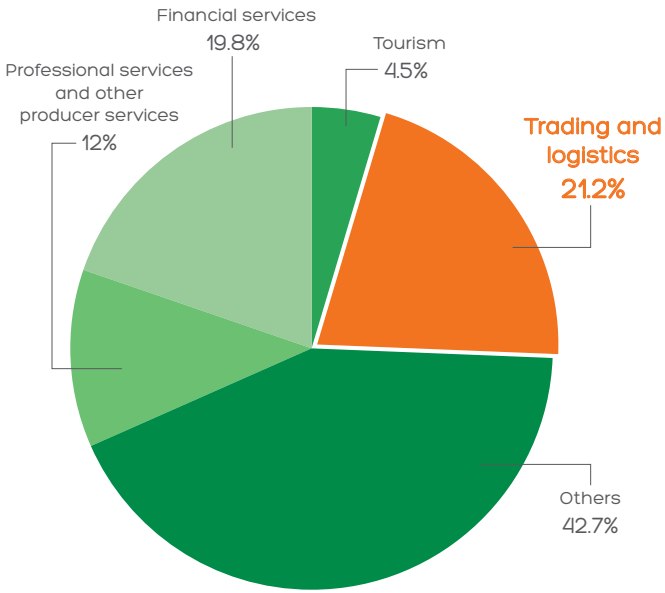
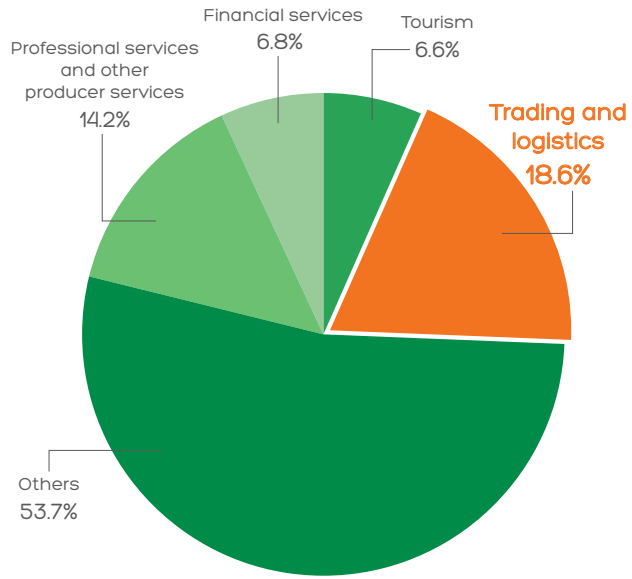


Figure 2. **Percentage share of employment by key industries to total employment (2018)**



Note: The individual figures combined may not add up to 100% due to rounding.
Source: Census and Statistics Department

In 2018, the trading and logistics industry generated 21.2% of the value-added component in GDP **(Figure 1)** and 18.6% of job opportunities for Hong Kong **(Figure 2)**, making it the biggest contributor among the four key industries for the economy, a role it has been playing in the past two decades.

Some may ask why trading and logistics, two industries that are different in business nature, are treated as a single sector in most official statistical analyses.

Figure 3. **Trading brings business to logistics, and logistics fulfils trading**

Trading is the transaction of goods and products. Logistics refers to the process of planning, implementing, and controlling the movement and storage of goods. Logistics is involved in the last step of the fulfilment of a trading transaction, which is the physical delivery of goods from the seller to the buyer, and therefore forms the backbone of the trading industry. On the other hand, trading transactions are crucial to the logistics operators because they bring goods that keep trucks running and warehouses filled. Thus, trading and logistics form a symbiotic relationship and are essential to each other's existence **(Figure 3)**.

Development of e-commerce is revamping traditional trading and logistics models

Traditionally, trading is done through intermediaries like trading firms or middlemen, requiring mail exchanges, phone calls and face-to-face meetings. In recent decades, with internet technology advancing at a stunning speed, e-commerce platforms like Alibaba and Amazon have emerged as a new trading intermediary that offers an alternative for buyers and sellers to make deals online.

In the beginning of the internet era, companies were making deals only with each other. Their demand for logistics services was not that much different from the old days, as goods were still sent and received in bulk. With personal computers, smartphones and 4G communications becoming increasingly accessible to individual consumers, people are able to order online anywhere, anytime. E-commerce has leaped from business-to-business (B2B) trading platforms to business-to-consumer (B2C) online marketplaces.

Changed from offline to online mode, the new retail paradigm also posed new requirements for the logistics services. Products need to be packaged piece by piece and delivered to each individual buyer. The key aspect of B2C logistics is last-mile delivery, which provides timely and accurate delivery of goods to consumers' doorstep.

To win the fierce online marketplace competition, major operators are promising faster delivery time, like next-day and same-day delivery. Some online-to-offline (O2O) grocery stores, where the online marketplace also operates offline stores, even offer local delivery in a few hours' time.

Logistics operation is getting larger shares in value chains

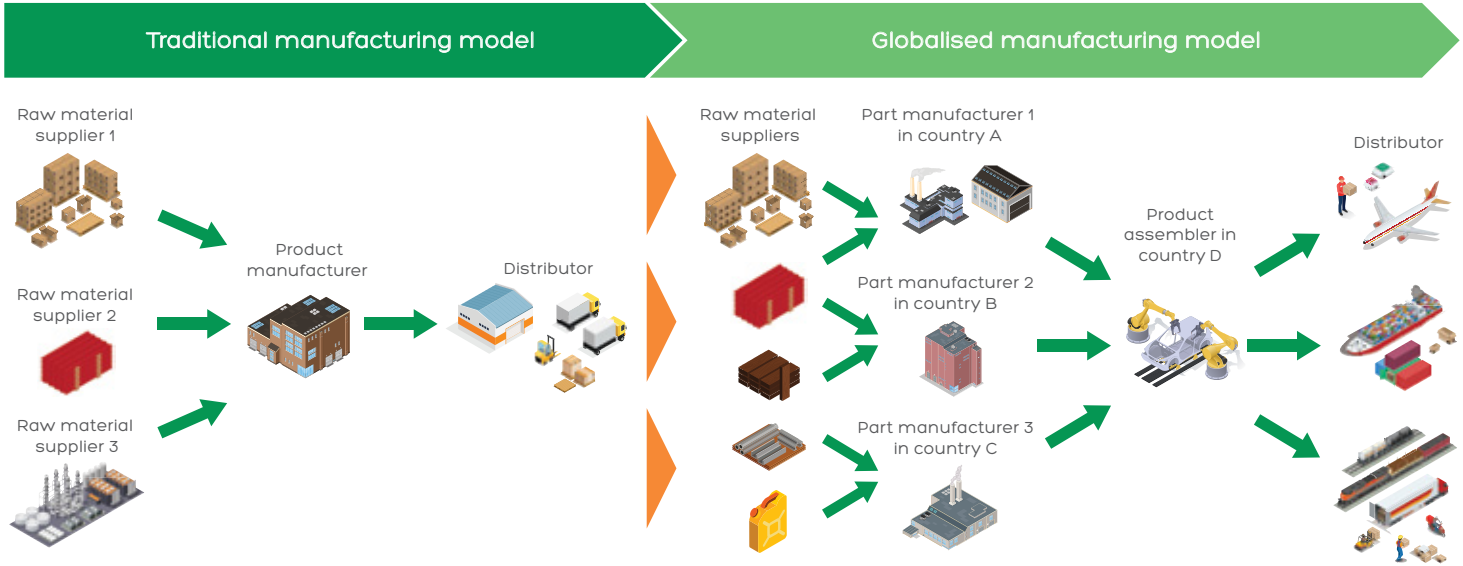
The life cycle of a product involves development and manufacturing, physical movement through logistics, and retailing to end customers. As mentioned in previous paragraphs, the rise of e-commerce has reshaped the retailing industry, creating new demands for last-mile delivery. Since the 1990s, manufacturing became increasingly fragmented and globalised, which powered the rapid expansion of international trade,[1] creating new demands for the physical movement of raw material, goods, and products around the world. All these changes have made the logistics industry an increasingly crucial component of the value chain **(Figure 4)**.

Figure 4. **Expanding role of logistics in the global value chain**

Sources: Asian Institute of Supply Chains and Logistics and *World Development Report 2020*

[1] World Bank Group. (2019). *Trading for Development in the Age of Global Value Chains.*

Figure 5. **Globalised supply chain increased manufacturing efficiency and logistics needs at the same time**



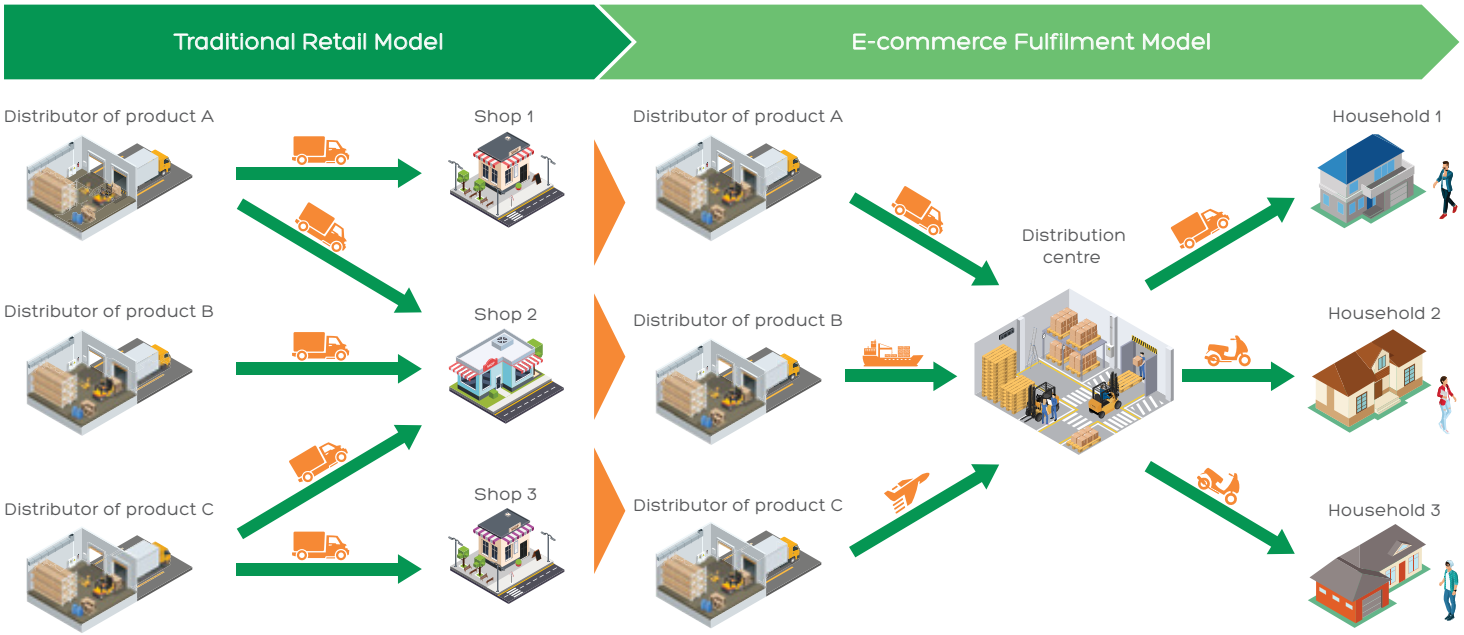
Source: Lifewire

In the past, product manufacturing and distribution were rather simple and straightforward. It just took the work of a single factory to turn raw materials into final products. The logistics services needed here were just the transportation of raw materials and finished products.

As the product design and manufacturing cycle becomes increasingly complex, manufacturers are allocating different production processes to different countries to take advantage of the international division of labour, effectively globalising the product value chain with increased efficiency and cost effectiveness. Take smartphones for example: the phone itself is designed at a company's research and development headquarter. After the designing stage, different parts such as the camera sensor, screen, baseband, system on a chip (SOC), and fingerprint reader are procured from factories all over the world, and transported to the final assembly plant in yet another country.[2] The entire cycle requires not just the transportation of finished products to retailers, but also the mid-step logistics movement of parts and semi-finished products along the globalised supply chain **(Figure 5)**.

[2] Costello, S. (2020). *Where Is the iPhone Made?*

Figure 6. **New logistics model revolutionised the retail industry from retail-centred to customer-centred logistics**



Source: Amazon

On the other hand, online marketplaces and O2O stores make retailing less dependent on customer footfalls to drive sales. As shopping moved from offline to online, the physical delivery of the purchased products relies more on logistics services.

Businesses' land demand also changes accordingly. Traditional store fronts' function as retail outlets will gradually be taken over by the websites of online marketplaces. Offline stores will become a place for order pick-up and product try-out rather than just for product display and storage.

For online marketplaces to process and fulfil customers' orders efficiently, larger and more modern warehouses and logistics centres are needed. This is because a larger warehouse can accommodate a wider range of products, allowing the online retailer to tally all products ordered by the same customer within the same warehouse. This reduces inter-warehouse goods movement and thus cuts the cost of order fulfilment. Customers will also be able to receive their ordered products in one go, saving time and money **(Figure 6)**.

Logistics operation is evolving with increased network coordination and system integration

While looking at the development path of the logistics industry, we can see that logistics service providers are constantly increasing their levels of system integration, i.e. the integration of different logistics interfaces such as warehouses, delivery trucks and IT systems, and network coordination, i.e. the coordination of work along the network of supply chains.

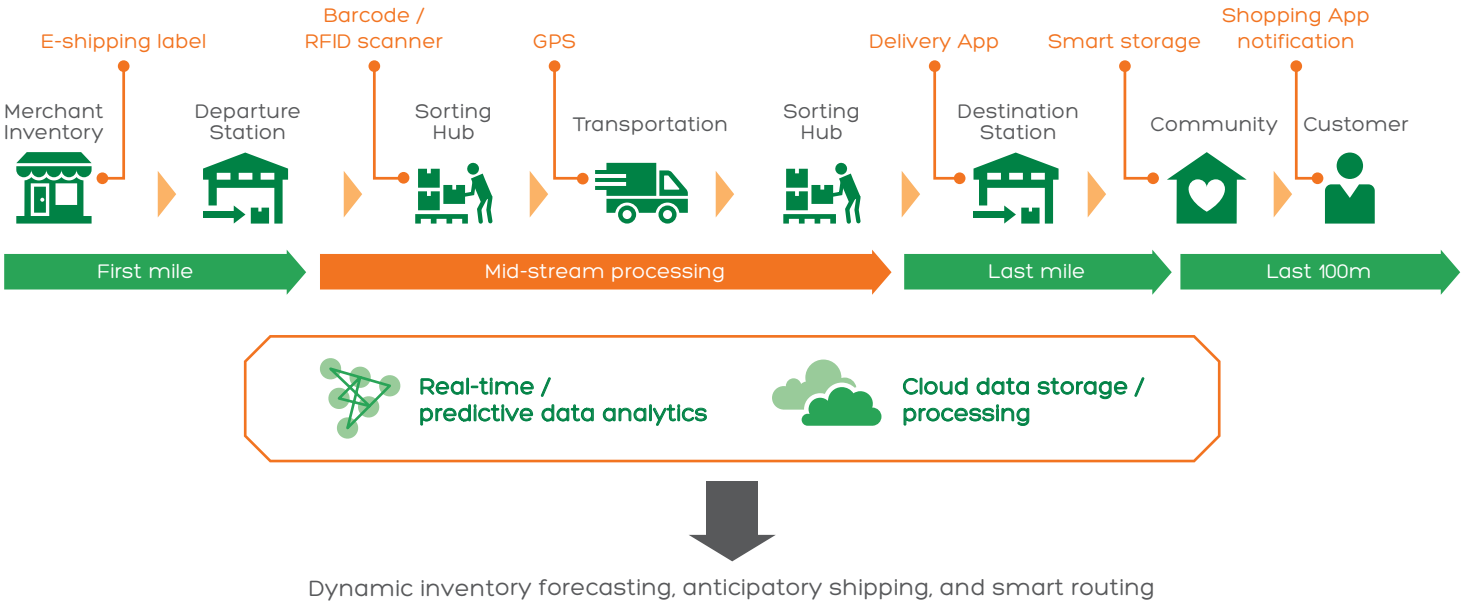
The logistics business originated from first-party logistics (1PL). In the 1PL era, the consignors, usually the manufacturers, managed the product delivery by themselves. Later the consignors started contracting a third party to deliver for them, leveraging the third party's specialist knowledge, and this marks the conception of 2PL. 3PL logistics operators started providing value-adding services besides just physical delivery. These services may include quality checking, packaging, labelling, and temperature-controlled warehousing, etc. Examples of companies providing 3PL services are SF Express, Kerry Logistics, DHL, UPS and FedEx, and so on. 4PL providers started integrating and managing the entire supply chain, which helps improve their clients' operation efficiency and flexibility. Examples include Li & Fung, Deloitte, Accenture, etc.[3]

According to DHL Trend Research, the promising development of the latest technologies such as 5G communication, the Internet of Things (IoT), Artificial Intelligence, and Big Data analytics will help logistics operators achieve unprecedented productivity and service quality,[4] opening the 5PL era in which companies start to plan, organise and implement the most appropriate logistics technologies and solutions.

[3] BCR. (2018). *1PL to 5PL: Differences Between 3PL Provider and Others.*
[4] DHL Trend Research. (2019). *Logistics Trend Radar.*

Supply chain digitalisation and data analytics are key to future logistics development

Figure 7. **Key roles of digitalisation and data analytics in logistics value chain**



Sources: Alibaba, Roland Berger, DHL Trend Research, and Frost & Sullivan

The most advanced logistics operators like Amazon and Cainiao Network now sit between the development stages of 4PL and 5PL, effectively leveraging IoT technologies, digitalisation and data analytics to improve their operating efficiency and service quality.

Take the fulfilment of a Taobao order through Cainiao Network for example, when an online merchant receives a new order, its operation system will automatically generate a list of information consisting of all the essential information required for processing this order. The system uses this list of information to create a digital shipping label, which is printed and affixed on the package, substituting for traditional hand-written delivery forms. The label has a unique identity which is represented by a QR code. This code can be scanned and understood by all parties involved along the whole delivery process. During the last-mile delivery stage, the delivery man is equipped with a proprietary device that has multiple functions, such as a QR code scanner, GPS, route planning, and point of sale. This enables delivery men to report the real-time position and other relevant information about the parcel, improving the information transparency of the whole delivery process **(Figure 7)**.[5]

The application of logistics technologies mentioned above together with the digital nature of e-commerce transactions mean that a large amount of data will be generated in the entire transaction process. Making good use of these data is key to further improving the operational efficiency in every step of the current value chain of logistics services.[6]

DHL Trend Research suggested one of the applications of data analytics is smarter forecasting and anticipatory shipping. Customers' purchase history, shopping cart status and even real-time mouse clicking behaviour could inform businesses where certain products are likely to be purchased, so products can be shipped closer to potential customers, further shortening the delivery time.[7] Analysis of the real-time positioning of delivery trucks and current traffic conditions enables the system to generate the optimal delivery route, cutting short the delivery time and logistics cost for the company. A study done by Frost & Sullivan showed that predictive data analytics of vehicle data, driver scorecard and driver behavioural data, and subsequent route and behavioural optimisation could save fuel costs by 10% to 25%.[8]

For these to happen, however, it is essential to have the necessary computing infrastructure for storing and processing the data, such as cloud data storage and cloud computing technology. Therefore, to support the development of e-commerce, not only do we need land for warehouses and logistics centres, but also land for data centres.

The key question we want to raise is whether the Government has done enough to cope with the rapidly changing landscape of the trading and logistics industry over the past decade and to place Hong Kong in the best position to embrace the future evolution of the industry.

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[5] Alibaba Group. (2019). *Cainiao Network - Smart Logistics Network.*
[6] Roland Berger. (2020). *FreightTech: The future of logistics.*
[7] DHL Trend Research. (2019). *Logistics Trend Radar.*
[8] Frost & Sullivan. (2016). *Future of Logistics.*

With its strategic geographical positioning and simple tax regime, Hong Kong has in the past decades developed into an international trade and logistics hub, supported by world-class logistics infrastructures in terms of sea, air and land transport. Hong Kong International Airport (HKIA) is the world's largest airport by air cargo tonnage. Hong Kong Port (HKP) is also among the world's top ten ports by throughput measured in number of TEUs[9] handled. On the land side, Hong Kong is well connected to adjacent areas through an excellent road and bridge network, with well-managed boundary crossing points.

Figure 8. **Key facts about the Hong Kong International Airport**

Sources: The Airport Authority Hong Kong, OAG Megahubs Index 2019, IATA, and Pharma.Aero

[9] TEU stands for Twenty-Foot Equivalent Unit, a cargo capacity unit used to describe the capacity of container ships and container terminals.

HKIA, located at the reclaimed land on the island of Chek Lap Kok, plays a vital role in Hong Kong's logistics industry. It has been the world's busiest cargo airport since 2010, transporting a total of 4.8 million tonnes of air cargo and mail in 2019. It is also ranked second in Asia in terms of airport connectivity, reaching 220 destinations with 120 airlines. Since 2017, HKIA has been recognised by the International Air Transport Association (IATA) as a Partner Airport of IATA's Center of Excellence for Independent Validators in Pharmaceutical Logistics (IATA CEIV Pharma) and Center of Excellence for Perishable Logistics (IATA CEIV Fresh). All three cargo terminal handlers in HKIA are members of Cargo iQ, a not-for-profit membership group supported by IATA, proving their capability in process control, quality monitoring and service level.

All these recognitions validate HKIA's capability in air cargo handling, especially in terms of achieving consistent cold-chain management standards. This is crucial for maintaining the product integrity of temperature-sensitive cargo such as pharmaceuticals and high-value groceries, which provide growth potential for Hong Kong's future airfreight business. In terms of handling pharmaceuticals, HKIA is a strategic airport member of Pharma.Aero, a cross-industry collaboration platform that includes pharma-shippers, certified cargo handlers and airport operators. Under the framework of Pharma.Aero, HKIA announced the launch of an airport-to-airport pharma corridor with Brussels Airport, offering services catering to the specific needs of pharmaceutical shipments between the two cities.

Another key advantage of HKIA is its well-established inter-modal transportation infrastructure that enables the seamless transfer of goods between airplanes and bonded trucks, which makes transhipments to and from cities in mainland China effortless **(Figure 8)**.

Case in point: Cainiao Network chose HKIA as one of its six global e-Hubs

Figure 9. **Quick facts about the Cainiao logistics centre in Hong Kong**

A Cainiao logistics centre will be established at the Hong Kong International Airport in 2023

Site area: **5.3 hectares**	GFA: **4 million square feet**
Investment: **HKD 12 billion**	Cargo handling capacity: **2.5 million tonnes per year**

What is the Cainiao logistics centre aiming for?

- Cross-border e-commerce
- 72-hour global delivery
- World-class digital technology

Why Hong Kong?

- Strategic location
- Excellent connectivity
- Efficient customs

Sources: Alibaba and the Airport Authority Hong Kong

A land sale within the airport island may indicate the market's confidence in Hong Kong's air logistics industry. In 2018, Cainiao Network, the logistics arm of Alibaba Group, led a joint venture to win the bidding for a 5.3-hectare logistics site sitting south of the airport island. The joint venture will invest approximately HKD 12 billion to build a modern logistics centre, serving as one of the six e-hubs of Cainiao Network around the world, and bring in an additional 1.7 million tonnes of cargo to HKIA when the logistics centre is operating at full capacity. On completion, the facility with 4 million square feet of Gross Floor Area (GFA) will become the third largest multi-storey logistics centre in Hong Kong. It will include an air-cargo processing centre, a sortation centre and a fulfilment centre. The facility will also feature automated warehousing technology and automated temperature control.

Why did Cainiao choose Hong Kong? One of the key reasons is that the modern logistics centre located within HKIA will help Cainiao fulfil its 72-hour global delivery promise thanks to HKIA's strategic geographical position, excellent air connectivity, and efficient customs **(Figure 9)**.

Hong Kong is also the global and regional headquarters of many international trading and logistics companies. For instance, Li & Fung, a global supply chain manager, and Kerry Logistics, a 3PL company with business around the world, both chose Hong Kong as their global headquarter. DHL and FedEx, two giants of the international logistics community, also chose Hong Kong to set up their Asian headquarters.

Figure 10. **Key facts about Hong Kong Port**

Ranks 8th in container throughput worldwide

4th largest ship registry in the world

300 container vessel services per week

Connects to 420 destinations globally

The world's 6th most well-connected container port

Sources: Hong Kong Maritime and Port Board, Marine Department, Hong Kong Trade and Development Council, the United Nations Conference on Trade and Development, and Lloyd's List

Besides its prominent presence in global air logistics, Hong Kong is also a world-renowned maritime hub. HKP is ranked the 8th among the world's busiest maritime hubs measured by container throughput. Hong Kong is also the world's 4th largest ship registry measured by ship tonnage. Like our airport, our seaport is equally well-connected. HKP is ranked 6th among the most well-connected container ports in the world. 300 container vessel services are generated in HKP on a weekly basis, helping consignors to ship their cargo to 420 destinations around the world **(Figure 10)**.

HKP is famous for its operating efficiency. Container vessels calling at Hong Kong can usually make up for the delays in previous stops, making Hong Kong the catch-up port. Port operators' pursuit for efficiency doesn't stop there. In January 2019, four of the five terminal operators announced they would form The Seaport Alliance, allowing the sharing of berths and yard area across different terminals. This could possibly reduce inter-terminal trucking by nearly 50% within one year.[10]

Last November, Hong Kong welcomed the opening of the International Chamber of Shipping (China) Liaison Office (ICS). The ICS is the principal global trade association for ship owners and operators, representing all sectors and trades and over 80% of the world's merchant fleet. The opening of the ICS office proved Hong Kong's prominence in the international shipping industry, especially as a maritime gateway between China and the world.[11]

[10] Wong, C., Ma, H., & Leung, L. (2018). *Collaboration at the Hong Kong Port - Benefits from Facility Sharing.*
[11] International Chamber of Shipping. (2019). *Press Release: International Chamber of Shipping opens China Liaison Office in Hong Kong.*

Hong Kong has long been an international logistics centre in the past, but it would be naive to say that the city will keep its prime status without breaking a sweat, as its logistics industry is currently facing challenges arising from both internal and external events.

The gap between Hong Kong's logistics demand and performance

Figure 11. **Percentage share of merchandise trade of GDP among world economies (2018)**

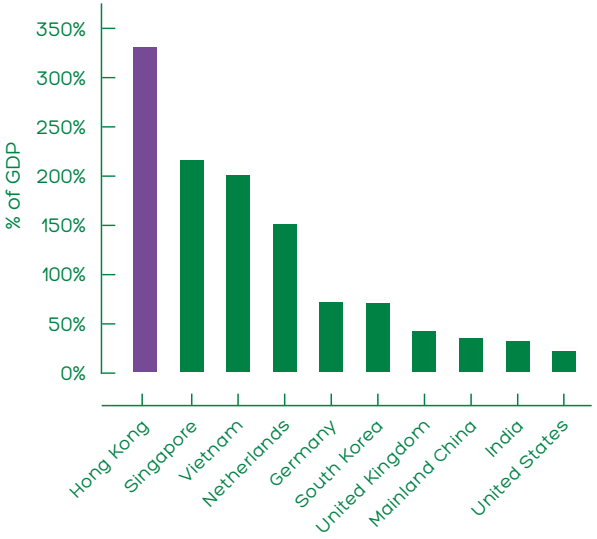
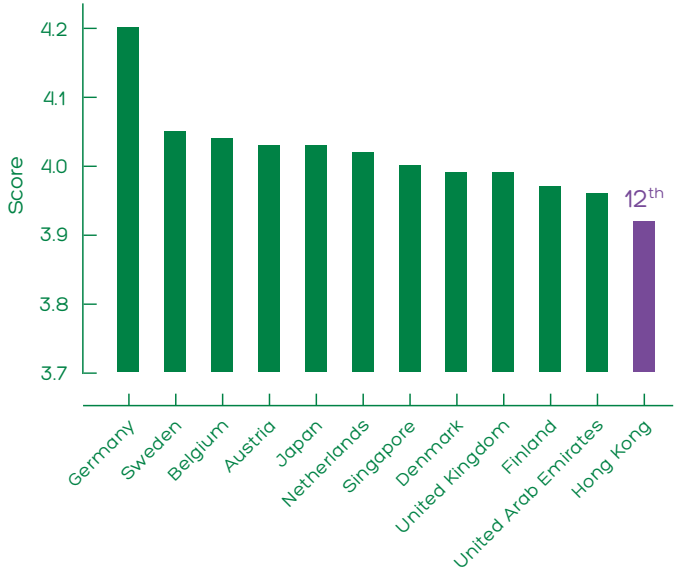


Figure 12. **World Bank's Logistics Performance Index (2018)**



Note: Logistics Performance Index by World Bank considers six factors: Customs, Infrastructure, International shipments, Logistics competence, Tracking & tracing, and Timeliness.

Source: World Bank

As a global trading hub, Hong Kong's merchandise trade value is 330% of its value-added GDP, the highest proportion among global economies **(Figure 11)**. On the other hand, Hong Kong's logistics industry is not as outstanding, ranking in 12th place according to the World Bank's Logistics Performance Index (LPI) in 2018, behind our rival Singapore in 7th place **(Figure 12)**. The LPI takes into account six factors: Customs, Infrastructure, International shipments, Logistics competence, Tracking & Tracing, and Timeliness. A closer inspection of the categorical scoring revealed that Hong Kong is falling behind in terms of Infrastructure (the quality of trade and transport infrastructure), Tracking & Tracing (the ability to track and trace consignments) and Timeliness (the frequency with which shipments reach consignees within scheduled or expected delivery times).

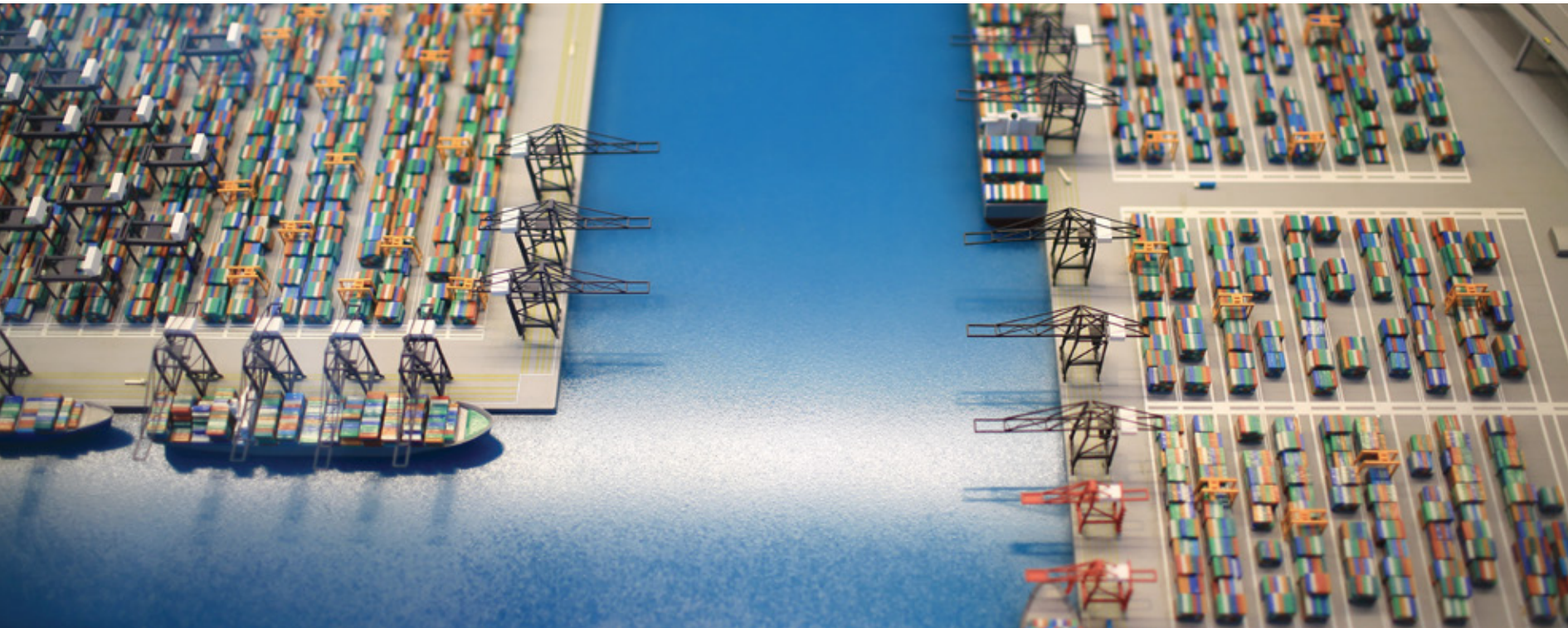
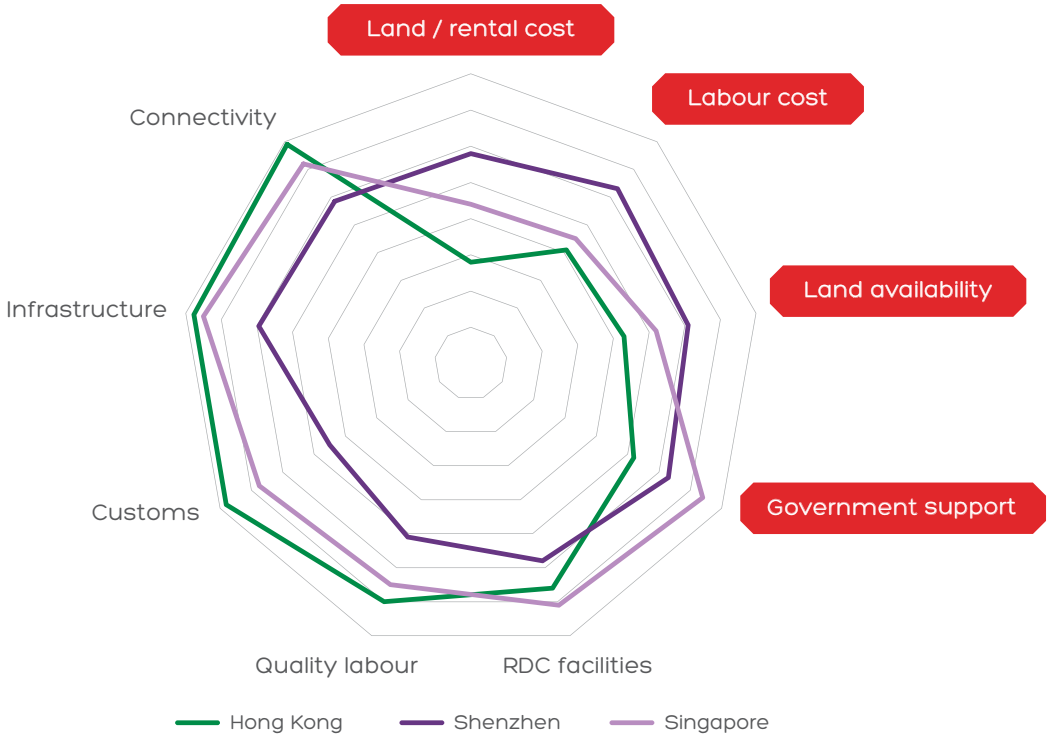


Figure 13. **Comparison of factors as regional distribution centres of Hong Kong, Singapore, and Shenzhen**

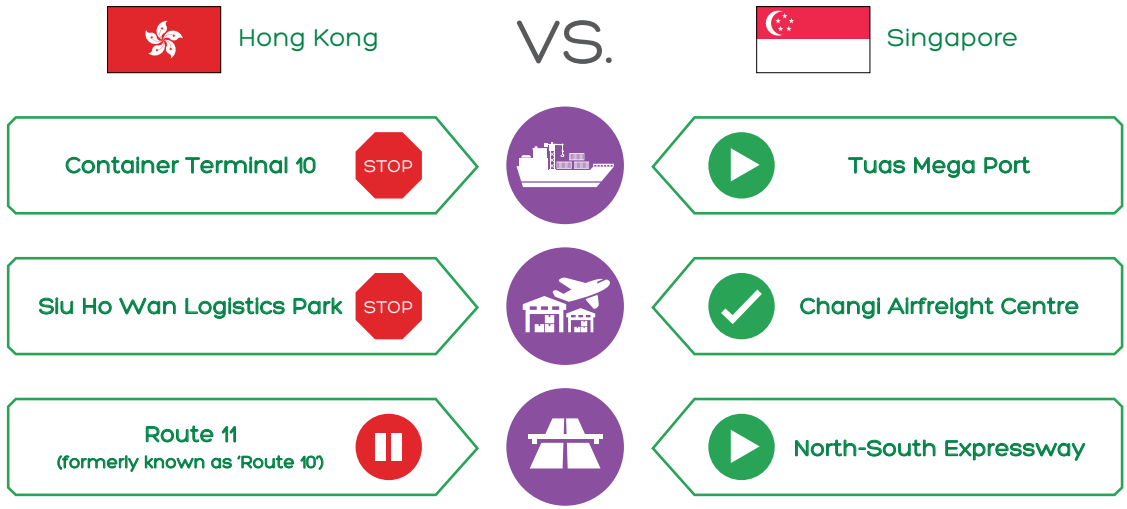


Source: Asian Institute of Supply Chains & Logistics

A study carried out by the Asian Institute of Supply Chains & Logistics revealed further details of Hong Kong's strengths and weaknesses as a regional distribution hub in comparison with Singapore and Shenzhen. Hong Kong scores high points in Labour Quality, Customs, and Connectivity, while falling being in Land/Rental Cost, Labour Cost, Land Availability as well as Government Support **(Figure 13)**. The results are perhaps not too surprising given the lack of government investment in the trading and logistics sector.

Hong Kong's investment in logistics infrastructure is falling behind

Figure 14. **Comparison in progress of infrastructural projects between Hong Kong and Singapore**



Sources: Legislative Council, Marine Department, Hong Kong International Airport, Singapore Changi Airport, Jurong Port, and PSA Singapore

Indeed, our investment in logistics infrastructure is falling behind our rivals **(Figure 14)**. For instance, the construction of Container Terminal 10 and Siu Ho Wan Logistics Park, once planned to support the future growth of our logistics industry, were eventually dropped. The development of Route 11 (formerly Route 10, which had been studied back in 1998) is still under a new round of feasibility study. In comparison, Singapore has been actively constructing the new Tuas Mega Port and North-South Expressway. Over the years, Singapore has also developed six aviation industrial and business parks around Changi Airport, of which four are dedicated to air logistics, including the Changi Airfreight Centre, Airport Logistics Park of Singapore, Changi International Logispark (South), and Changi International Logispark (North).

Hong Kong Port's transhipment business requires larger yard area

Table 1. **Comparison of world's top container ports**

	2019 world ranking	International transhipment rate	2019 throughput ('000 TEU)	Port size (ha)	Yard-to-throughput ratio (ha per 1 million TEU)	No. of berths	Yard-to-berth ratio (ha per berth)
Shanghai	1	<10%	43,303	835 [1]	19.3	43	19.4
Singapore	2	85%	37,196	858	23.1	72	11.9
Ningbo-Zhoushan	3	<5%	27,535	968	35.2	61	15.8
Shenzhen	4	18%	25,769	1,167	45.3	47	24.8
Guangzhou	5	27%	23,223	873	37.6	74	11.7
Busan	6	50%	21,992	707	32.1	41	17.3
Qingdao	7	<20%	21,010	450	21.4	25	18
Hong Kong	8	71%	18,303	344 [2]	18.8	73	4.7
Tianjin	9	N/A	17,300	13,100 [3]	757.2	25	524
Rotterdam	10	59%	14,811	8,114 [3]	547.8	39	208

Notes: [1] The figure indicates the area of storage space only. There is no available data on total port area.
[2] The figure includes Kwai Tsing Container Terminals (279 ha) and River Trade Terminal (65 ha).
[3] The figure includes the area of non-container terminals.

Sources: Relevant port authorities, 100allin, Hua Chuang Securities, Ningbo Economy, JOC International Technical Engineering, Yunlsp, Maritime Gateway, and Ship Technology

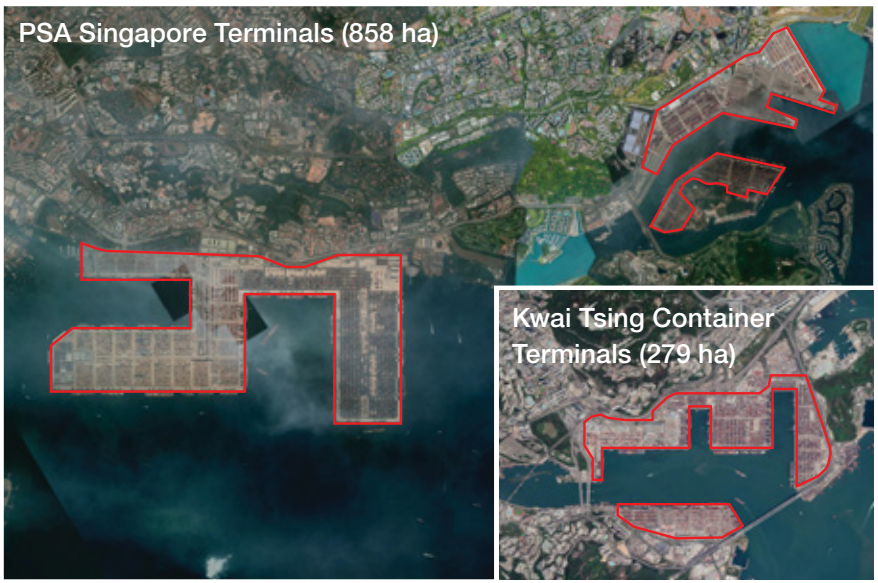
HKP's future growth potential is also curbed by its limited yard area. The problem of space limitation will worsen as the city's port relies more on transhipment business and as traditional direct export business relies more on mainland ports in Guangzhou and Shenzhen. Currently, 71% of the total throughput of HKP is from transhipment.

After a transhipment container is discharged at Kwai Tsing Container Terminal, the container will stay at the yard area for a few days before being loaded onto another vessel to reach its destination. This means a transhipment hub requires a large yard to accommodate these 'backlog' containers waiting for the next ship. However, a comparison of the top ports in the world showed that HKP not only has the smallest yard area, but its yard-to-throughput ratio (hectares of yard per 1 million TEU) and yard-to-berth ratio (hectares of yard per berth) are also the lowest among all others **(Table 1)**.

On the one hand, one could argue that the port operators at HKP are extremely efficient, utilising a small yard area to support an enormous amount of container throughput. On the other hand, the lack of land also puts a glass ceiling onto HKP's future throughput growth.

To put the comparison of port size into perspective, we juxtaposed the satellite images of Singapore's port area and Hong Kong's KTCTs **(Figure 15)**, as both ports have a high percentage of transhipment business in their total container throughput.

Figure 15. **Port area comparison between Singapore and Hong Kong**



Source: Google Earth

Singapore's port area is over three times the size of the area of KTCTs. Thus although Singapore has a container throughput that is double that of Hong Kong, it still has a larger yard-to-throughput ratio than Hong Kong. In addition, Singapore is now in the process of relocating its container terminals to the new Tuas Mega Port on some 1,400 hectares of land, which is 1.6 times the size of Singapore's existing ports.[12] The satellite images also showed that Singapore's port area is large enough to support its port operation, so there is no need to designate additional back-up land near the yard to support the port operations. Also, the boundary of Singapore's terminal area is relatively straight and clean, leaving no sites in corners or under bridges. The sufficient yard area and well-planned boundary explain the better overall utilisation of land in the port area of Singapore.

Over 40% of port back-up land near Kwai Tsing Container Terminals is under-utilised

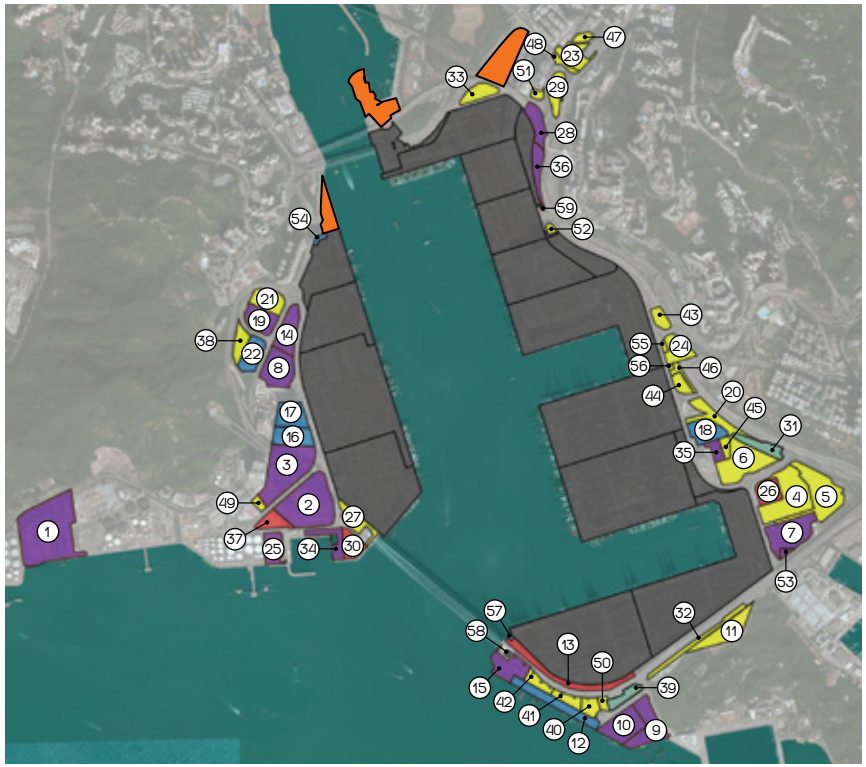
While Hong Kong Port's yard area at KTCTs is rather limited, the demand for land to support the transhipment business has risen. Therefore, a large amount of non-terminal land in the Kwai Tsing area is planned for port back-up uses. However, quite a lot of these back-up sites are not well utilised. Our proprietary geographic information system analysis based on satellite images, aerial photos, Outline Zoning Plans, a digital land boundary map (ic1000), and field visits showed that of the 59 sites, totalling 122.6 hectares of port back-up land around KTCTs, 42.4% is not efficiently utilised, with 7.7 hectares of land currently left vacant and 44.3 hectares used as open air parking sites **(Figure 16)**.

We have attached the details of the 59 sites in **Appendix**, with the years of under-utilisation (vacant or used as open air parking, by observing past aerial photos taken by the Lands Department) recorded for each site. On average, the sites have been under-utilised for 13.5 years. The track record of the sites that are currently under-utilised is poorer than average. Sites that are currently vacant had been under-utilised for 16.8 years on average, and those used for open air parking now had been under-utilised for 21.9 years on average. Some of these sites have even been under-utilised for 20 to 30 years.

Among the 59 sites listed in the appendix, 17 sites were discussed in a study conducted by the Transport and Housing Bureau (THB) in 2015, with a future land usage plan proposed **(Table 2)**. However, most of the proposals still haven't been implemented.

[12] JLL. (2018). *Singapore's west beckons.*

Figure 16. **Utilisation of port back-up area near Kwai Tsing Container Terminals**



Current usage	Area (ha)	Percentage	Average years of under-utilisation
Vacant land	7.7	6.3%	16.8
Open air parking site	44.3	36.1%	21.9
Temporary container yard	55.2	45.0%	4.1
Buildings / Barge berths	12.6	10.3%	4.0
Other temporary uses	2.8	2.3%	9.0
Total port back-up area	**122.6**	**100%**	**13.5**

Legend

- Vacant land
- Open air parking site
- Temporary container yard
- Buildings / Barge berths
- Other temporary uses
- Total port back-up area
- Underutilised land outside port area
- Site number

Notes: Land utilisation as of 30 April 2020; 'years of underutilisation' indicates the number of years that the site is left vacant or is used for open air parking.
Sources: Google Earth, Lands Department, Town Planning Board, and Our Hong Kong Foundation

Table 2. **17 sites that have been studied by THB in 2015**

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation	Proposal in 2015 THB Study	Implementation status
5	5.26	OU (Container Related Uses)	Open air parking site	STT	20	Transportation Department has commissioned a feasibility study to look into the development of multi-storey parking facilities. The Study commenced in June 2014 and was scheduled for completion by 2015	Study ongoing
6	4.94	OU (Container Related Uses)	Open air parking site	GLA	19	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented
8	3.48	OU (Container Related Uses)	Temporary container yard	STT	4	To conduct a feasibility study on the development of multi-storey complex for mixed uses including container storage and cargo handling	Study ongoing
13	2.90	OU (Container Related Uses)	Vacant land	GLA	13	To be disposed to the operators of Container Terminal 8 West on a long-term basis	Not implemented
14	2.56	OU (Container Related Uses)	Temporary container yard	STT	3	To conduct a feasibility study on the development of multi-storey complex for mixed uses including container storage and cargo handling	Study ongoing
19	2.30	OU (Container Related Uses)	Temporary container yard	STT	7	Subject to the study findings of site 5, THB would consider commissioning another similar study for the site	Not implemented
21	2.12	OU (Container Related Uses)	Open air parking site	STT	18	Subject to the study findings of site 5, THB would consider commissioning another similar study for the site	Not implemented
25	1.88	OU (Container Related Uses)	Temporary container yard	STT	12	To be made available as STT site provision for cargo handling purpose	Implemented
26	1.78	OU (Container Related Uses)	Vacant land	GLA	27	To be made available as STT site provision for cargo handling purpose	Not implemented
30	1.62	OU (Container Related Uses)	Vacant land	GLA	13	To be disposed to the operators of Container Terminal 9 South on a long-term basis	Not implemented
31	1.62	OU (Container Related Uses)	Other temporary uses	GLA	13	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented
33	1.54	OU (Container Related Uses)	Open air parking site	STT	13	To be disposed to the operators of Container Terminal 5 West on a long-term basis	Not implemented
34	1.51	OU (Container Related Uses)	Temporary container yard	STT	2	To be disposed to the operators of Container Terminal 8 South on a long-term basis	Not implemented
35	1.44	OU (Container Related Uses)	Temporary container yard	STT	1	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented

41	1.00	OU (Container Related Uses)	Open air parking site	STT	23	To be made available as STT site provision for vehicle parking purpose	Implemented
42	1.00	OU (Container Related Uses)	Open air parking site	STT	23	To be made available as STT site provision for vehicle parking purpose	Implemented
45	0.60	OU (Container Related Uses)	Open air parking site	STT	1	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented

Notes: Land utilisation as of 30 April 2020; GLA = government sites granted by the Lands Department to bureaus or government departments; STT = government sites let by the Lands Department to parties outside the Government for temporary uses by way of short-term tenancies; 'years of underutilisation' indicates the number of years that the site is left vacant or is used for open air parking.
Sources: Transport and Housing Bureau, Lands Department, Town Planning Board, and Our Hong Kong Foundation

Beyond the 17 sites studied by the THB, we also found 14 sites in the port area that deserve further study for better long-term use, as they are both large and have been chronically under-utilised **(Table 3)**.

Table 3. **14 port back-up sites with long-term development potential**

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation
11	3.00	OU (Container Related Uses)	Open air parking site	GLA	9
20	2.18	OU (Container Related Uses)	Open air parking site	GLA	27
23	2.07	OU (Container Related Uses)	Open air parking site	GLA	30
24	2.05	OU (Container Related Uses)	Open air parking site	GLA	30
27	1.77	OU (Container Related Uses)	Open air parking site	STT	13
29	1.73	OU (Container Related Uses)	Open air parking site	STT	30
37	1.42	OU (Container Related Uses)	Vacant land	GLA	14
38	1.35	OU (Container Related Uses)	Open air parking site	STT	9
40	1.04	OU (Container Related Uses)	Open air parking site	STT	23
43	0.96	OU (Container Related Uses)	Open air parking site	GLA	30
44	0.92	OU (Container Related Uses)	Open air parking site	STT	27
46	0.53	OU (Container Related Uses)	Open air parking site	GLA	27
47	0.52	OU (Container Related Uses)	Open air parking site	GLA	30
48	0.51	OU (Container Related Uses)	Open air parking site	GLA	30

Notes: Land utilisation as of 30 April 2020; GLA = government sites granted by the Lands Department to bureaus or government departments; STT = government sites let by the Lands Department to parties outside the Government for temporary uses by way of short-term tenancies; 'years of underutilisation' indicates the number of years that the site is left vacant or is used for open air parking.
Sources: Transport and Housing Bureau, Lands Department, Town Planning Board, and Our Hong Kong Foundation

We also illustrate the details of under-utilised port back-up land around KTCTs with 3 case studies:

Site at Container Port Road South and Mei Chung Road

Figure 17. **Aerial photo (1994)**

Figure 18. **Aerial photo (2020)**

Figure 19. **Zoning (OU)**

Figure 20. **Ground photo (2020)**

Sources: (Figure 17) Lands Department; (Figure 19) Statutory Planning Portal 2; (Figure 20) Google Street View

The first case is a large land plot of 21.1 hectares zoned as Other Specified Use (Container-related uses and underground sewage treatment works), sitting at Container Port Road South and Mei Ching Road. The site can be divided into three portions, of which two are currently leased out through Short-Term Tenancy (STT) to run as an open air parking site and temporary container yard. The remaining site of 1.61 hectares is vacant. A look at past aerial photos taken by the Lands Department revealed that this site has been vacant for 27 years **(Figures 17–20)**.

Back in 2015, the Transport and Housing Bureau (THB) finished a study on how the port back-up land in KTCTs can be better used. In its proposal, this 21.1-hectare site would be included in a feasibility study for a multi-storey heavy goods vehicle parking and modern logistics facility. Preliminary findings from the study suggested that the multi-storey complex be built on a site of 5 to 6 hectares on the west of the area. The remaining area was saved for the construction of the Harbour Area Treatment Scheme (HATS) Stage 2B. However, no concrete timeline has been set for the HATS Stage 2B yet.

Site north of Mei Ching Road

Figure 21. **Aerial photo (2020)**

Figure 22. **Ground photo (2020)**

Figure 23. **Zoning (OU)**

Sources: (Figure 22) Google Street View; (Figure 23) Statutory Panning Portal 2

The second case is just north of the site mentioned in the first case. It is a 5.4-hectare site zoned as Other Specified Uses (Container related uses) and has been allocated to a government department. The site has been either vacant or used for vehicle parking or container handling purposes from time to time over the past decades. Currently the site is lent to non-franchise bus operators to park their idle buses during the COVID-19 pandemic **(Figures 21–23)**.

The study carried out in 2015 by the THB also had a plan for the site. Together with an adjacent land plot, this 5.4-hectare site was intended for leasing to Container Terminal 7 to extend its container yard area. The projected timeline back then was from 2016–2017 onwards. However, there is no sign of this plan being implemented.

Site at Tsing Hung Road

Figure 24. **Aerial photo (2020)**

Figure 25. **Ground photo (2020)**

Figure 26. **Zoning (OU)**

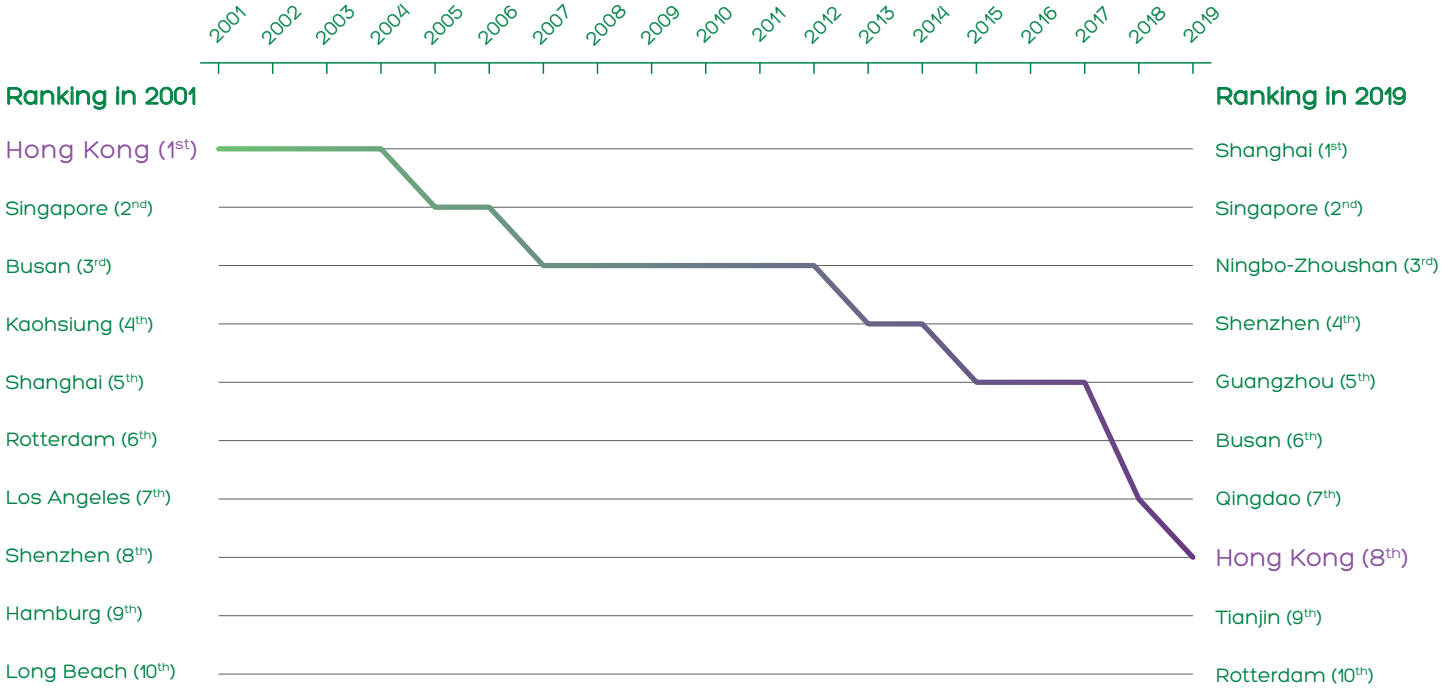
Sources: (Figure 25) Google Street View; (Figure 26) Statutory Planning Portal 2

The last case is a 4.6-hectare land parcel located at Ting Hung Road, zoned as Other Specified Uses (Container-related). The site includes two STT sites currently used as a temporary container yard and an open air parking site respectively **(Figures 24–26)**.

The Government planned to conduct a feasibility study for a multi-storey complex at the site. Whether and when the study will kick off is subject to the findings of the feasibility study done for the site mentioned in the first case. There is no sign that the feasibility study for the site will be launched soon.

Besides the sites we have discussed above, there are also some sites that are not planned for port back-up uses near the port area but are also under-utilised, i.e left vacant or used for open air parking (area in orange in **Figure 16**). We believe these sites are also well worth further studies for better long-term utilisation.

Figure 27. **Ranking of container ports based on container throughput**



Source: Marine Department

HKP used to be the world's busiest container port. However, it is losing out to its competing ports in neighbouring cities. Hong Kong has been slipping down the rankings of the world's busiest container ports, from the 1st in 2001 to 2004 to the 8th in 2019. Competitors in the region include Shanghai, Singapore, Shenzhen, and Guangzhou, all of which have outshone Hong Kong now **(Figure 27)**.

There is no doubt that lots of factors are contributing to the decrease in container throughput of Hong Kong Port, of which many are out of our control. However, it is hard not to wonder if things would have headed in another direction had more investment and government support been put into the maritime sector when it was still at its peak.

Will HKIA avoid going down the same path as Hong Kong Port?

Table 4. **Comparison of world's biggest cargo airports**

	2019 ranking by cargo tonnage	2019 annual cargo tonnage	Airport size (ha)	Logistics land size (ha)	Logistics land size per million tonnes (ha)	GFA for logistics (sq m)	GFA per million tonnes (sq m)
Hong Kong	1	4,809,485	1,255	55	11.4	996,000	207,000
Memphis	2	4,332,740	1,578	410	94.6	3,189,268	736,000
Shanghai	3	3,634,230	4,000	205	56.4	1,117,373	307,000
Louisville	4	2,790,109	610	53	18.9	5,200,000	1,864,000
Seoul [1]	5	2,764,369	3,900	338	122.1	1,183,708	428,000
Anchorage	6	2,745,348	1,865	68	24.6	18,694,946	6,810,000
Dubai	7	2,514,918	2,900	77	30.6	492,597	196,000
Doha	8	2,215,804	2,200	6	2.5	406,670	184,000
Taipei [2]	9	2,182,342	1,173	42	19.1	469,655	215,000
Tokyo [3]	10	2,104,063	1,137	45	21.4	650,000	309,000
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
Singapore	14	2,056,700	1,300	70	31.9	941,000	429,000

Notes: [1] Incheon International Airport
[2] Taiwan Taoyuan International Airport
[3] Narita International Airport

Sources: Relevant airports' official websites, DB Schenker, Airport Council International, and Statista

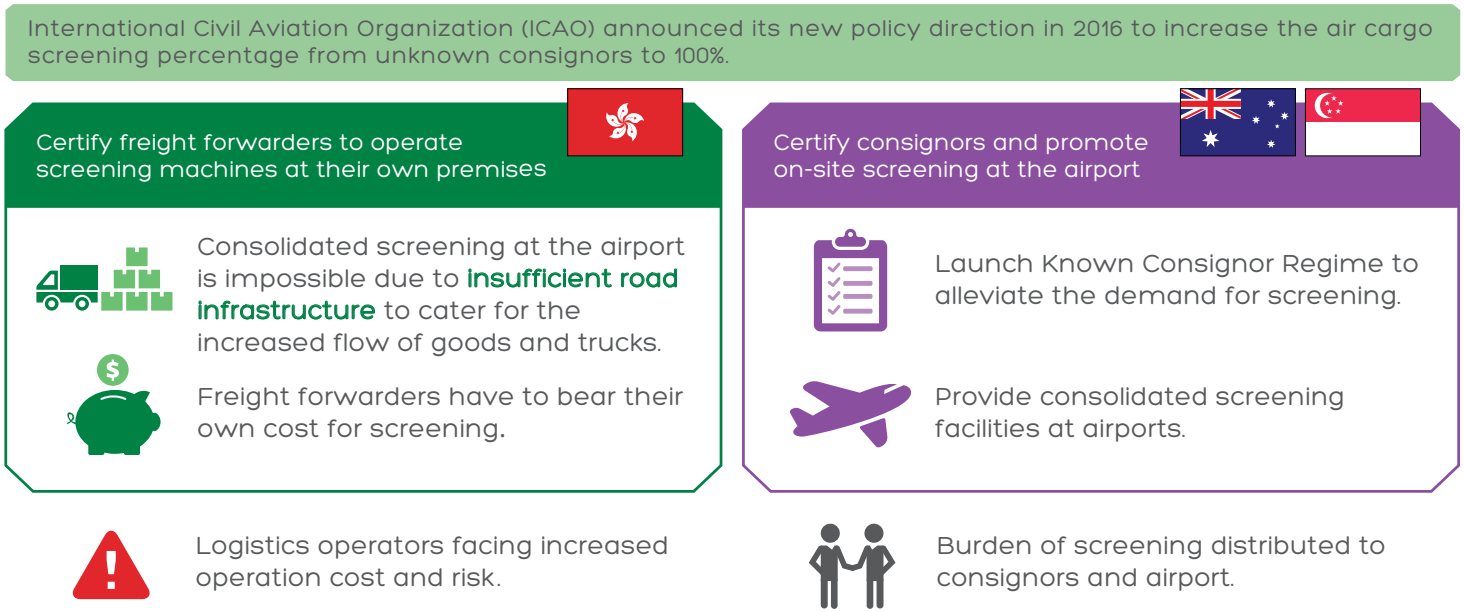
While we might be losing out to our neighbours in the competition on container cargo, we are still holding a firm lead in terms of air cargo. The last thing we want is for our airfreight business to go down the same path as our maritime sector.

HKIA, currently ranked the world's busiest cargo airport, is also facing potential space constraints. A comparison of the world's top ten cargo airports showed that HKIA is supporting more air cargo with less logistics land at the airport, with the ratio of airport logistics land supply to air cargo tonnage being second lowest among all airports. Even taking into account the practice of multi-storey development in Hong Kong, the ratio of Gross Floor Area to air cargo tonnage at HKIA is also one of the lowest among all airports **(Table 4)**.

As the three-runway system at HKIA will be completed in 2024, HKIA will accommodate more aircraft movements which could potentially push annual cargo traffic to 8.9 million tonnes by 2030, 1.5 million tonnes more than the current capacity of 7.4 million tonnes provided by existing air logistics facilities. Therefore, additional provision for logistics facilities at HKIA is needed.

Lack of infrastructure forced Hong Kong to adopt a different approach to air cargo security

Figure 28. **Approaches on air cargo security taken by Hong Kong and other jurisdictions**



Sources: Civil Aviation Department, Singapore Police Force, the Export Council of Australia, and JOC.com

We just mentioned the airfreight business is facing a potential land shortage inside the airport. The situation outside the airport is also not a reason for optimism. To explain why, let's first understand what parties are involved in airfreight consignment. The consignor, who is the owner or seller of the goods, will put them in the hands of a freight forwarder. The freight forwarder will arrange the flight and slots with carriers, which are the airlines providing cargo services. Once the flight is confirmed, the freight forwarder will pack the goods and transport them to cargo terminal operators, who are responsible for the last step in the process—loading the cargo onto the flight.

To fulfil their mandates, freight forwarders need operating space for discharging, loading, warehousing, and packaging cargo. With the new policy direction on cargo security given by the International Civil Aviation Organization (ICAO), freight forwarders will need to find space to accommodate new x-ray scanners to fulfil 100% screening of air cargoes from unknown consignors, which increases freight forwarders' operation costs.

Can air cargo be screened at HKIA? Yes and no. The airport's cargo terminals do have screening facilities, but for goods to be screened at the airport, they must be transported to the airport in loose form instead of in consolidated packs. This will increase the trucking traffic to the airport. However, the current road infrastructure and parking facilities are not able to accommodate such a traffic surge. Therefore, the Civil Aviation Department launched the Regulated Air Cargo Screening Facilities Scheme, an option for freight forwarders to screen the cargoes in a certified screening facility outside the airport.

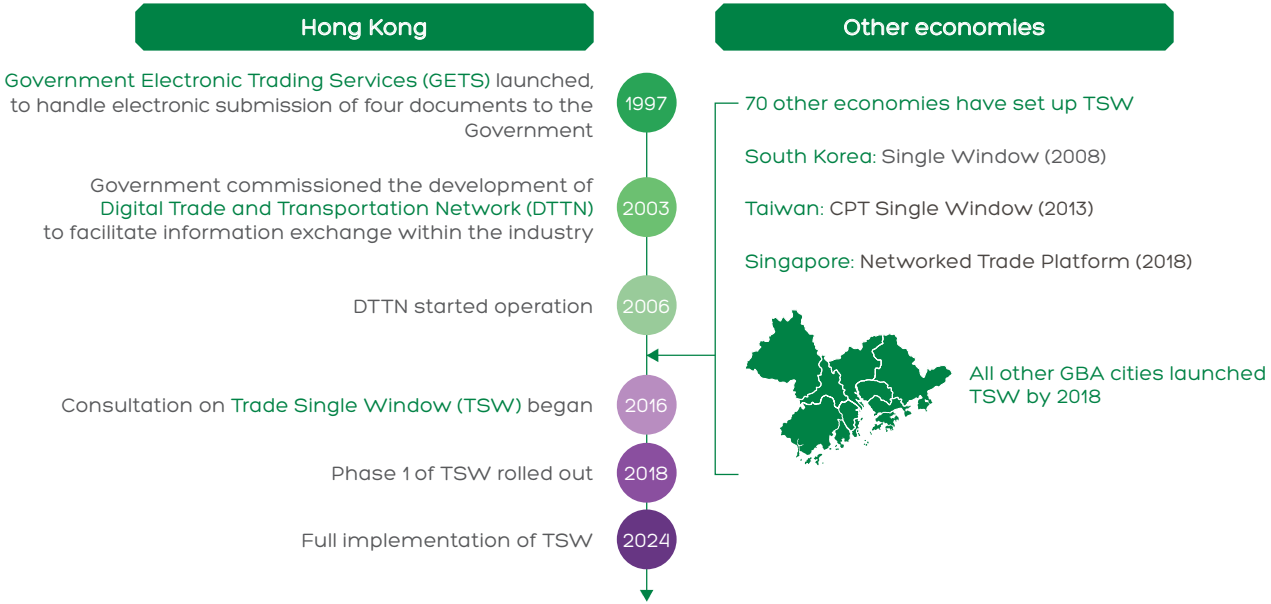
There is another way to reduce the burden of screening for freight forwarders. That is to validate the consignors as 'known consignors'. According to ICAO policy, cargo from a 'known consignor' is deemed secure and not subject to 100% screening. Australia and Singapore have adopted this strategy to reduce the overall demand for screening, while allowing the minority of goods coming from unknown consignors to be screened at the airport **(Figure 28)**.

Hong Kong also launched the Known Consignor Validation Scheme recently. However, the scheme only targeted Hong Kong-based consignors, while most of the consignors using the Hong Kong air hub are based in mainland China.

Hong Kong lags behind other economies in providing an all-encompassing Trade Single Window

Another example that illustrates the Government's lacklustre efforts is the process of submitting trade documentation. For the trading of goods into, out of, and through Hong Kong, a trader is required to submit 51 different documents for trade declaration and customs clearance purposes to nine government agencies. A total of 24 out of the 51 documents are in electronic form, while the remaining 27 documents are in paper form. One can well imagine the burden of these trade controls and the cost of such documentation compliance.

Figure 29. **Development timeline of electronic platform for trade document submission**



Sources: Legislative Council, Networked Trade Platform, and The Hang Seng University of Hong Kong

Hong Kong was once a pioneer in the digitalisation of trade documents **(Figure 29)**. In 1997, the Government launched the Government Electronic Trading Services (GETS) to handle electronic submission of four documents. Subsequently in the 2000s, it introduced the Digital Trade and Transportation Network (DTTN), which served as an information exchange platform within the industry. However, since then, the Government's efforts in digitalising trade documents have gradually subsided.

In 2005, the United Nations recommended establishing a Trade Single Window (TSW), which is a 'facility that allows parties involved in trade and transport to lodge standardised information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements.'[13] By 2018, 70 economies had established their own TSW, including South Korea, Taiwan, Singapore, and all GBA cities except Hong Kong.

Hong Kong began consultation on TSW only from 2016. Phase 1 of TSW was rolled out in 2018, but the complete implementation of TSW will have to wait until 2024 at the earliest. And the Government has yet to provide any information on how and when the TSW will be connected to the TSW of other economies or other B2B systems used by the industry. Without a timely implementation of a well-integrated TSW, Hong Kong may potentially be at a disadvantage in promoting trading and logistics activities.

[13] United Nations Centre for Trade Facilitation and Electronic Business. (2005). *Recommendation and Guidelines on establishing a Single Window.*

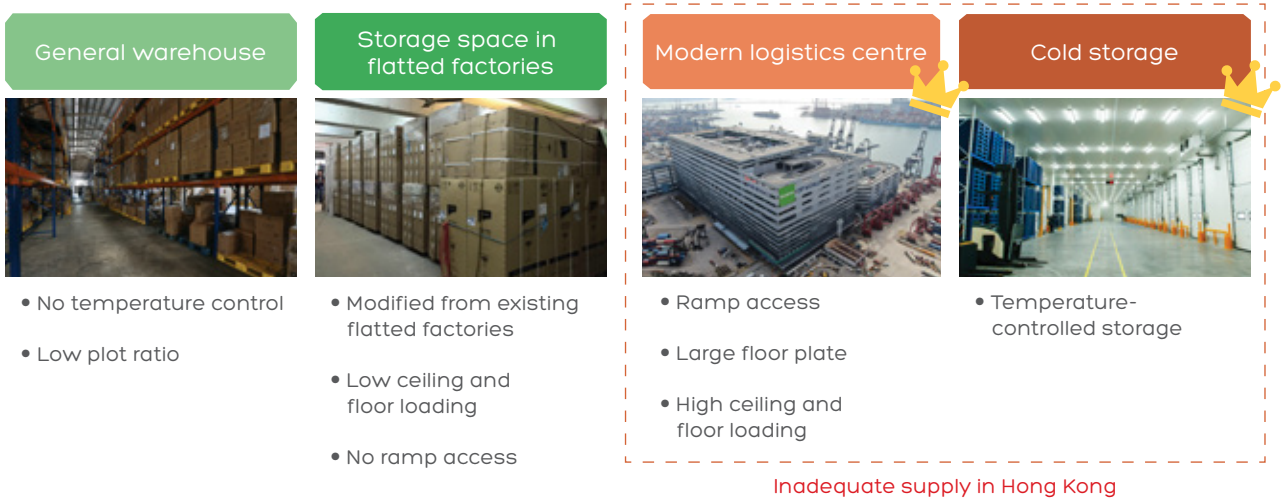
5 Land Constraints Faced by the Local Logistics Industry

As discussed earlier, the development of the industry has long been constrained by the insufficient availability of land, a direct consequence of the Government's lack of a strategic economic and industrial blueprint. In the following sections, we will take a deep dive into the land shortage issue faced by the logistics industry.

Logistics properties in Hong Kong can be broadly categorised into four types: general warehouse, storage space in flatted factory, modern logistics centre, and cold storage **(Figure 30)**. Since logistics services are facing higher customer expectations in terms of timeliness, security, status monitoring and value-adding services, general warehouses and traditional flatted factories can hardly meet the requirements of modern logistics operators.

Flatted factories were designed during the industrial era of Hong Kong. Their low ceilings and light floor loading make them more suited for light manufacturing than modern logistics. Access to the upper floors of these flatted factories are via lifts only, and the lifts tend to be outdated with limited weight lifting capacity. Direct access to upper floors via ramps is preferable for modern logistics operation, but ramps are virtually non-existent in the older industrial districts. General warehouses, on the other hand, are purposely-built floor space for basic logistics and storage purpose. However, general warehouses do not have temperature control capability.

Figure 30. **Types of industrial and logistics space in Hong Kong**



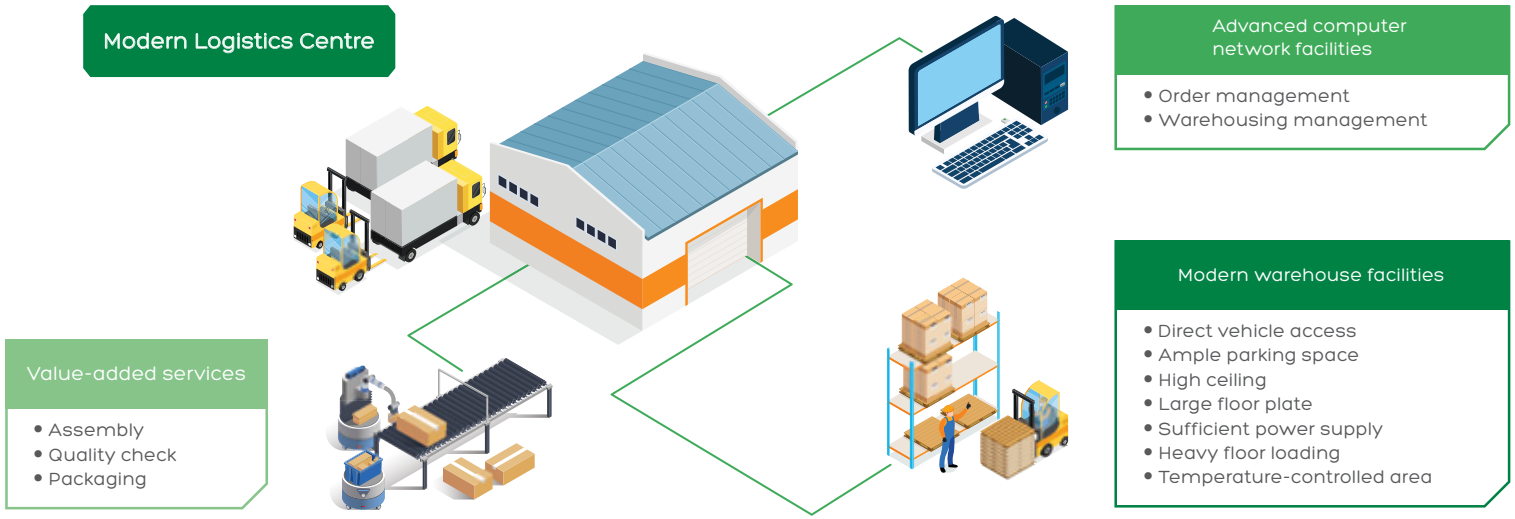
Sources: Savills and CBRE Research

To fulfil the needs of modern logistics operators, high quality spaces, such as those provided by modern logistics centres and cold storage have emerged in the market to meet the needs of the industry. However, given the rising demand of high-quality logistics space driven by cross-border e-commerce, high-value grocery re-exports, and growing demand for healthcare products like vaccines, the supply of modern logistics centres and cold storage is far from adequate. The result is a much tighter vacancy rate for these two types of facilities.

A modern logistics centre is more than a larger warehouse space

Figure 31 gives our readers an idea of what a modern logistics centre is and how it stands apart from general warehouses and traditional flatted factories.

Figure 31. **Specifications of a modern logistics centre**



Source: Savills

According to Savills, a modern logistics centre should be equipped with contemporary warehousing facilities,[14] which are characterised by:

- Direct vehicle access with ramps across floors;
- Ample space and parking lots for cross-docking;
- High ceiling of at least 15 feet for three-pallet storage;
- Large floor plate of at least 50,000 square feet;
- Sufficient power supply;
- Heavy floor loading with a minimum of 200 pounds per square foot;
- Temperature-controlled storage area

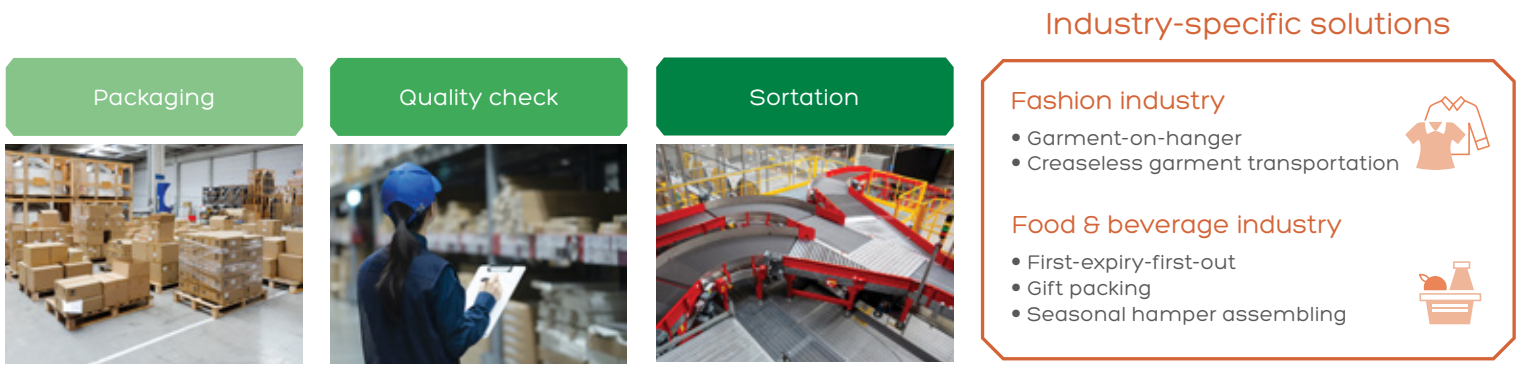
In addition, a modern logistics centre should also have an extensive application of information technology. Advanced computer network facilities inside the logistics centre can enable the operators to perform ordering and warehousing management in a seamless and automated manner.[15]

There also needs to be abundant space in a modern logistics centre for the logistics operators to perform value-added services, such as assembly, quality check and packaging.

[14] Savills World Research. (2018). *Modern Logistics and the Hong Kong International Airport Kwo Lo Wan Site*.
[15] Legislative Council Secretariat. (2015). *Background brief on the logistics development in Hong Kong*.

Examples of value-added services

Figure 32. **Examples of value-added services provided by logistics operators**



In light of the growing demand for up-market consumer goods, logistics operators have evolved to offer a wide spectrum of value-added services in addition to the physical movement of goods. These run the gamut of light manufacturing, product packaging, temperature-controlled warehousing, and cross-docking support, etc. Take cross-docking for an example—logistics operators unload, sort and then reload products from various suppliers to deliver time-sensitive products to end clients with the least possible lead time.

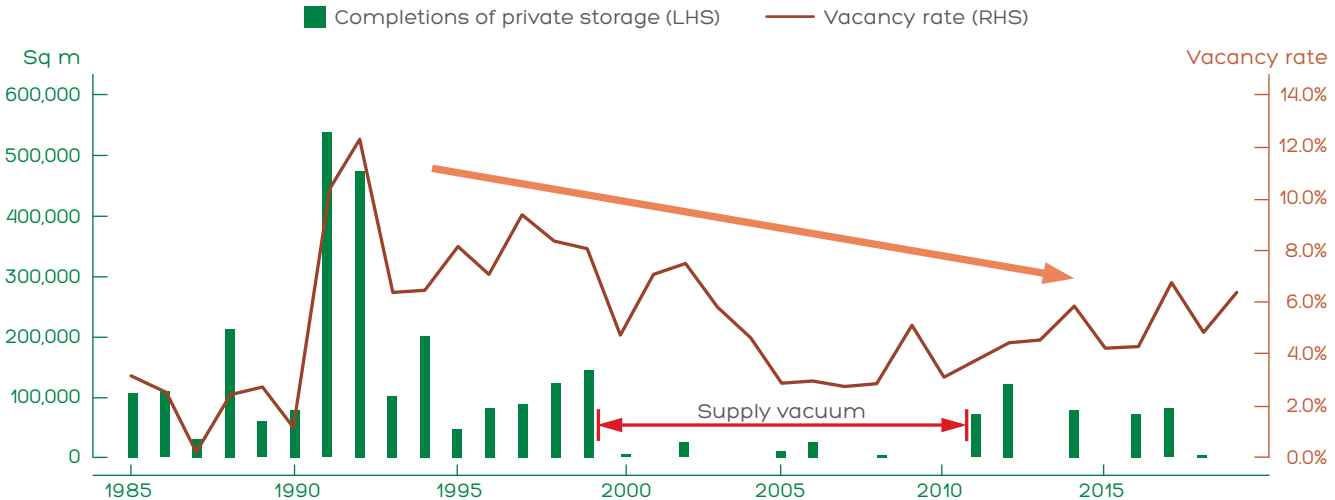
There are also solutions to cater for industry-specific needs.[16] For clients from the fashion industry, logistics operators may offer garment-on-hanger and creaseless garment transportation. When delivering products for clients from the food and beverage industry, some logistics firms also provide an inventory tracking solution to manage the inventory with a first-expiry-first-out (FEFO) method to minimise product deterioration. Gift packing and seasonal hamper assembling are also common examples of value-added services **(Figure 32)**.

[16] Kerry Logistics Network. (2020). *Industry Solutions*.

Tight supply of warehousing space in Hong Kong drives up rent

Despite booming demand for high-quality logistics space, the supply of such space is very tight in land-constrained Hong Kong. According to statistics from the Rating and Valuation Department, the completion of new private storage has been meagre since the 1990s. In particular, there was a supply vacuum from 2000 to 2010. The supply of logistics space remained unstable in the years that followed, with no completion of private storage recorded in 2013, 2015 and 2019. This has driven down the vacancy rate, which stands at below 7% as of 2019 **(Figure 33)**.

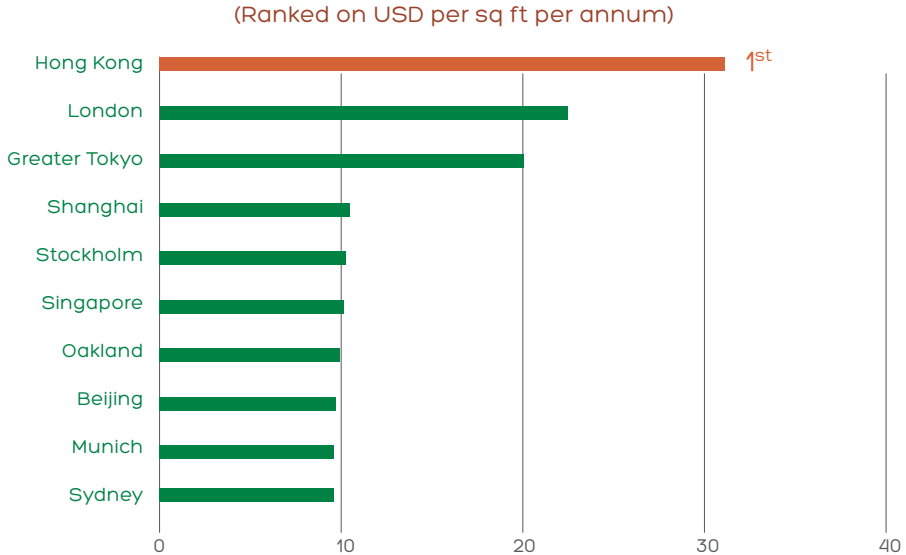
Figure 33. **Completion and vacancy rate of private storage in Hong Kong**



Note: Assuming private storage GFA is intended for logistics use.
Source: Rating and Valuation Department

Low vacancy rate indicates a tight market, which usually leads to high rentals. According to CBRE Research,[17] in 2018, the prime logistics rent in Hong Kong was the highest in the world. The average rent per square foot per annum exceeded USD 30 (approximately HKD 240), while our neighbouring cities such as Greater Tokyo and Shanghai recorded rates of only USD 19.96 and USD 10.51 respectively **(Figure 34)**.

Figure 34. **2018 Top Ten Cities with Most Expensive Prime Logistics Rent**



Source: CBRE Research

[17] CBRE Research. (2019). *Global Prime Retail Rents Q4 2018.*

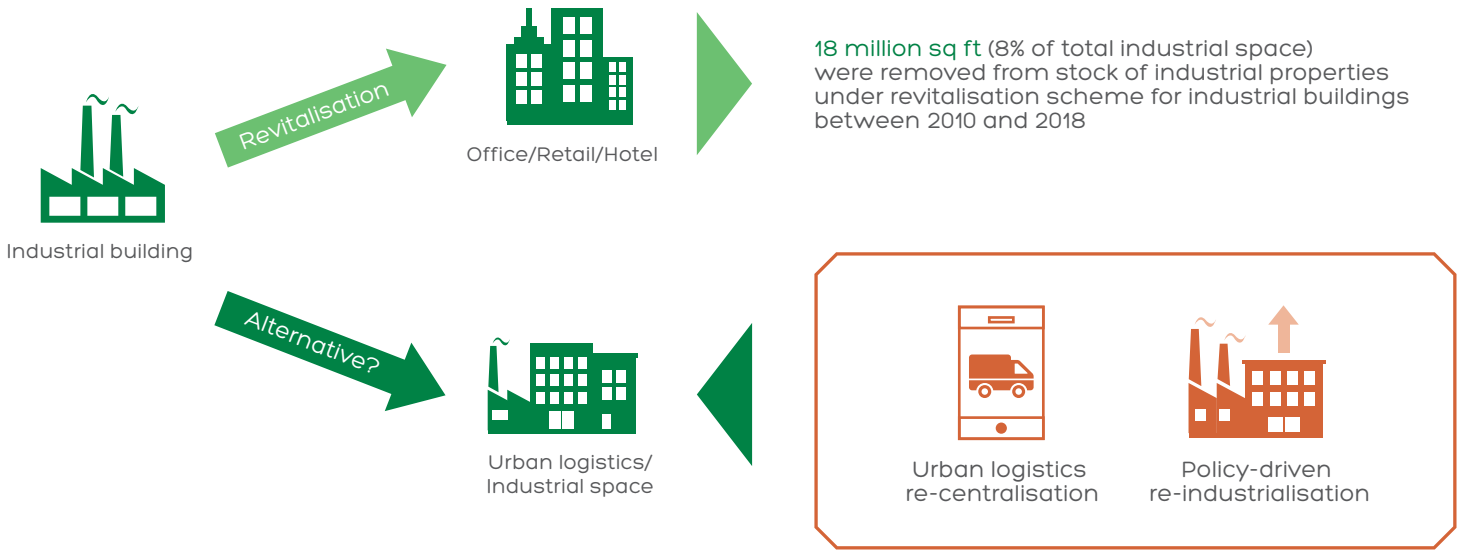
Revitalisation of industrial buildings removes potential logistics space

Not only is there insufficient new supply of space, the existing stock is also being taken away. According to the *Report on 2014 Area Assessment of Industrial Land in the Territory* conducted by the Planning Department,[18] 42% of the floor spaces in industrial buildings were for logistics / warehouse use. However, the Government's revitalisation scheme for industrial buildings, which encourages the conversion of such buildings into commercial use, further reduces the space that could be used for logistics operations. From 2010 to 2018, a total of 18 million square feet (8% of total industrial space) were removed from the stock of industrial properties.[19]

As e-commerce is becoming increasingly popular, shopping activities are also moving from offine to online. Faced with these changes, retailers have grown to be less dependent on traditional store fronts and more reliant on warehouses and fulfilment centres. The emergence of the next-day or even same-day delivery model requires logistics facilities to be located closer to customers. Many existing industrial buildings are located in urban areas and thus in a good position to accommodate such logistics activities. Another demand driver of industrial space could be the Government's initiative on re-industrialisation. Still, to grasp such opportunities, industrial buildings need to be upgraded in order to meet modern needs **(Figure 35)**.

[18] Planning Department. (2015). *Report on 2014 Area Assessments of Industrial Land in the Territory.*
[19] CBRE Research. (2019). *Industrial Revitalisation Scheme 2.0: Optimising Industrial Property Redevelopment in Hong Kong.*

Figure 35. **Removal of industrial space due to revitalisation of industrial buildings**

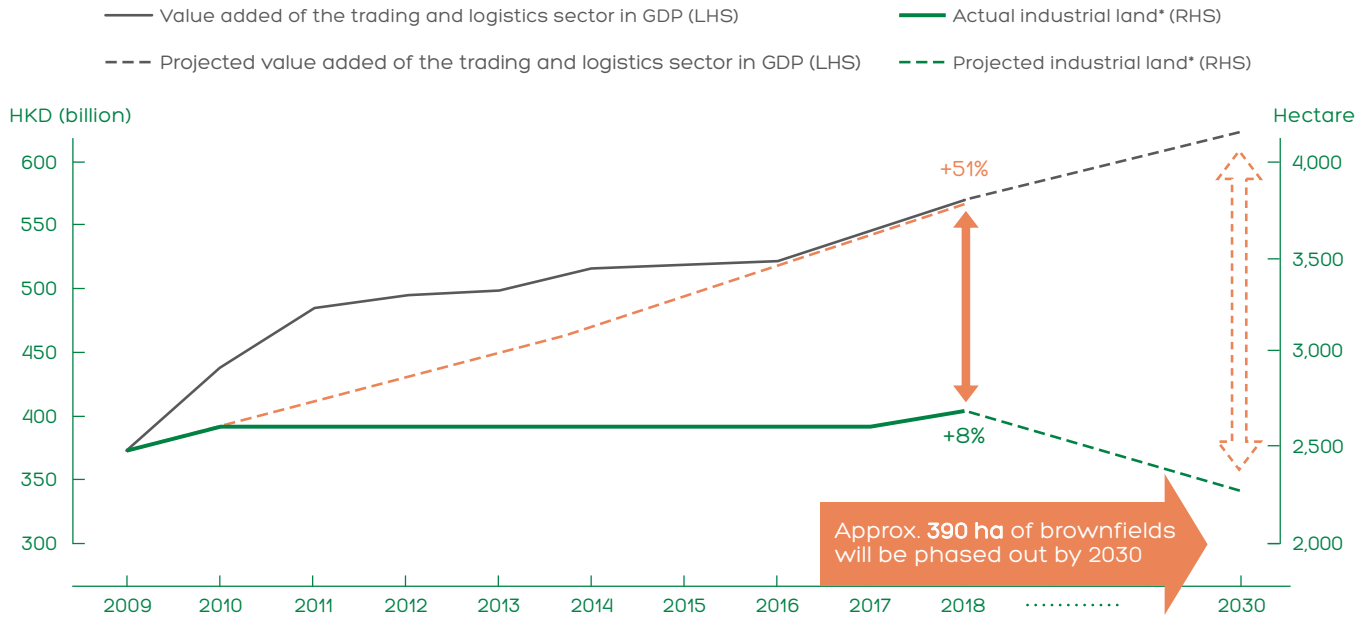


Sources: Legislative Council and CBRE Research

Industrial land shortage will intensify

In an attempt to gauge the shortfall of logistics space in Hong Kong, we compared the value-added component of the trading and logistics sector with the built-up industrial area. Generally speaking, when the trading and logistics industry grows, more goods are processed and handled by the industry, and hence one can assume that the demand for land and space will also increase.

Figure 36. **Growth in value added of the trading and logistics sector compared to built-up industrial area**



Note: [*] Includes industrial land, industrial estates, warehouses, and open storage.
Sources: Census and Statistics Department and Our Hong Kong Foundation

Figure 36 showed that while the GDP contributed by the trading and logistic sector had grown by 51% from HKD 377 billion to HKD 571 billion from 2009 to 2018, the industrial built-up land recorded only a modest increase of 8%, with much of the increase attributed to the expansion of brownfields. To catch up with the growth in value-added of the industry, a rough estimate is that there should be an additional 1,300 hectares of industrial land to support a now much bigger industry. One might argue that the actual shortfall could be less as the land efficiency should have increased over the period. However, even half of that figure would mean a deficit of 650 hectares, tripling the size of the three existing industrial estates combined.

To make matters worse, the Government is in the process of reapportioning brownfields for residential development. It is expected that around 390 hectares of brownfields will be gradually phased out by 2030, so the shortfall of industrial land will likely increase.

We understand that in Hong Kong, industrial land is not used exclusively by the trading and logistics business, but accommodates other users like manufacturers. However, since these other activities are relatively minor, we would use industrial land as a proxy of the economic ancillary land for the trading and logistics sector to illustrate a certain phenomenon.

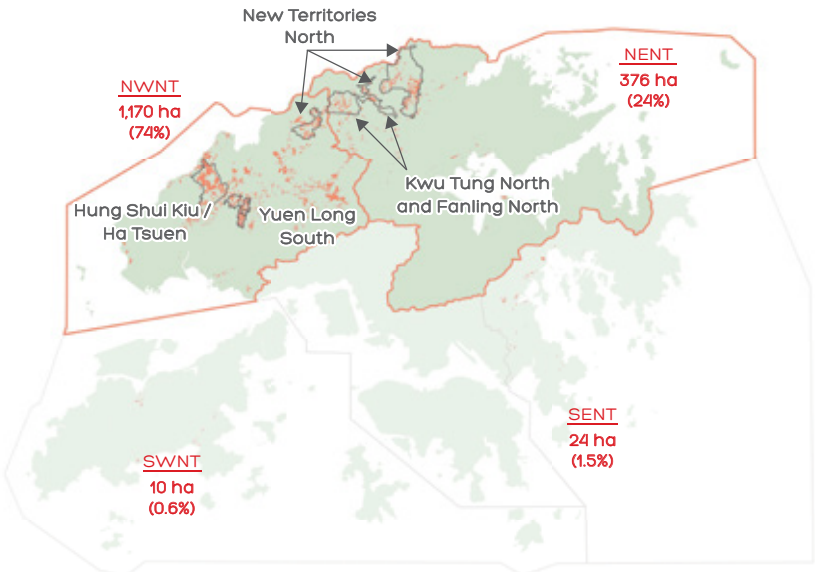
Lack of industrial land supply forced logistics operators to move into brownfields in the New Territories

In fact, brownfield sites are not idle, but serve as important economic ancillary land for an array of industrial activities. The shortage of industrial land in the past is one of the key reasons why the brownfield operation has been proliferating in the New Territories. The provision of industrial land, in particular for port back-up and logistics industries, could not meet the continuing growth of the trading and logistics sector in the past decade. Relevant operations therefore gradually crept into abandoned agricultural land, taking advantage of the low rental of such land in the New Territories.

According to the findings of the Government's *Study on Existing Profile and Operations of Brownfield Sites in the New Territories*, a total of 1,579 hectares of brownfield sites were identified, predominantly in the Northwest and Northeast New Territories (74% and 24% respectively). More than half (803 hectares) of these brownfield sites are within the New Development Areas (653 hectares) or within other development projects initiated by either the Government or the private sector (150 hectares) **(Figure 37)**.

Figure 37. **Distribution of brownfield sites by locations in Hong Kong**

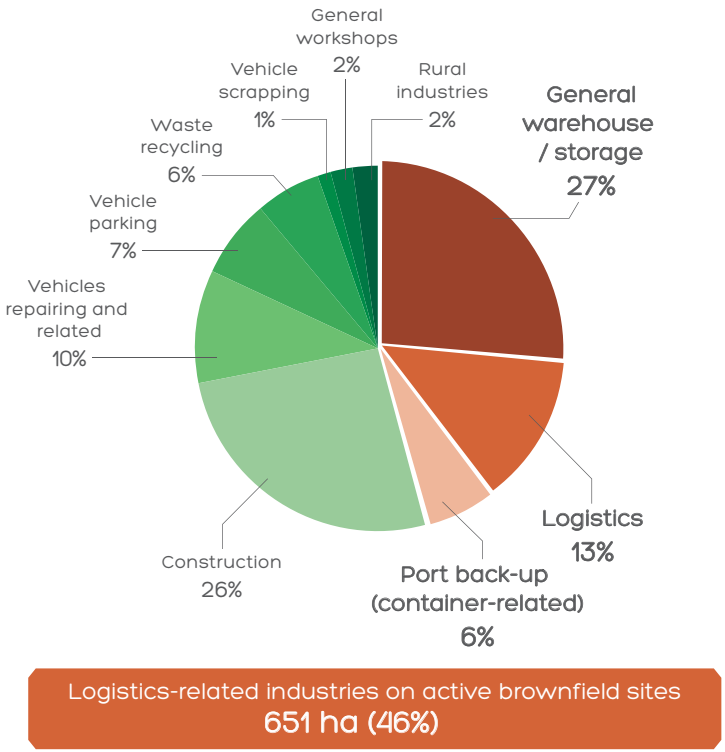
Within new development areas (NDA)	653 ha
Hung Shui Kiu / Ha Tsuen	246 ha
New Territories North	243 ha
Yuen Long South	94 ha
Kwu Tung North and Fanling North	70 ha
Within other development projects	150 ha
Within conservation-related zones	76 ha
Remaining brownfield sites	700 ha
Total	1,579 ha



Notes: NWNT refers to Northwest New Territories; NENT refers to Northeast New Territories; SWNT refers to Southwest New Territories; SENT refers to Southeast New Territories
Source: Planning Department

1,414 hectares of these brownfield sites are identified as being in active use. Logistics-related industries (i.e. general warehouse / storage, logistics, and port back-up) occupy a substantial total of 651 hectares, or 46% of active brownfields **(Figure 38)**.

Figure 38. **Percentage share of brownfield sites by industry**

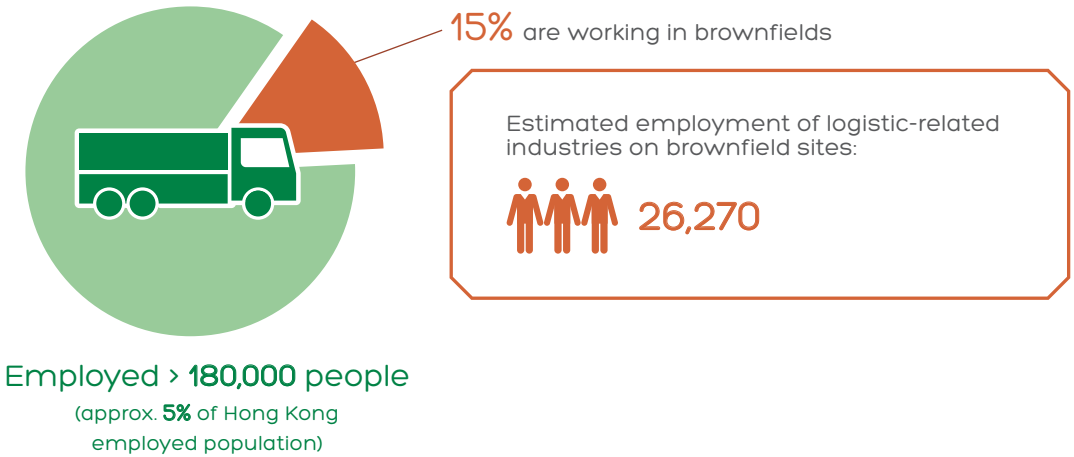


Source: Planning Department

Brownfield operators provide a considerable number of job opportunities to the logistics industry

Logistics operations on the brownfield sites provide a considerable number of job opportunities. In Hong Kong, logistics-related industries employed over 180,000 people as of 2018. It was estimated that the brownfield logistics operators employed 26,270 workers,[20] representing 15% of the employed population in the industry **(Figure 39)**.

Figure 39. **Employment of logistics-related industries in Hong Kong**



Note: Employment of logistics-related industries on brownfield sites includes employment in general warehouse / storage, logistics, and port back-up (container-related) at the end.
Sources: Census and Statistics Department and Planning Development

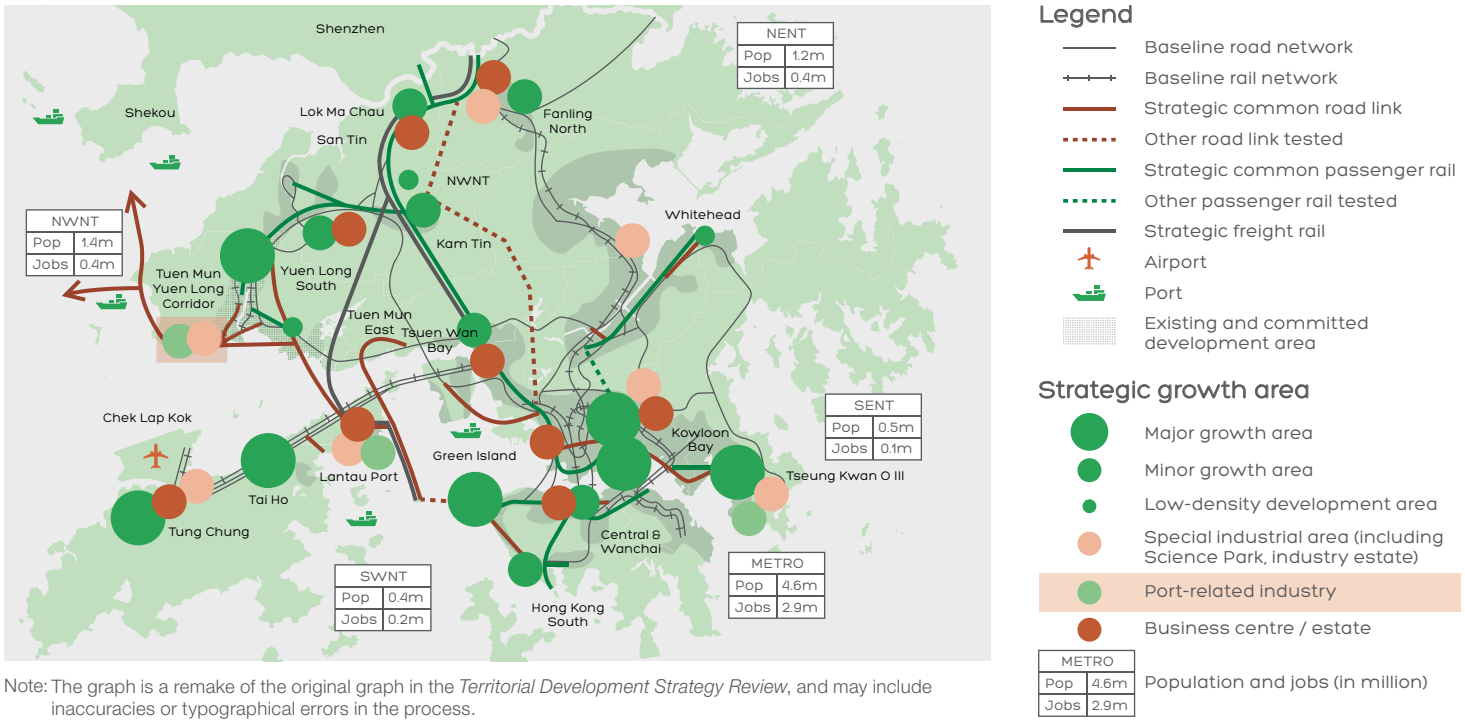
[20] Employment in brownfield logistics operators includes employment in General Warehouse / Storage, Logistics, and Port Back-up (container-related).

Photo: leungchopan / Shutterstock.com

The planned development of Northwest New Territories for the port back-up industry in the 1990s has yet to be realised

Some of the brownfield hot spots are exactly those that the Government planned for port back-up uses almost 20 years ago. In fact, the Government drafted plans back in the 1990s to develop land for logistics-related purposes. In the *Territorial Development Strategy Review*[21] issued in 1999, an area in Tuen Mun West was planned to be developed as a special industrial area and for the port-related industry by 2011 **(Figure 40)**.

Figure 40. **An assumed development pattern for Scenario B by 2011 (1999)**

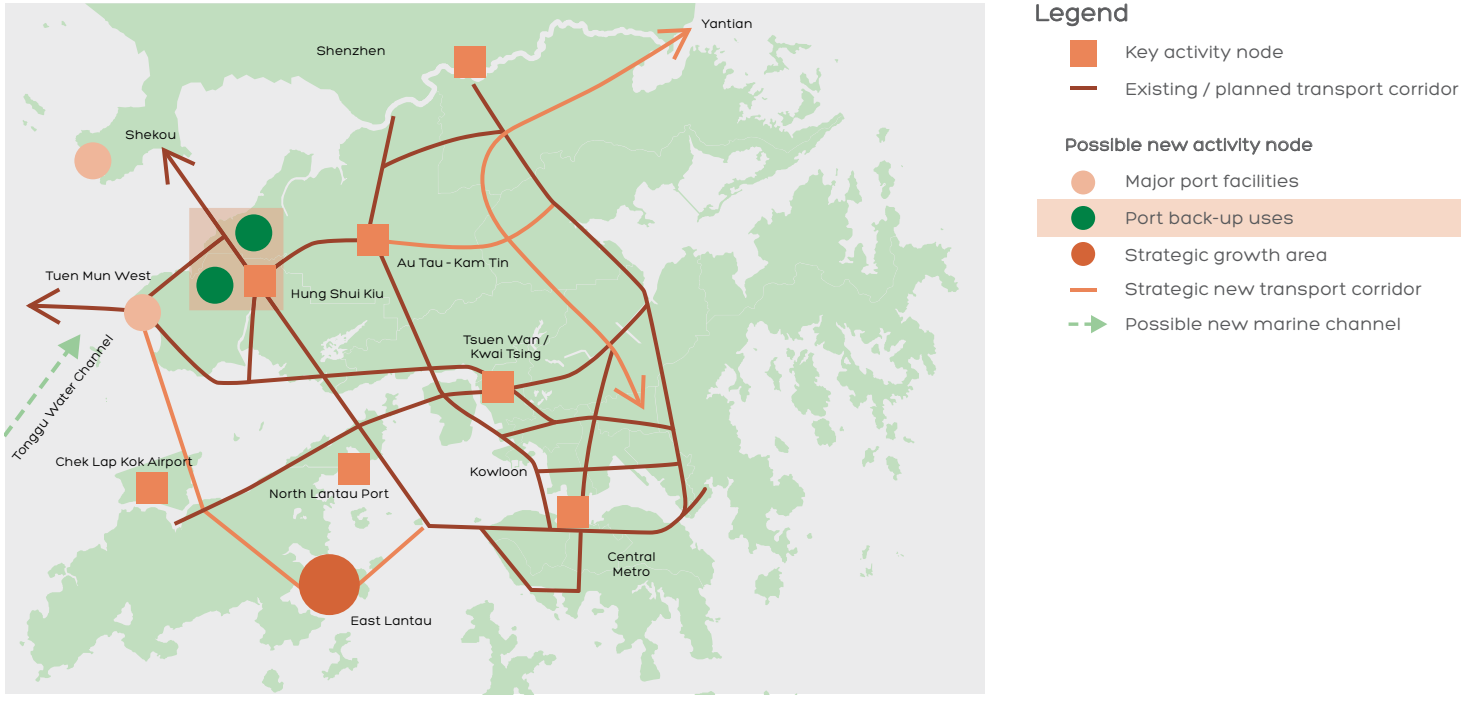


Note: The graph is a remake of the original graph in the *Territorial Development Strategy Review*, and may include inaccuracies or typographical errors in the process.
Source: *Territorial Development Strategy Review* (1999)

[21] Planning, Environment and Lands Bureau. (1998). *Territorial Development Strategy Review: A Response to Change and Challenges Final Executive Report.*

Furthermore, two port back-up use nodes were planned near Hung Shui Kiu to fulfil longer-term development needs beyond 2011 **(Figure 41)**.

Figure 41. **Distant Vision Concepts (1999)**



Note: The graph is a remake of the original graph in the *Territorial Development Strategy Review*, and may include inaccuracies or typographical errors in the process.
Source: *Territorial Development Strategy Review* (1999)

However, the planned development has not been fully implemented. While the River Trade Terminal commenced operation in 1999, there was minimal provision of space near the terminal for port back-up facilities and logistics space. The same could be said for the two planned port-back up nodes near Hung Shui Kiu.

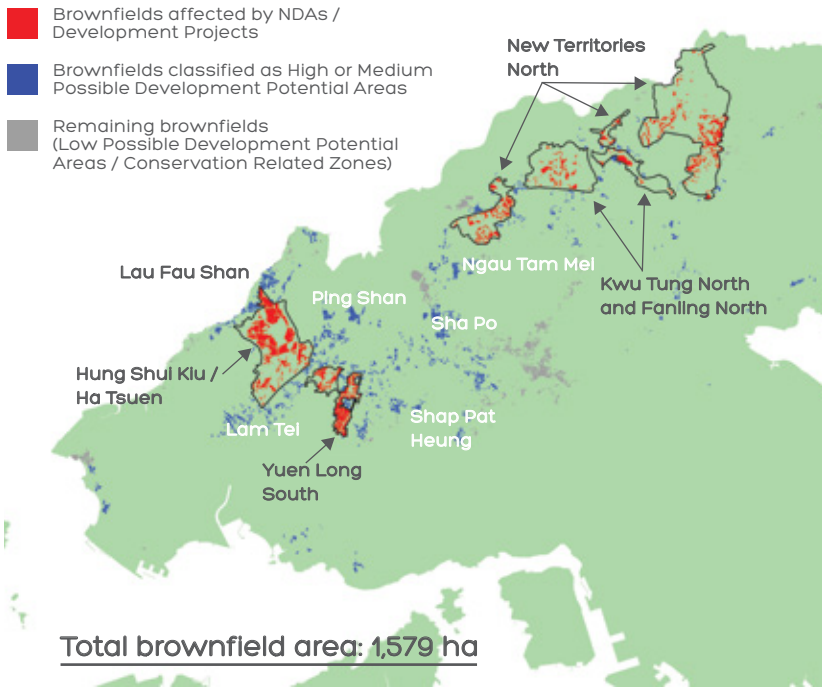
Operating space on brownfields will gradually be phased out

As there is a continued shortage of both private and housing supply and the city's land bank is depleting, the Government is actively considering the redevelopment of brownfields. This implies that more industrial and logistics space will be phased out and the land shortage for the industry is likely to be exacerbated if there is not enough space planned for relocation of brownfield operations.

Of the 1,579 hectares of brownfield sites in the New Territories, half (803 hectares) already fall within the boundaries of existing or planned New Development Areas (NDA) development projects and will be phased out gradually. A further 450 hectares (28%) of the brownfield sites are classified as high or medium possible Development Potential Areas **(Figure 42)**. This suggests a greater likelihood that these brownfield sites will be eradicated to make way for housing or other development.

As the brownfield sites are redeveloped, existing operators will need to find sites elsewhere for relocation. This is expected to further drive up demand for industrial space and intensify the competition for the already tight supply of land. Nonetheless, there are two sides to every question. Just as the operating space on brownfields is being phased out, there is a precious opportunity to plan comprehensively and carry out reforms to boost Hong Kong's competitiveness as a logistics hub.

Figure 42. **Distribution of brownfield sites by planned development or development potential**



About **50%** brownfield sites will be affected by New Development Areas and other Development Projects

Affected by New Development Areas / Development Projects	803 ha
Hung Shui Kiu / Ha Tsuen	246 ha
New Territories North	243 ha
Yuen Long South	94 ha
Kwu Tung North and Fanling North	70 ha
Other development projects[1]	150 ha

About **28%** brownfield sites are classified as high or medium[2] possible Development Potential Areas (DPA)

Possible Development Potential Areas (DPA) to be studied	450 ha
High DPA–Ping Shan, Lam Tei, Sha Po Tsuen, Shap Pat Heung, etc.	160 ha
Medium DPA–Ngau Tam Mei, Lau Fau Shan, Lung Kwu Tan South, etc.	290 ha

Notes: [1] As the details of the 150 ha development projects have not been announced, the exact locations of these projects are not shown on the map.
[2] The Planning Department will study about 700 ha brownfield sites, which are to be classified as high, medium, and low Development Potential Areas, of which 250 ha brownfield sites are classified as low Development Potential Areas.

Source: Planning Department

Brownfield emerges as a consequence of inadequate land-use planning for industrial growth

To conclude so far, the emergence of brownfield is indeed an undesirable consequence of inadequate economic land use planning for industrial growth. We saw how the emergence of brownfield in the New Territories unfolds in three stages **(Figure 43)**:

Figure 43. **Emergence of brownfield in three stages**

1. Lack of holistic economic and land use planning

The Government as the overall planner and land supplier has the responsibility to provide adequate land for various uses, including economic activities. While the Government does establish frameworks for long-term land planning, it is not uncommon to see these planned development projects being delayed or overridden by short-term priorities.

2. Organic development of brownfield is being fostered

As the business environment of the logistics industry evolves, existing general warehouses and flatted storage facilities can hardly meet today's market needs. Lack of industrial land in the urban area also pushes up rents. This situation has coalesced into a sprouting of brownfields as the market is driven to explore affordable alternatives in the New Territories. The logistics cluster was then fostered organically as a market response to the land shortage.

3. Suboptimal operation on brownfield leads to negative externalities

These operations on brownfield sites are far from optimal, as they did not undergo comprehensive advance planning. Operations on brownfield may not be built in permanent structures and are usually low in land utilisation efficiency. These brownfield sites are often scattered in different areas and may intermingle with villages or farmland. Thus, brownfield operations often incur adverse impacts on the community, such as noise and environmental pollution. Heavy trucks can also cause serious traffic jams on narrow roads and may pose a threat to residents living nearby. Without government intervention, it is unlikely that individual operators on brownfields will consolidate and upgrade their operations, and the community will continue to suffer from these negative externalities.

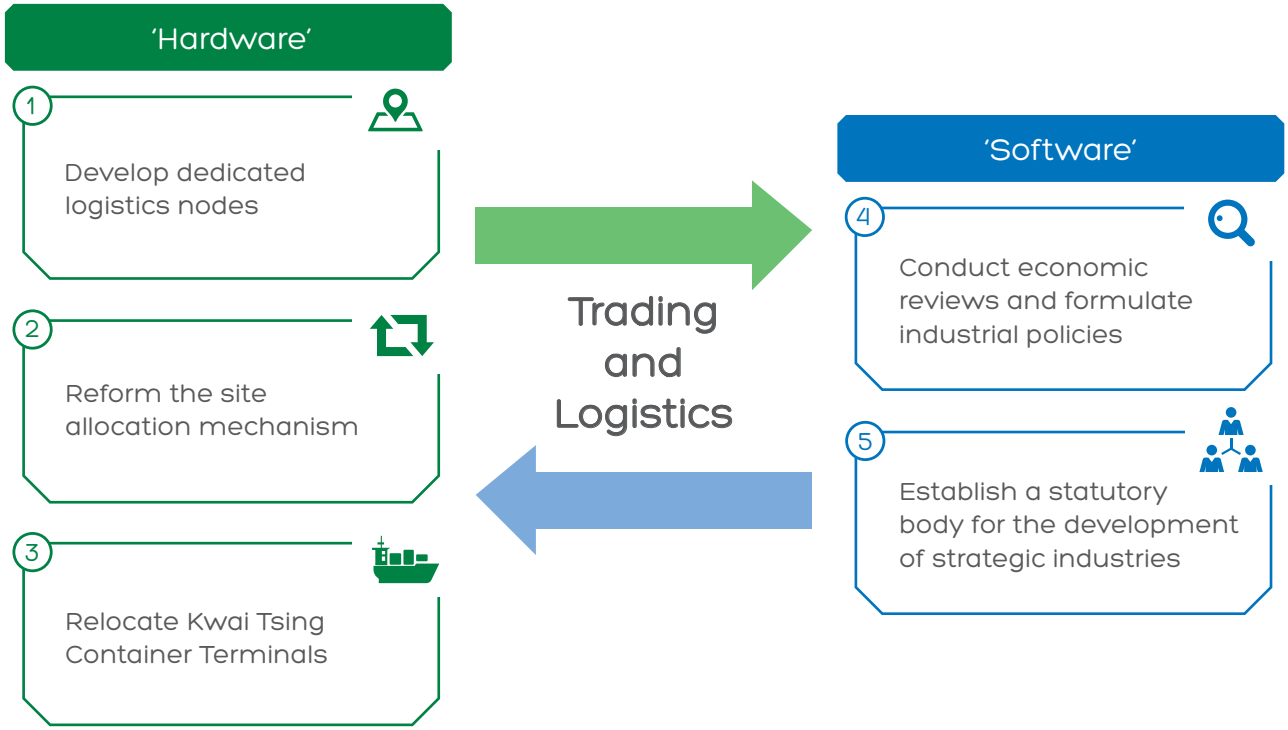
The way forward: A commitment to ensure adequate and timely provision of land and facilities for strategic industries

The emergence of brownfield is a concrete case in point of the Government's poor record on execution. While the Government has long-term land planning in place, these plans are not complemented by short- to medium-term goals, and hence are often overridden by short-term priorities. Therefore, to resolve the land shortage for the logistics industry and the brownfield issue, it is crucial to ensure that the Government develops a strategic economic and industrial blueprint, and also develops a proper governance structure to implement strategic plans concerning land use.

People not only need shelters but also jobs. While the Government should not leave any stone unturned in its quest to unlock more land for homes, it should also make sure that there is enough land to develop our strategic industries.

To cope with the aforementioned challenges in terms of land shortage and lack of policy support for the logistics sector, we hereby propose five policy recommendations to promote the sustainable growth of the sector **(Figure 44)**. In terms of 'hardware', we recommend that the Government develops dedicated logistics nodes, reforms the site allocation mechanism and operation model, and considers relocating the Kwai Tsing Container Terminals. Regarding 'software', we recommend that the Government conducts regular economic reviews, forms industrial policies, and establishes a statutory body for strategic industries like the logistics industry.

Figure 44. **Five recommendations to improve Hong Kong's logistics competitiveness**

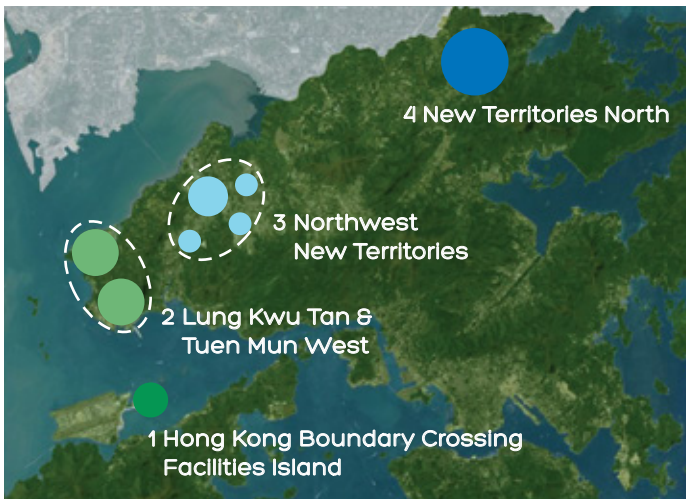


Recommendation 1: Develop dedicated logistics nodes

To provide enough land to consolidate the current brownfield operations and meet the future demands of the trading and logistics industry, we recommend that the Government develops dedicated logistics nodes in the New Territories. Planned clustering of logistics and other brownfield activities will improve their operational efficiency and eliminate the negative environmental impact imposed by current unorganised brownfield operations. The proposed logistics nodes can serve as a viable relocation option for the existing brownfield operators, thereby helping to facilitate the reapportioning of the land for the NDA and other development purposes.

A total of four logistics nodes sited at strategic locations in the New Territories are proposed. These nodes can provide 740 to 930 hectares of land and accommodate 80,000 to 125,000 jobs collectively **(Figure 45)**. The key to realising the provision of such potential of land and employment is timely implementation with a concrete timeline.

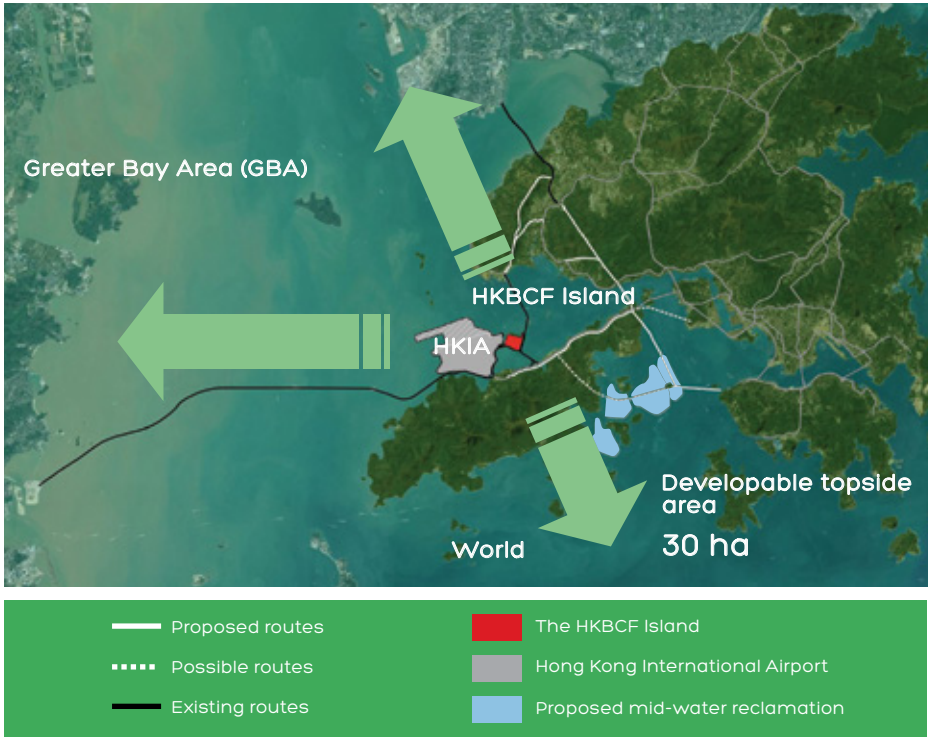
Figure 45. **Potential sites for development of dedicated logistics node**



Logistics Nodes	Roles and Functions	Size (ha)	Estimated job capacity
1 Hong Kong Boundary Crossing Facilities Island	Airport Logistics Consolidation Centre	30	5,000-10,000
2 Lung Kwu Tan & Tuen Mun West	Airport Logistics Support Hinterland	450-590	50,000-70,000
3 Northwest New Territories	GBA Logistics Gateway (Western)	150-160	15,000-25,000
4 North New Territories	GBA Logistics Gateway (Eastern)	110-150	10,000-20,000
	Total	740-930	80,000-125,000

Logistics Node 1: Topside development at Hong Kong Boundary Crossing Facilities Island—an airport logistics consolidation centre

Figure 46. **Proposed topside development at HKBCF Island**



Development timeline

2015

Planning, Engineering and Architectural Study for Topside Development at HKBCF Island of the Hong Kong-Zhuhai-Macao Bridge (HZMB), Hong Kong section

Suspended

2018

Government invited Airport Authority Hong Kong to submit development proposal

Work in progress

2020

? ? ?

Double Gateway
Airport Logistics Consolidation Centre

The Hong Kong Boundary Crossing Facilities Island (HKBCF Island) is located at the landing point of the Hong Kong-Zhuhai-Macao Bridge (HZMB) near the Hong Kong International Airport (HKIA). Its geographical advantage makes it a double gateway that connects to both the Pearl River Delta and the world. To explore the optimum utilisation of the HKBCF Island, the Government commissioned the *Planning, Engineering and Architectural Study for Topside Development at the Hong Kong Boundary Crossing Facilities Island of Hong Kong-Zhuhai-Macao Bridge*[22] (the Study) in 2015. Logistics development is one of the airport-related industries recommended in the initial stage of the Study.

However, the Study was suspended in 2018 when the Government invited the Airport Authority Hong Kong (AAHK) to submit a proposal for the development. Five years have passed since the Study was commissioned, but no further progress has been announced by the AAHK or the Government.

The developable topside area on the HKBCF Island is about 30 hectares. It is an ideal location to develop as an airport logistics consolidation centre given its proximity to HKIA and HZMB. It can provide seamless logistics services between the Greater Bay Area (GBA) and the world. As the current traffic volume through the HKBCF is still relatively low, we recommend that the AAHK and Government complete and implement the development proposal as soon as possible, taking advantage of the time window for development before traffic volumes hit the level that complicates further development.

To support the development of the HKBCF Island as a logistics node, the Government should speed up the planned road and railway infrastructure that improves the connectivity of the HKBCF Island and Airport Island, including the P1 Road, the road corridors linking Lantau with the future artificial islands in the Central Waters and further to Hong Kong Island, and the cross-sea railway connecting Lantau with Tuen Mun West and the future artificial islands in the Central Waters. Such transportation linkages will be the essential support to the development of logistics nodes at the HKBCF as well as at Lung Kwu Tan and Tuen Mun West.

Logistics Node 2: Lung Kwu Tan and Tuen Mun West with two development options

As recommended by the *Report of the Task Force on Land Supply*[23] in 2018, the Tuen Mun West and Lung Kwu Tan reclamation is worthy of prioritised study and implementation. On the other hand, the Government is looking into the potential of residential development in Tuen Mun West. Given the area across Tuen Mun West and Lung Kwu Tan is at the strategic location between HKIA and Shenzhen Bay Port, with excellent transportation connection through major roads including the Tuen Mun-Chek Lap Kok Link (TM-CLKL), the proposed Tuen Mun Western Bypass (TMWB), the Kong Sham West Highway (KSWH), Route 11 and the potential future Western Coastal Railway Link that connects Tuen Mun South through the future artificial islands in the Central Waters to Hong Kong Island, we recommend two development options for the area in response to the Government's initiative. It is anticipated that the area of development could provide about 450–590 hectares of land.

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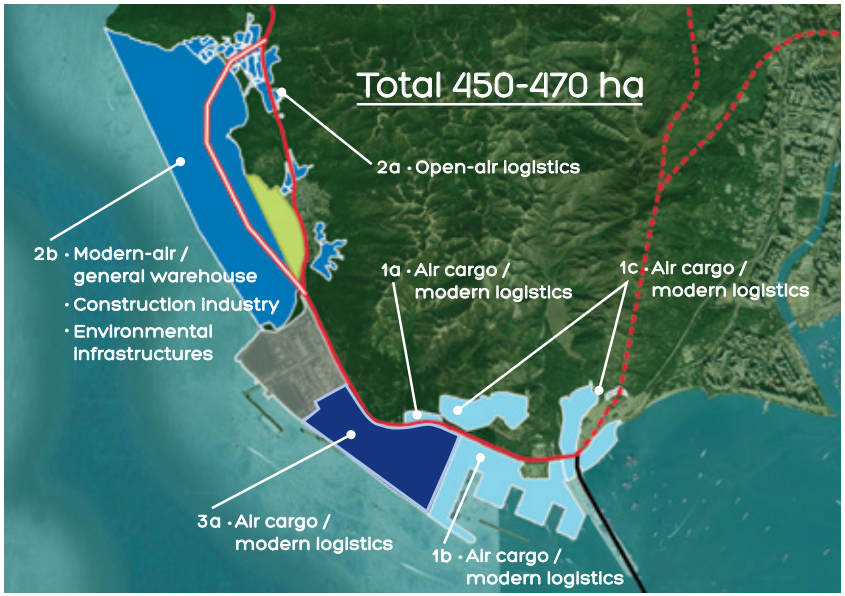
[22] Civil Engineering and Development Department and Planning Department. (2015). 'Planning, Engineering and Architectural Study for Topside Development at the Hong Kong Boundary Crossing Facilities Island of Hong Kong-Zhuhai-Macao Bridge' Stage 1 Public Engagement Digest.

[23] The Task Force on Land Supply. (2018, December). *Striving for Multi-pronged Land Supply - Report of the Task Force on Land Supply.*

Development option 1: A hinterland to support airport logistics

Figure 47. **Proposed airport logistics support hinterland at Lung Kwu Tan and Tuen Mun West**



Tuen Mun-Chek Lap Kok Link

Planned Tuen Mun Western Bypass

Proposed road expansion for existing Lung Mun Road

Proposed new road to divert heavy vehicles away from Lung Kwu Tan village

Buffer area between Lung Kwu Tan village and logistics node

Phase 1

Air cargo / modern logistics

1a. Tuen Mun Area 49

1b. Current River Trade Terminal

1c. Tuen Mun 40 & 46

Phase 2

Modern logistics

Open-air logistics

Construction industry

Environmental infrastructures

2a. Current Lung Kwu Tan brownfield sites

2b. Lung Kwu Tan reclamation

Phase 3

Air cargo / modern logistics

3a. Current fill bank, recycle plant, steel plant, and cement plant

Development option 1 aims to develop Lung Kwu Tan and Tuen Mun West as a hinterland to support airport logistics in three phases.

In Phase 1, we recommend the integrated development of Tuen Mun Area 49, River Trade Terminal (RTT), and Tuen Mun Areas 40 and 46 for air cargo or modern logistics. A site at Tuen Mun Area 49 was awarded to Goodman Group in 2018 for modern logistics development and construction is under way. The declining river cargo transhipment throughput provides an opportunity to revamp RTT's facilities to accommodate future air cargo or modern logistics needs. Meanwhile, the vacant land in Tuen Mun Areas 40 and 46 could provide additional land for development.

Phase 2 includes about 210 hectares of Lung Kwu Tan reclamation and 40 hectares of land occupied by various brownfield operations in the Lung Kwu Tan area. Lung Kwu Tan is recommended for development into a modern logistics park that accommodates distribution centres, port back-up facilities and container vehicle parking space. It is also suitable for other industrial developments that require sizeable space, for example, recycling parks, prefabrication factories for the construction industry, or vehicle repair workshops, etc. The reclamation area could provide adequate land for relocating existing industries in Tuen Mun West for its Phase 3 development. It also helps to rationalise existing brownfield activities in the New Territories in a more centralised, organised and efficient manner.

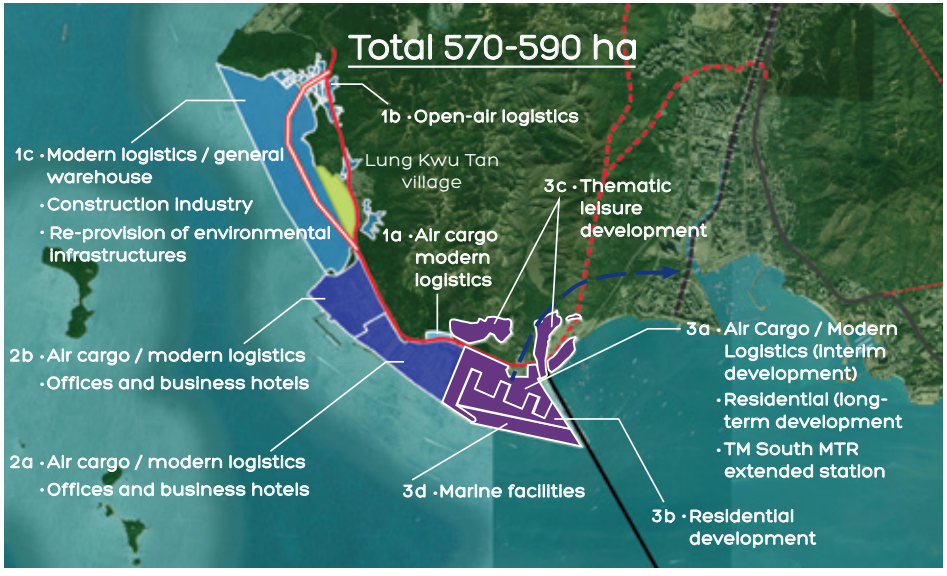
Lung Kwu Tan village is in the vicinity of the Phase 2 development. A buffer area between Lung Kwu Tan village and the reclamation area is recommended as a mitigation measure for residents. A new road is also proposed to divert heavy vehicles away from Lung Kwu Tan village. Some brownfield sites adjacent to Lung Kwu Tan village should be relocated to provide a better living environment for villagers.

The Phase 3 development aims to relocate the existing industries and special facilities (such as the fill bank, recycling plant, steel plants, and cement plant) in Tuen Mun West to the Lung Kwu Tan reclamation area. The land released in Tuen Mun West (about 80 hectares)[24] could be developed for air cargo or modern logistics needs. Phase 3 development is subject to future demand and the feasibility of relocating existing industries in Tuen Mun West.

[24] The released land under Option 1 does not include Castle Peak Power Station.

Development option 2: Integrated residential and logistics development

Figure 48. **Proposed integrated residential and logistics development at Lung Kwu Tan and Tuen Mun West**



- Proposed Tuen Mun South MTR further extension
- Planned Tuen Mun Western Bypass
- Proposed road expansion for existing Lung Mun Road
- Proposed new road to divert heavy vehicles away from Lung Kwu Tan village
- Buffer area between Lung Kwu Tan village and logistics node
- Tuen Mun - Chek Lap Kok Link
- Tuen Mun South Extension

Phase 1

Air cargo / modern logistics · Construction industry · Environmental infrastructures

- Transform current River Trade Terminal for interim development

1a. Tuen Mun Area 49
1b. Current Lung Kwu Tan brownfield sites
1c. Lung Kwu Tan reclamation

Phase 2

Air cargo / modern logistics · Offices · Hotel

2a. Relocation of current fill bank, recycle plant, steel / cement plant
2b. Relocation of current power station

Phase 3

Residential · Leisure · Marine

3a. Replace River Trade Terminal for long-term development
3b. River Trade Terminal reclamation
3c. Tuen Mun Area 40 & 46
3d. River Trade Terminal further reclamation

Development option 2 aims to develop Lung Kwu Tan and Tuen Mun West for integrated residential and logistics development in response to the Government's initiative.

The idea of releasing the RTT site for residential development was once considered by the Government. The site, however, is currently not suitable for residential development because it is surrounded by special industries, such as a power station, fill bank, recycling plant, and steel / cement plant. Opened in 1982, the Castle Peak Power Station of CLP has already reached its designed life span of 35 years. According to the financial reports of CLP, this coal-fired power station is expected to be decommissioned by phases starting in this decade,[25] so there might be an opportunity to reapportion the land for alternative development that is compatible with residential development at RTT site. Still, relocation of the other incompatible industries will be the prerequisite for large-scale residential development. The entire area could be developed in three phases.

Phase 1 aims to create new land from the Lung Kwu Tan reclamation and rationalise the existing brownfield area in the Lung Kwu Tan area to make it available for relocating the special industries. Similar to development option 1, the reclamation will provide a permanent site to accommodate other industries. Considering that reclamation may take more than ten years to provide available land, interim development at the RTT site for air cargo or modern logistics development is recommended before implementation of residential development at RTT in the later phase.

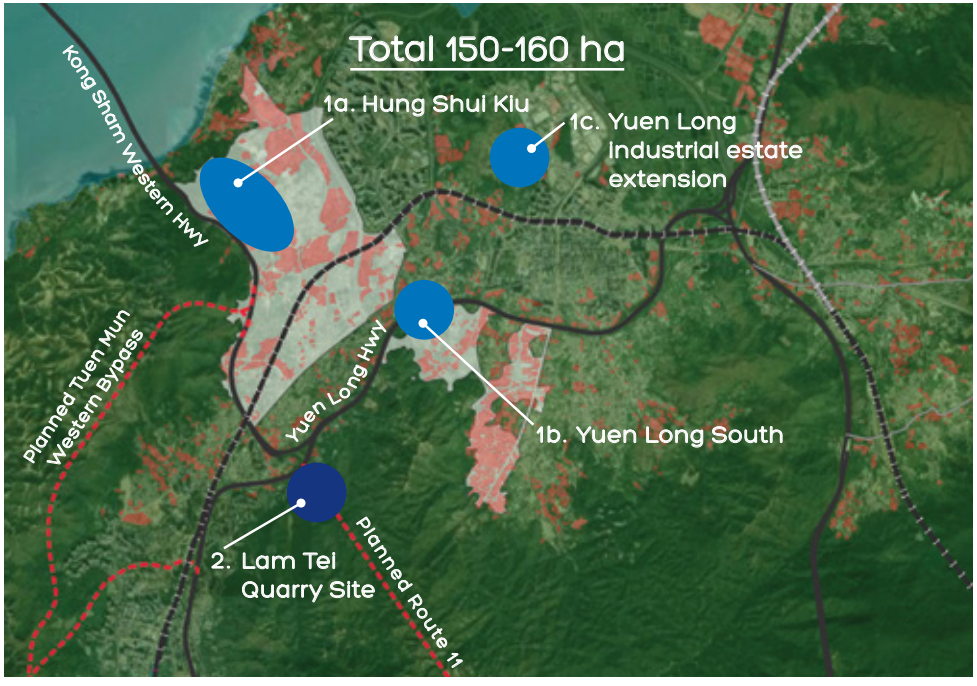
Upon completion of relocating special industries to the reclamation area, the released sites (about 150 hectares)[26] could be developed in Phase 2 for air cargo modern logistics, offices or hotel development. These are more compatible with residential development at the adjacent RTT site and will provide adequate job opportunities for local residents in future.

Phase 3 will redevelop the RTT site for large-scale residential development. In addition, Tuen Mun Areas 40 and 46 and further reclamation along the RTT site (about 70 hectares) could provide land for leisure and marine uses. The residential development will provide more than 180 hectares of land accommodating around 25,000 to 30,000 residential units. In view of the considerable population intake, further extension of West Rail's Tuen Mun South Extension (TMS Extension) to the area is necessary. The construction of the TMS Extension is expected to commence in 2023 for completion in 2030.[27]

[25] CLP Group. (2020). *Annual Report 2019.*
[26] The released land under Option 2 includes Castle Peak Power Station.
[27] Transport and Housing Bureau, and Highways Department. (2020). Tuen Mun South Extension.

Logistics Node 3: Northwest New Territories—a modern logistics circle

Figure 49. **Proposed modern logistics circle at Northwest New Territories**



Planned development

1a. Hung Shui Kiu NDA
1b. Yuen Long South development
1c. Yuen Long industrial estate extension

Proposed development

2. Lam Tei Quarry Site

Modern logistics | Enterprise & technology | Open-air logistics | Wholesale trade & outlet

Planned route
Existing road
Existing rail
Planned sites
Proposed site
Brownfields

Like Tuen Mun West, Northwest New Territories is located between Shenzhen Bay Port and HKIA with well-connected strategic transport infrastructures. Potential sites at the Hung Shui Kiu New Development Area (HSKNDA), Yuen Long South Development (YLSD), Yuen Long Industrial Estate Extension, and Lam Tei Quarry area are recommended to be developed collectively to form a Modern Logistics Circle to serve as a gateway to the Greater Bay Area (GBA).

About 90 hectares of land has been designated for the development of logistics, industry, and enterprise and technology under the HSKNDA. These sites are along KSWH and connected to the planned TMWB. The Lam Tei Quarry area of 30 hectares is to the south of HSKNDA, strategically located at the junction of Yuen Long Highway, KSWH, and the planned Route 11. The current operation at the quarry will end in 2022/23, and the Government has commissioned *Preliminary Land Use Study for Lam Tei Quarry and the Adjoining Areas – Feasibility Study* to further explore its development potential. About 12 hectares of land are recommended for Storage use in the Revised Recommended Outline Development Plan of Yuen Long South. The Government also identified about 15 hectares of land for the Yuen Long Industrial Estate Extension near Wang Chau. All these sites will provide about 150 hectares of land.

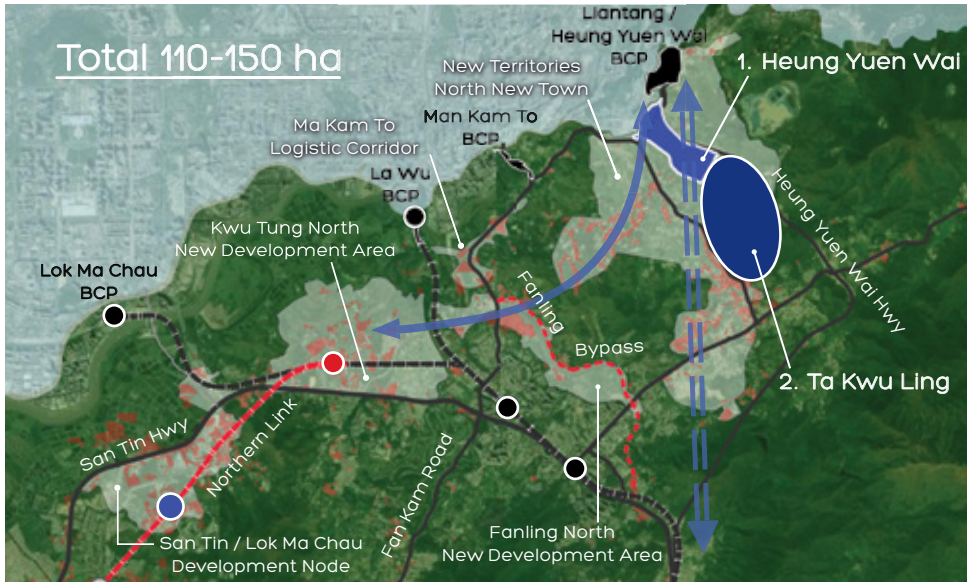
Logistics Node 4: New Territories North—a modern logistics circle

With the opening of the Liantang / Heung Yuen Wai boundary control point (BCP), the new Heung Yuen Wai Highway (HYWH) will improve the overall transport network in New Territories North. The new BCP will serve cross-boundary goods vehicles and passengers travelling between Hong Kong and Shenzhen East, facilitating future development in New Territories North including Heung Yuen Wai, Ta Kwu Ling, Ping Che, Hung Lung Hang, and the Queen's Hill new town.

Under the *Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030*[28] (HK2030+), a site near the Liantang / Heung Yuen Wai BCP is identified for the development of a science park and industrial estate. In view of the increasing demand for modern logistics space in Hong Kong and its strategic location near the Liantang / Heung Yuen Wai BCP, additional spaces along Ta Kwu Ling are proposed for the development of e-commerce, modern logistics and associated enterprises and technology operations to form the integrated development of the Eastern GBA Logistics Gateway. It is anticipated that Heung Yuen Wai and Ta Kwu Ling could supply about 110–150 hectares of land for model industrial / logistics development in total.

[28] Planning Department. (2016). *Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030.*

Figure 50. **Proposed development at New Territories North**



Planned development

1. Heung Yuen Wai

Science Park
Industrial Estate

Proposed development

2. Ta Kwu Ling

E-commerce
modern logistics

Enterprise &
technology

- Proposed extension of Northern Link
- Proposed North-South Corridor and Rail
- Brownfields
- Proposed rail station
- Planned route
- Planned rail
- Planned rail station
- Existing road
- Existing rail
- Existing rail station

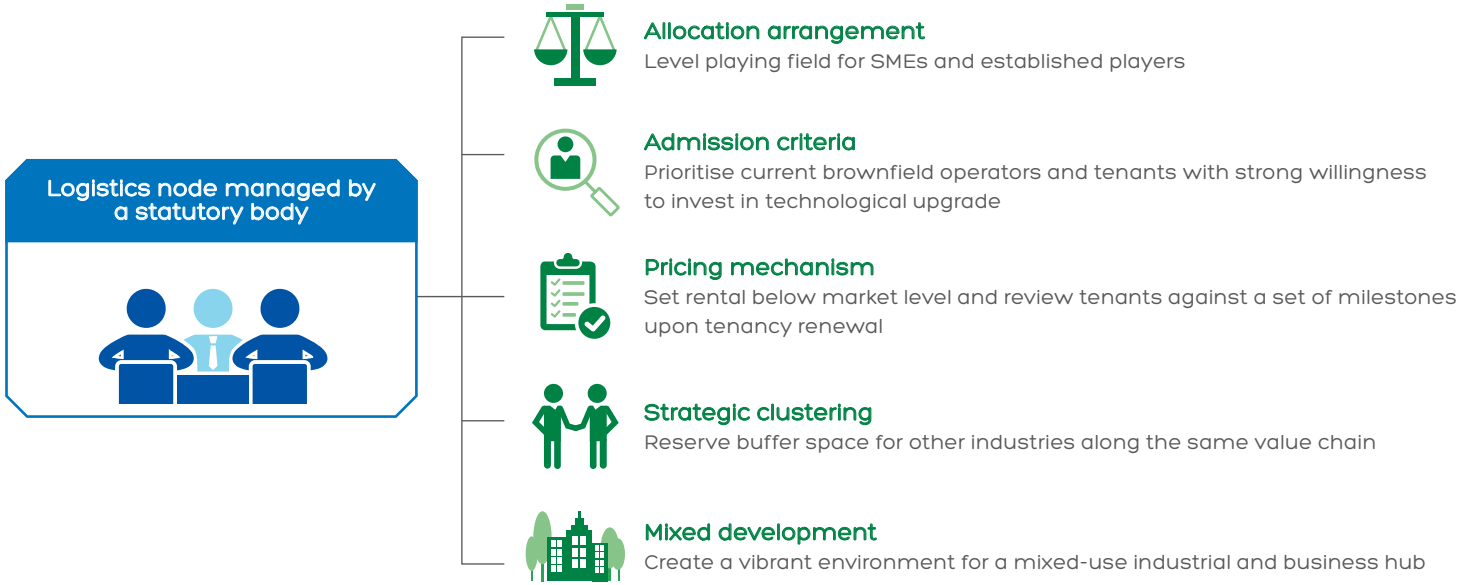
Recommendation 2: Reform the site allocation mechanism

It is important to ensure that the land in these logistics nodes is allocated fairly to end users, including the vast number of small and medium enterprises (SMEs) and brownfield operators. Our second recommendation is to propose a comprehensive operation model which aims at building a well-balanced ecosystem for SMEs and established logistics property developers. This implies moving away from the traditional land auction model which allocates land purely based on bidding prices.

Suggested operation model for future logistics nodes in Hong Kong

Taking reference from the managing of industrial estates by the Hong Kong Science and Technology Parks Corporation (HKSTP) and operation model of the JTC Corporation of Singapore, we propose that the logistics nodes be managed by a dedicated statutory body, whose mission is to spearhead the development of the industry. Rather than targeting the largest profit through land sales, the goal of establishing logistics nodes should focus on assisting the lessees and tenants, in the areas of upgrading their business capacity and maintaining the nodes' flexibility, so the nodes can accommodate new or emerging economic activities in the future. To achieve such policy goals, the operation model of logistics nodes should pay attention to the following **(Figure 51)**:

Figure 51. **Elements of suggested operation model of logistics node**



1. Allocation arrangement

The logistics node should provide a level playing field for companies of different sizes to cultivate healthy competition and the sustainable growth of the industry. There should be a mix of ready-built facilities for SMEs to rent and land sales for established players to lease and build their own facilities. The lease terms should be set at reasonable lengths so as to give business operators certainty while maintaining flexibility for the land use in future. During the lease or tenancy period, there should be milestone dates of assessment of whether the tenants have met the performance conditions (such as land utilisation, value added to GDP, number of jobs created, application of latest business practice and technology, etc.) set out in the lease or tenancy agreement and whether their lease or tenancy should be renewed.

2. Admission criteria

To speed up the consolidation and redevelopment of existing brownfields, current brownfield operators may enjoy higher priority in moving into the logistics nodes. There are many benefits to be derived from operating on these nodes including better location, connectivity, and infrastructure support. Therefore, spaces should be allocated first to tenants who can demonstrate their contribution to local economy and employment. Tenants with strong willingness to invest in technological upgrades should also be prioritised.

3. Pricing mechanism

Current market rents are driven to a high level due to the persistent shortage of warehousing space. Hence, when the logistics node is rolled out, the management authority may consider setting rentals and lease premiums below the prevailing market level and affordable to the SMEs. However, as mentioned earlier, tenants benefiting from rental concessions should actively upgrade their business operation with the help from the statutory body, so that they can achieve the performance conditions set in the tenancy agreement, and have their tenancy renewed with market-level rentals and premiums.

4. Strategic clustering

Equally important is the reservation of buffer space for relevant industries along the same value chain. A tightly knitted industrial community can create synergy opportunities and further boost the trading and logistics activities that take place in the logistics nodes. For instance, there should be spaces that allow for flexible uses such as for conference and exhibition facilities, and commercial buildings for e-commerce and trading firms.

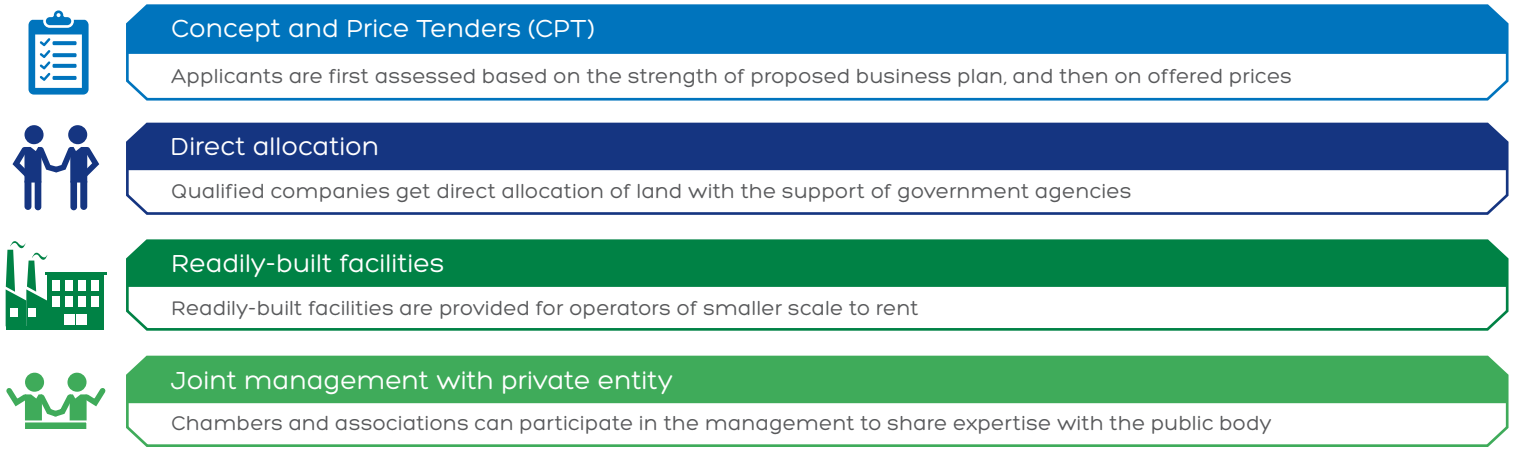
5. Mixed development

Creating a vibrant industrial environment with greenery and landscaping not only uplifts the image of the industry, but also makes a positive impact on users' well-being. A favourable working environment at the logistics node will also attract high-calibre talents such as skilled workers and professionals. This allows for flexibility and variety in future development as the logistics node can evolve into a mixed-use industrial and business hub.

International experience of site allocation options to facilitate better industry development

Unlike the land sale programme in Hong Kong where land is always awarded to applicants with the highest bid, industrial parks in other cities have various mechanisms on allocating sites to cater for the needs of firms of different size. We believe that a mix of these arrangements will help build a level playing field for all firms and enable the sustainable growth of the entire industry **(Figure 52)**.

Figure 52. **Examples of operational model adopted overseas**



Sources: JTC Corporation, United Nation Industrial Development Organization, and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

1. Concept and price tenders

Concept and Price Tenders (CPT), or the two-envelope tender process, is adopted in the industrial space managed by JTC Corporation of Singapore.[29] Under CPT, a company can lease a site and build its own facility. The tenure of the sites leased under CPT is usually 30 to 60 years and the sites normally cover a large land area. Applicants have to first submit a proposed business plan to JTC, and they will be assessed based on the strength of the plan submitted including its contribution to GDP and the employment opportunities created for the local community. Only tenders that pass this stage will qualify for the second stage, when they are assessed based on their bid offers.

2. Direct allocation[30]

In Singapore, companies can also approach government agencies such as the Economic Development Board (EDB) and SPRING Singapore and discuss their land needs. Qualified companies will be able to obtain support from the agencies for direct allocation of industrial land that fulfil their business requirements. The companies must also meet certain requirements set by the government. Upon successful application, industrial land is directly allocated to the applicants for up to 30 years.

3. Ready-built facilities

Logistics operators of smaller scale may lack the expertise or capital to build a modern facility. A site will also be under-utilised if the operator builds a tiny facility that only fits its own business scale. To incentivise SMEs to upgrade their operation, the South China International Logistics Centre in Shenzhen provides ready-built warehouses and factories for SMEs to rent.[31] These facilities are equipped with an advanced computer network which allows the implementation of IoT application and seamless information flow. To renew the tenancy contract upon maturity, the operators must also meet certain milestones.

4. Joint management with private entity

Some logistics parks also invite cooperation with private entities. A partnership agreement is set up between the public agency and the private entity with a clear power-sharing mechanism defined. For example, Turkey's industrial parks are managed by a public-private partnership with participation from chambers and associations.[32] The private entity shares its experience about park management and investment expertise with the public body, which is responsible for facilities construction and investment promotion.

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[29] JTC Corporation. (n.d.). JTC Concept and Price Tender (CPT).
[30] Housing & Development Board. (n.d.). Direct Allocation.
[31] Shenzhen International. (n.d.). Integrated Logistics Hub Business.
[32] United Nations Industrial Development Organization. (2019, November 29). *International Guidelines for Industrial Parks.*


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Recommendation 3: Relocate Kwai Tsing Container Terminals

As shown in previous sections, the existing Kwai Tsing Container Terminals (KTCTs) is considerably smaller compared to other international ports. This limits the development of our port. In our previous report, *From Large Scale Reclamation to an Ideal Home*,[33] we have proposed relocating the KTCTs to an outlying island, much like the Tuas Mega Port in Singapore and the Yangshan Port in Shanghai. This can create an opportunity to modernise and upgrade the port infrastructure. The next generation container terminal requires a sizeable plot of land, has to be surrounded by waters deep enough to allow mega-vessels to berth, and must have good access to a deep marine channel. We have recommended Cheung Chau South as a possible location in our previous report. Recently, some have also proposed a co-location port to consolidate all major ports in the Greater Bay Area outside Hong Kong Waters **(Figure 53)**.

[33] Our Hong Kong Foundation. (2017). *From Large-Scale Reclamation to an Ideal Home.*

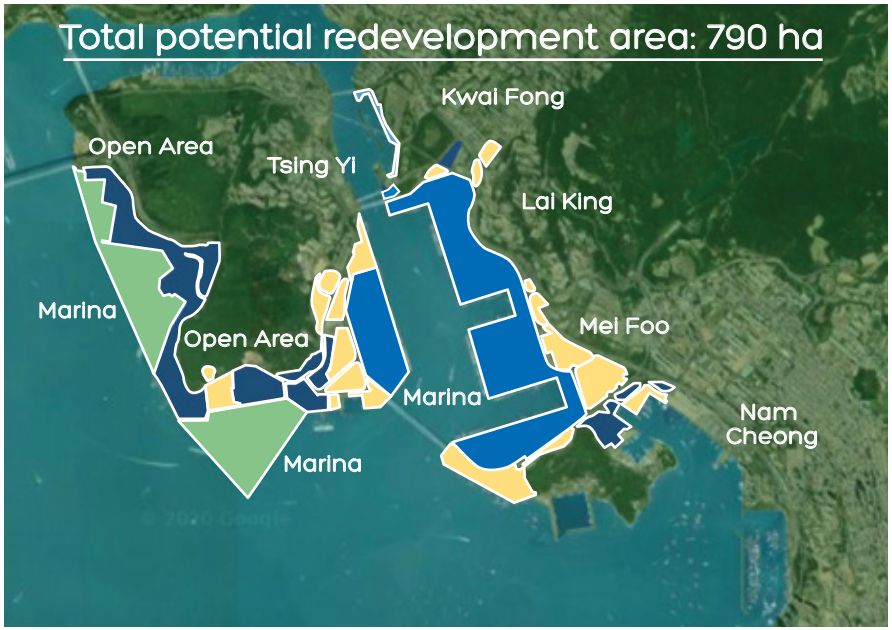
Figure 53. **Proposed relocation options of Kwai Tsing Container Terminals**

Note: For indication purpose only

Land of existing Kwai Tsing Container Terminals can be redeveloped

Figure 54. **Proposed redevelopment plan for Kwai Tsing Container Terminals**

Seamless / work-live-play-learn / intergeneration community



Container terminal site area: 280 ha

Industrial & incompatible uses area: 180 ha

Container-related uses area: 150 ha

Tsing Yi Southwest reclamation area: 180 ha

Seamless new and old communities

- Connectivity: Vibrant and of walkable distance
- Functionality: Provision of balanced daily necessity services and choices
- Visibility: Harmonised landscape and building design

Work-live-play-learn community

- Various choices of job opportunities
- Affordable and sizable housing units
- Outdoor / indoor recreation and entertainments

Intergeneration community

- Integrated elderly home and core family residential complex
- Integrated nursey / youth / elderly / daily necessity services complex

The relocation of the KTCTs can also release a sizeable urban core area for redevelopment. The KTCTs together with the surrounding industrial sites and the Government's proposed reclamation of Tsing Yi South have a combined area of nearly 790 hectares. They are located at the heart of urban areas with a well-developed traffic network, and therefore can be considered for residential development and other purposes to satisfy the city's socio-economic and livelihood needs **(Figure 54)**.

Recommendation 4: Conduct economic reviews and formulate industrial policies

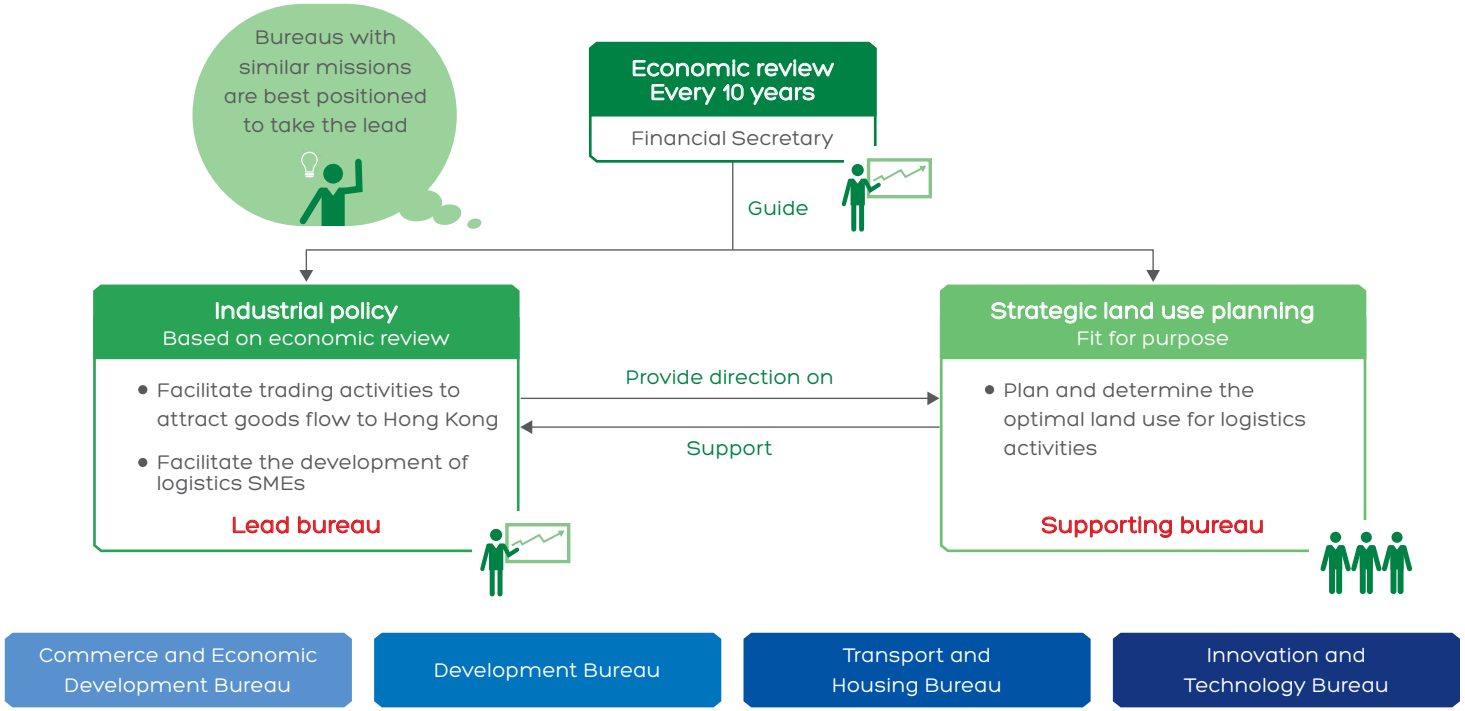
The lack of policy support and coordination of land use for the logistics sector is mainly due to the absence of an industrial blueprint to guide both Government departments and market players. Although periodic reviews such as *HK2030* and *HK2030+* are carried out by the Development Bureau, the studies are rather focused on land use planning and infrastructure development, without much effort given to painting a clearer image of the city's future economic development.[34]

In comparison, Singapore convenes its Economic Review Committee to deliberate future strategy for economic development roughly every ten years. The committee is usually co-chaired by high-level Government officials and top executives from the private sector. The committee will take in views from academics, professionals, experts and the public, and forms recommendations to the Government on strategies for future economic growth. Based on the recommendations, the Singapore Government will form industrial blueprints to consolidate and implement study results by the Economic Review Committee.[35]

[34] Asia Pacific Institute for Strategy. (n.d.). *2030香港經濟將會如何？*
[35] Ministry of Trade and Industry Singapore (n.d.). The Future Economy Council.

To better support our trading and logistics industry and other industries of strategic importance and ensure the sustainable economic growth of Hong Kong, we believe it is necessary for the Government to consider conducting regular economic reviews and formulating industrial policies as blueprints to guide our economic development **(Figure 55)**.

Figure 55. **Suggested governance structure for economic review, industrial policy, and strategic land use planning**



This economic review exercise will focus on studying the latest trends in the world and forming a future economic growth strategy for Hong Kong. Given the strategic significance of this exercise, it should be led by the Financial Secretary and carried out every ten years.

Under the guidance of the economic review, industrial policies should be formed as an effort to facilitate the growth of certain strategic industries, for instance, the trading and logistics industry. Such work needs to be led by a bureau with business acumen and determination to drive growth. Among all the bureaus, the Commerce and Economic Development Bureau is most suitable to take up the above responsibility, given that its existing role and mandate match the requirements set out above.

To support the implementation of the industrial policy, good land use planning is essential. Such responsibilities naturally fall on the Development Bureau. In fact, its future strategic planning exercise will reflect the recommendations of the Economic Review and follow the specific land demand depicted in the industrial policy. Other relevant bureaus, like the Transport and Housing Bureau and the Innovation and Technology Bureau, should also work together closely to provide support for the implementation of the industrial policies.

Recommendation 5: Establish a statutory body for the development of strategic industries

Finally, we advocate for the Government to establish a statutory body dedicated to the development of strategic industries like the logistics industry. It does not need to start from scratch. Currently, while the Hong Kong Maritime and Port Board (HKMPB) and the Hong Kong Logistics Development Council (LOGSCOUNCIL) act as platforms to channel industry comments to the Government, they are consultative in nature and have no administrative power. The newly created statutory body, with the power to develop industrial properties and independent financial resources, will be much more effective in facilitating the development of the industry.

Different industry players have advocated for a statutory body

Indeed, industry players including the HKMPB, the Hong Kong Shipowners Association, and the Hong Kong Shippers' Council have been advocating for a dedicated statutory body that takes a developmental and promotional role for the industry.[36] They have unanimously pointed out that dedicated administrative support is crucial to help the logistics industry stay ahead of the competition with Singapore and mainland cities. A statutory body can also introduce timely measures and integrated policies that fit the long-term interests of the industry as well as cultivate greater awareness among the world of Hong Kong's strengths **(Figure 56)**.

Figure 56. **The industry have been advocating for a statutory body**

HONG KONG MARITIME AND PORT BOARD 香港海運港口局

"It is recommended that a new statutory body outside the Government be set up and operate on its own."

"Hong Kong Shipowners Association has been communicating with the Government on establishing a new statutory body."

The Hong Kong Shippers' Council 香港付貨人委員會

"We hope the Hong Kong Maritime and Port Board can become a statutory body with administrative power."

Sources: Various newspapers

[36] 航運業冀海運局成法定機構. (2017, November 20). *Ta Kung Pao*, and 香港航運業發展遜新加坡？業界冀成立航運業「機管局」. (2019, November 20). *Hong Kong Economic Times*.

Advisory bodies lack the power to drive growth

Being advisory bodies, the HKMPB and LOSCOUNCIL have limited authority to push ahead development initiatives. They do not have the authority to develop industrial properties, nor do they have the independent financial resources to support a dedicated team of management. It is totally up to the Government to choose whether to respond to the proposals raised in these forums.

On the other hand, the HKSTP and the AAHK are established as statutory bodies. The HKSTP manages the Science Park and the three industrial estates in the city, while the AAHK manages Hong Kong International Airport and the land on the Airport Island. The two entities have the liberty to decide on the allocation and operation of their properties in a way that promotes the development of the sector. The Hong Kong Trade Development Council (HKTDC) is also established as a statutory body to promote, assist and develop Hong Kong's trade, especially in support of Hong Kong's SMEs, but it does not manage any land property.

Some cities take a step further by establishing enterprises to develop their logistics hubs. For instance, the Singapore Government established JTC Corporation in 1968 as a state-owned real estate company and statutory board under the Ministry of Trade and Industry. By 2017, JTC has developed more than 7,000 hectares of industrial land and over 4 million square metres of ready-built facilities **(Figure 57)**.

Figure 57. **Comparison of functions of advisory bodies and statutory bodies**

	Hong Kong Logistics Development Council	Hong Kong Maritime and Port Board	Hong Kong Trade Development Council	Hong Kong Science and Technology Parks Corporation	Hong Kong Airport Authority	Singapore JTC Corporation
Nature	Advisory Body	Advisory Body	Statutory Body	Statutory Body	Statutory Body	Statutory Body
Land under management	✗	✗	✗	✓	✓	✓
- Area (ha)	N/A	N/A	N/A	242	1,255	7,000
- Properties	N/A	N/A	N/A	Science Park, and industrial estates in Hong Kong	Hong Kong International Airport	Industrial land in Singapore
Financially independent	✗	✗	✓	✓	✓	✓
Full-time staff	✗	✗	✓	✓	✓	✓

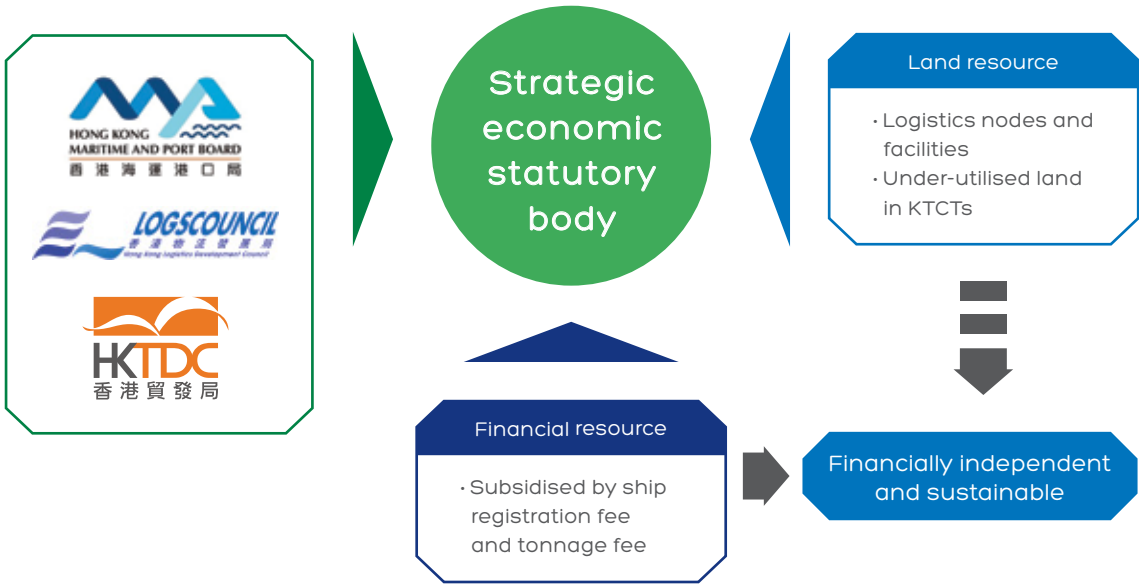
Sources: Hong Kong Science and Technology Parks Corporation, Hong Kong Airport Authority, JTC Corporation, Hong Kong Logistics Development Council, and Hong Kong Maritime and Port Board

These examples demonstrate that advisory bodies alone lack the power to implement development initiatives. A separate entity with greater autonomy and flexibility is needed if the Government is determined to foster continual growth of the logistics sector.

Land in the logistics nodes can be injected into the statutory body to ensure its financial sustainability

We therefore recommend that the Government upgrades or consolidates the HKMPB, LOGSCOUNCIL and the HKTDC to form a new statutory body for the development of our strategic industries. One of the possible challenges in setting up a statutory body would be the financial implications, such as the cost of additional staff and funding for new initiatives. This issue can be solved by injecting land from the proposed logistics nodes into the statutory body to ensure its financial sustainability. The port back-up facilities surrounding the KTCTs can also be injected into the statutory body to enhance their utilisation efficiency. In the same way that the AAHK receives airport charges such as ground handling service and cargo revenues as income, the statutory body can take ship registration and tonnage fees as another source of income **(Figure 58)**.

Figure 58. **Ways of ensuring financial sustainability for proposed statutory body**



The new statutory body will be tasked with the vision to maintain the long-term competitiveness of Hong Kong's industries of strategic importance. Support for the logistics sector will be a starting point. The statutory body will be open to future development opportunities brought by emerging industries in Hong Kong, thus supporting the continual growth of Hong Kong's economy. It will achieve such goals through:

1. Active land and facility management

By actively allocating land and facilities in the logistics nodes, the statutory body can better manage land resources to cater to market needs. This would avoid under-utilisation of land resource and alleviate the industry's land shortage. Active management of land and facilities will keep the land use flexible for future use, so that the utilisation of land will not be limited to the logistics industry, but will also be available to every business that contributes to the trading and logistics ecosystem, or even emerging industries that will benefit Hong Kong's economy in the future.

2. Facilitate policy execution and support

The new statutory body can serve as a single platform to consolidate communication among the industry and relevant bureaus of the Government. The status as a standalone statutory body can enhance accountability and resource stewardship. The body also has the financial resources and flexibility to roll out initiatives and respond to market changes much faster than government departments.

3. A strong industry representative for external affairs

By taking up a promotional role, the statutory body will market Hong Kong to the world and cultivate greater awareness of Hong Kong's strengths. It will also be well positioned to represent the industry and Hong Kong in negotiating agreements concerning regional or even international collaborations.

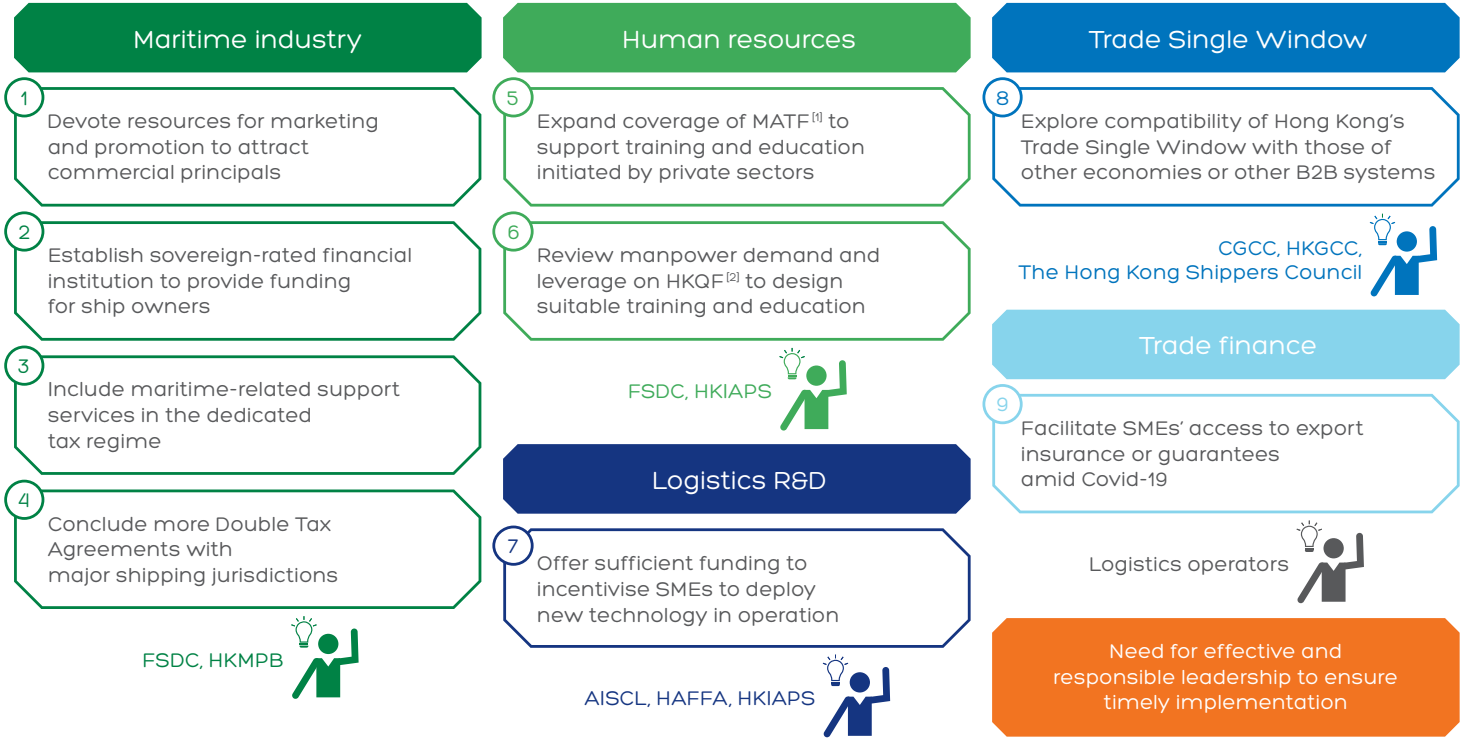
We do not lack suggestions, but good execution

Over the past decades, industry practitioners and academia have been proposing ideas and recommendations on how to maintain Hong Kong's competitiveness and capture new opportunities in logistics. However, without a responsive and effective executive body, these proposals often get lost in the shuffle.

We have summarised here nine recommendations proposed by the industry and academia. These recommendations run the gamut of maritime ecosystems, the labour force, logistics R&D, Trade Single Window, digitalisation and trade finance. To enhance Hong Kong's competitiveness amid intense regional competition in terms of logistics, we believe the Government and the newly established statutory body should take timely actions based on these recommendations **(Figure 59)**.

There is no doubt that Hong Kong has not been short of good suggestions. However, oftentimes strategic investment that can benefit the whole industry in the long run may not necessarily be profitable enough in the short term for individual operators to take actions. The Government should not wait and expect that issues like manpower shortages or the under-supply of infrastructure can be solved by the market alone. As the Government has embraced the role of a 'facilitator' and 'promoter', it needs to step up and take concrete actions nimbly to resolve issues in the interest of the society, so that Hong Kong can continue to strive and stay on top of the game in the future.

Figure 59. **Recommendations from industry practitioners and academia**



Notes: [1] Maritime and Aviation Training Fund
[2] Hong Kong Qualifications Framework

Sources: Financial Services Development Council, Hong Kong Maritime and Port Board, Hong Kong Institute of Asia-Pacific Studies, Hong Kong Association of Freight Forwarding Agents, The Chinese General Chamber of Commerce, The Hong Kong Shippers' Council, Asian Institute of Supply Chains & Logistics, and various news clips

Maritime industry[37,38]

1. Devote resources to marketing and promotions to attract commercial principals

The consultancy study of the HKMPB on Hong Kong's position as an international maritime centre pointed out that promotion by the Government of the maritime industry has been passive and generic, especially when compared to the efforts made in this regard by the Singapore Government. Insufficient promotion has diverted the attention of ship owners away towards Singapore as they are not aware of Hong Kong's technical expertise and commercial excellence.

Therefore, the HKMPB suggested that the Government should introduce more marketing initiatives such as overseas visits and participation in trade shows to promote Hong Kong. The Financial Services Development Council (FSDC) also suggested that the Government should encourage local organisations and companies to actively participate in industry bodies with a global footprint, including the International Maritime Organization, INTERTANKO, and the World Shipping Council. Active participation in these associations can enhance Hong Kong's position as a centre of industry expertise.

2. Establish a sovereign-rated financial institution to provide funding to ship owners

While Hong Kong is an international financial centre, feedback from ship owners suggested that the limited presence of shipping banks and export credit agencies prevented them from obtaining adequate finance. Due to their business nature, ship owners prefer financing with tenors of longer than ten years, but commercial banks generally prefer tenors within ten years as longer loans are associated with higher risks.

Hence, it is recommended that the Government should establish a sovereign-rated financial institution to bridge the funding gap and provide an alternative source of financing. It can offer products such as shipping loan insurance and securitised shipping loans, and may even buy shipping loans directly from banks. The FSDC also suggested that it could potentially facilitate a market for new fixed income financial products in Hong Kong.

[37] BMT Asia Pacific. (2014). *Consultancy Study on Enhancing Hong Kong's Position as an International Maritime Centre Final Report.*
[38] Financial Services Development Council. (2018, May). *Maritime Leasing Paper.*

3. Include maritime-related support services in the dedicated tax regime

The Government should include maritime-related support services in Hong Kong in a dedicated tax regime to encourage the growth of these services. While the Government has recently implemented a dedicated tax regime for the ship leasing business and drastically lowered the tax rate charged,[39] other support services integral to the maritime industry such as shipbroking and ship management are excluded from the new regime. These commercial principals are drivers for high value-added services of the industry, and their presence will draw more service providers. Therefore, to facilitate the growth of a cluster in the maritime industry, it is important that the Government provides proper incentives for these commercial principals.

4. Conclude more Double Tax Agreements with major shipping jurisdictions

The shipping and maritime industry is more susceptible to double taxation than other industries, as its business usually involves cross-border trade and cargo carried on one single vessel can be subject to taxes charged in each jurisdiction. A Double Tax Agreement (DTA) between two jurisdictions minimises the exposure of Hong Kong companies to double taxation and incentivises overseas companies to do business in Hong Kong.

Currently, Hong Kong has comprehensive DTAs with only 45 countries and cities,[40] while Singapore has negotiated DTAs with 85 jurisdictions. Furthermore, Hong Kong has yet to conclude DTAs with jurisdictions which are the major sources of cargo carried by local registered vessels, including Australia, Bangladesh, Brazil, and the Philippines. We call for the Inland Revenue Department to conclude more DTAs with major shipping jurisdictions and have closer cooperation with the industry in lobbying work. The industry has expressed frustration with the progress on DTAs and pointed out that the feedback mechanism on DTAs needs to be improved.

[39] Council meeting of 27 May 2020 Proposed amendments to Inland Revenue (Amendment) (Ship Leasing Tax Concessions) Bill 2020. (2020, May).
[40] Inland Revenue Department. (n.d.). Comprehensive Double Taxation Agreements concluded.

Human resources[41,42]

5. Expand coverage of Maritime and Aviation Training Fund to support training and education initiated by private sectors

In the light of the continual labour shortage in the industry, it is crucial to introduce measures and funding to meet the manpower demand. In 2014, the Government established a HKD 100 million Maritime and Aviation Training Fund (MATF) to cultivate professionals and technical personnel in the maritime and aviation industries by providing training opportunities and scholarships locally. The MATF was further funded with HKD 200 million in 2019. The scheme has been well received and more than 4,900 people have benefited from it.

As training and educational schemes may be highly specialised due to the nature of maritime activities, the private sector may initiate training abroad. The FSDC has pointed out that some competing jurisdictions also support private sector initiatives. Therefore, the Government should consider expanding the coverage of the MATF to cover initiatives of the private sector. Also, since the scope of the MATF covers only the maritime and aviation industries, the training needs for land transport and the logistics industry are not addressed. Hence, we also suggest that the MATF should be expanded to cover these sectors.

6. Review manpower demand and leverage on the Hong Kong Qualification Framework to design suitable training and education

To enhance the capability and competitiveness of the local workforce, the Government launched the Hong Kong Qualification Framework (HKQF) in 2008 and established a seven-level hierarchy covering qualifications in the academic, vocational and professional education sectors. The HKQF intends to serve as unified competency and experience standards for industry practitioners, providing clearer guidance in hiring and promotion. However, some practitioners commented that companies in general were not familiar with the HKQF, and low-skilled workers lacked the motivation to participate in it since the market was always short of manpower.

We believe that the HKQF is a good step forward to promote career prospects and establish a professional image for the logistics industry. Various Industry Training Advisory Committees (ITACs) were established to consult on the HKQF. These ITACs consist of representatives of employers, employees and other bodies of the relevant industries. The Government can leverage on the feedback provided by them in reviewing manpower demand and formulating manpower policies. In addition, the Government should also continue to promote the HKQF to the industry, and encourage educational institutions to design training and education that fit the competency standards set by the HKQF.

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[41] Financial Services Development Council. (2018). *Maritime Leasing Paper.*
[42] Hong Kong Institute of Asia-Pacific Studies. (2013). *香港物流業中小企業挑戰、機遇與應對策略.*

Logistics R&D[43,44,45]

7. Offer sufficient funding to incentivise SMEs to deploy new technology

With technological advancement, new solutions have appeared for digitalising SMEs' operations and enhancing their efficiency. For instance, Radio Frequency Identification (RFID) allows the real-time transmission of product information without human scanning items one by one. The technology is very useful in warehouse management and inventory control. To enhance the operation of logistics service providers, the Government announced in the 2020–21 Budget that it will introduce a pilot subsidy scheme with HKD 345 million. Each eligible logistics service provider will receive subsidies subject to a cumulative ceiling of HKD 1 million for projects concerning technology application.

However, the industry has shown meagre interest in applying for the fund or carrying out technological upgrades, since SMEs that form the major part of the industry lack the expertise or risk appetite to roll out R&D projects on their own. In light of this, the Government should consider implementing policies to facilitate technological upgrading by SMEs, for instance, by encouraging research institutes or universities to research technological solutions specifically for SMEs. In addition, the Government should provide more targeted incentives, such as subsidising SMEs to employ IT consultants, so as to stimulate deployment of new technology in SMEs.

Trade Single Window[46,47,48]

8. Explore compatibility of Hong Kong's Trade Single Window with those of other economies and with B2B systems

The industry has advocated that the Government should actively explore the interconnectivity between Hong Kong's TSW with those of other economies and B2B systems. It has been suggested by the industry that the TSW should allow the use of open application programming interface (API). This would allow SMEs to connect their systems to the TSW seamlessly, avoiding the laborious task of inputting the same information on multiple systems and reducing compliance costs. We advocate that the Government should actively liaise with the relevant authorities and explore the compatibility of Hong Kong's TSW with other systems.

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[43] Hong Kong Institute of Asia-Pacific Studies. (2013). *香港物流業中小企業挑戰、機遇與應對策略.*
[44] Cheung. W. (2015, February 5). 香港物流業仍有競爭力. *Hong Kong Economic Journal.*
[45]《財政預算案2020》物流業批資助額「杯水車薪」盼有緊急援助補貼. (2020, February 6). *Hong Kong Economic Times.*
[46] Chinese General Chamber of Commerce, Hong Kong. (2017). *對「發展香港貿易單一窗口」的意見.*
[47] 倡建「貿易單一窗口」增通關效率. (2019, March 1). *Ta Kung Pao.*
[48] Hong Kong General Chamber of Commerce. (2020). *Smart City Consortium Advisory Report on Smart City Blueprint 2.0.*

Trade finance[49]

9. Facilitate SMEs' access to export insurance or guarantees amid Covid-19

The social distancing measures and border closures enforced due to Covid-19 have drastically dampened the trading and logistics industry. SMEs have encountered severe difficulties in maintaining sufficient cash flow to keep their business running as shipping orders are delayed or cancelled. Many industry practitioners have urged the Government to take more actions, for instance, by facilitating SMEs to obtain export insurance and guarantees, streamlining the application procedures for subsidies and providing advance planning arrangements for cross-border business with the GBA. We call for the Government to provide more support for SMEs to tide over the Covid-19 crisis.

[49] 貿發局與商會會晤 業界冀三大範疇助中小企. (2020, April 28). *Hong Kong Economic Journal*.

Appendix: Detailed information of the 59 port back-up sites

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation	Proposal in 2015 THB Study	Implementation status
1	11.00	OU (Container Related Uses)	Temporary container yard	GLA	9	N/A	N/A
2	7.39	OU (Container Related Uses)	Temporary container yard	STT	3	N/A	N/A
3	6.68	OU (Container Related Uses)	Temporary container yard	STT	1	N/A	N/A
4	5.83	OU (Container Related Uses)	Open air parking site	STT	5	N/A	N/A
5	5.26	OU (Container Related Uses)	Open air parking site	STT	20	Transportation Department has commissioned a feasibility study to look into the development of multi-storey parking facilities. The Study commenced in June 2014 and was scheduled for completion by 2015	Study ongoing
6	4.94	OU (Container Related Uses)	Open air parking site	GLA	19	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented
7	4.17	OU (Container Related Uses)	Temporary container yard	STT	4	N/A	N/A
8	3.48	OU (Container Related Uses)	Temporary container yard	STT	4	To conduct a feasibility study on the development of multi-storey complex for mixed uses including container storage and cargo handling	Study ongoing
9	3.34	OU (Container Related Uses)	Temporary container yard	Private	4	N/A	N/A
10	3.34	OU (Container Related Uses)	Temporary container yard	Private	4	N/A	N/A
11	3.00	OU (Container Related Uses)	Open air parking site	GLA	9	N/A	N/A
12	2.94	OU (Container Related Uses)	Buildings / barge berths	GLA	2	N/A	N/A
13	2.90	OU (Container Related Uses)	Vacant land	GLA	13	To be disposed to the operators of Container Terminal 8 West on a long-term basis	Not implemented

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation	Proposal in 2015 THB Study	Implementation status
14	2.56	OU (Container Related Uses)	Temporary container yard	STT	3	To conduct a feasibility study on the development of multi-storey complex for mixed uses including container storage and cargo handling	Study ongoing
15	2.55	OU (Container Related Uses)	Temporary container yard	STT	10	N/A	N/A
16	2.40	OU (Container Related Uses)	Buildings / barge berths	Private	6	N/A	N/A
17	2.40	OU (Container Related Uses)	Buildings / barge berths	Private	3	N/A	N/A
18	2.33	OU (Container Related Uses)	Buildings / barge berths	Private	8	N/A	N/A
19	2.30	OU (Container Related Uses)	Temporary container yard	STT	7	Subject to the study findings of site 5, THB would consider commissioning another similar study for the site	Not implemented
20	2.18	OU (Container Related Uses)	Open air parking site	GLA	27	N/A	N/A
21	2.12	OU (Container Related Uses)	Open air parking site	STT	18	Subject to the study findings of site 5, THB would consider commissioning another similar study for the site	Not implemented
22	2.10	OU (Container Related Uses)	Buildings / barge berths	Private	7	N/A	N/A
23	2.07	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
24	2.05	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
25	1.88	OU (Container Related Uses)	Temporary container yard	STT	12	To be made available as STT site provision for cargo handling purpose	Implemented
26	1.78	OU (Container Related Uses)	Vacant land	GLA	27	To be made available as STT site provision for cargo handling purpose	Not implemented
27	1.77	OU (Container Related Uses)	Open air parking site	STT	13	N/A	N/A
28	1.76	OU (Container Terminal)	Temporary container yard	STT	0	N/A	N/A

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation	Proposal in 2015 THB Study	Implementation status
29	1.73	OU (Container Related Uses)	Open air parking site	STT	30	N/A	N/A
30	1.62	OU (Container Related Uses)	Vacant land	GLA	13	To be disposed to the operators of Container Terminal 9 South on a long-term basis	Not implemented
31	1.62	OU (Container Related Uses)	Other temporary uses	GLA	13	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented
32	1.60	OU (Container Related Uses)	Open air parking site	GLA	20	N/A	N/A
33	1.54	OU (Container Related Uses)	Open air parking site	STT	13	To be disposed to the operators of Container Terminal 5 West on a long-term basis	Not implemented
34	1.51	OU (Container Related Uses)	Temporary container yard	STT	2	To be disposed to the operators of Container Terminal 8 South on a long-term basis	Not implemented
35	1.44	OU (Container Related Uses)	Temporary container yard	STT	1	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented
36	1.44	OU (Container Terminal)	Temporary container yard	STT	0	N/A	N/A
37	1.42	OU (Container Related Uses)	Vacant land	GLA	14	N/A	N/A
38	1.35	OU (Container Related Uses)	Open air parking site	STT	9	N/A	N/A
39	1.18	OU (Container Related Uses)	Other temporary uses	GLA	5	N/A	N/A
40	1.04	OU (Container Related Uses)	Open air parking site	STT	23	N/A	N/A
41	1.00	OU (Container Related Uses)	Open air parking site	STT	23	To be made available as STT site provision for vehicle parking purpose	Implemented
42	1.00	OU (Container Related Uses)	Open air parking site	STT	23	To be made available as STT site provision for vehicle parking purpose	Implemented
43	0.96	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
44	0.92	OU (Container Related Uses)	Open air parking site	STT	27	N/A	N/A
45	0.60	OU (Container Related Uses)	Open air parking site	STT	1	To be disposed to the operators of Container Terminal 7 on a long-term basis	Not implemented

Site no.	Area (ha)	Zoning	Current usage	Lots type	Years of under-utilisation	Proposal in 2015 THB Study	Implementation status
46	0.53	OU (Container Related Uses)	Open air parking site	GLA	27	N/A	N/A
47	0.52	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
48	0.51	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
49	0.43	OU (Container Related Uses)	Open air parking site	GLA	16	N/A	N/A
50	0.42	OU (Container Related Uses)	Open air parking site	STT	23	N/A	N/A
51	0.38	OU (Container Related Uses)	Open air parking site	GLA	30	N/A	N/A
52	0.29	OU (Container Terminal)	Open air parking site	GLA	30	N/A	N/A
53	0.28	OU (Container Related Uses)	Temporary container yard	GLA	5	N/A	N/A
54	0.28	OU (Container Related Uses 1)	Buildings / barge berths	Private	0	N/A	N/A
55	0.18	OU (Container Related Uses)	Open air parking site	STT	30	N/A	N/A
56	0.11	OU (Container Related Uses)	Open air parking site	GLA	27	N/A	N/A
57	0.09	OU (Container Related Uses)	Buildings / barge berths	GLA	3	N/A	N/A
58	0.08	OU (Container Related Uses)	Buildings / barge berths	GLA	3	N/A	N/A
59	0.04	OU (Container Terminal)	Temporary container yard	STT	0	N/A	N/A

Notes: Land utilisation as of 30 April 2020; GLA = government sites granted by the Lands Department to bureaux or government departments; STT = government sites let by the Lands Department to parties outside the Government for temporary uses by way of short-term tenancies; 'years of underutilisation' indicates the number of years that the site is left vacant or is used for open air parking.

Sources: Transport and Housing Bureau, Lands Department, Town Planning Board, and Our Hong Kong Foundation

Bibliography

Airport Technology. (n.d.). *Hamad International Airport (HIA)*. Retrieved from https://www.airport-technology.com/projects/doha/

Alaska Department of Transportation and Public Facilities. (n.d.). *Airport Facts.* Retrieved from http://www.dot.state.ak.us/anc/about/facts.shtml

Alibaba Group. (2019, September). *Cainiao Network - Smart Logistics Network*. Retrieved from https://www.alibabagroup.com/en/ir/presentations/Investor_Day_2019_CainiaoNetwork.pdf

Anchorage Economic Development Corporation. (n.d.). *Cargo*. Retrieved from https://aedcweb.com/tsaia/air-service/cargo/

Asia Pacific Institute for Strategy. (n.d.). *「2030香港經濟將會如何?」*. Retrieved from https://www.apifs.org/HK2030

BCR. (2018, December). *1PL to 5PL: Differences Between 3PL Provider and Others.* Retrieved from https://bcr.com.au/2018/12/14/1pl-to-5pl-the-differences-between-a-3pl-logistics-provider-and-other-logistics-service-providers/

BMT Asia Pacific. (2014, April). *Consultancy Study on Enhancing Hong Kong's Position as an International Maritime Centre Final Report*. Retrieved from https://www.hkmpb.gov.hk/document/8870_IMC_Final_Report.pdf

Busan Port Authority. (2015). *Overall Status*. Retrieved from https://www.busanpa.com/eng/Contents.do?mCode=MN0031

CBRE Research. (2019). *Asia Pacific Cold Storage: An Investor's Guide*. Retrieved from http://cbre.vo.llnwd.net/grgservices/secure/Asia Pacific Cold Storage - An Investor's Guide FINAL.pdf?e=1592473040&h=4b6ff2e0cf5649b99ced55d048af939d

CBRE Research. (2019, March). *Global Prime Retail Rents Q4 2018*. Retrieved from https://www.cbre.com/research-and-reports/global-prime-retail-rents

CBRE Research. (2019, April). *Industrial Revitalisation Scheme 2.0: Optimising Industrial Property Redevelopment in Hong Kong*. Retrieved from https://www.cbre.com.hk/en/research-reports/Hong-Kong-Viewpoint--Industrial-Revitalisation-Scheme-20-Optimising-Industrial-Property-Redevelopmen

Census and Statistics Department. (2003, December). *Hong Kong Monthly Digest of Statistics: The Four Key Industries in the Hong Kong Economy*. Retrieved from https://www.statistics.gov.hk/pub/B70312FE2003XXXXB0100.pdf

Census and Statistics Department. (2019, December). *Hong Kong Monthly Digest of Statistics: The Four Key Industries in the Hong Kong Economy.* Retrieved from https://www.statistics.gov.hk/pub/B71912FB2019XXXXB0100.pdf

Changi Airport Group. (n.d.). *Changi Airport Cargo Brochure*. Retrieved from https://www.changiairport.com/content/dam/cacorp/partnership/media/H138814_Changi Cargo Brochure 32PP_200Wx190H R4 HR_compressed.pdf

Cheung, W. (2018, January). *Logistics Industry in Hong Kong Opportunities and Challenges*. Retrieved from http://www.sdahk.com/wp-content/uploads/2018/01/Logistics.pdf

Cheung. W. (2015, February 5). 香港物流業仍有競爭力. *Hong Kong Economic Journal*. Retrieved from http://www.aiscl.baf.cuhk.edu.hk/index.php?rSite/Index&sysPageId=150206072428468

Chinese General Chamber of Commerce, Hong Kong. (2017, July 6). *「對『發展香港貿易單一窗口』的意見」*. Retrieved from https://cgcc.org.hk/zh/temp_news.php?cid=8&sid=52&tid=0&tabid=0&id=13

Civil Aviation Department. (2020, May). *Air Traffic Statistics*. Retrieved from https://www.cad.gov.hk/english/statistics.html

Civil Engineering and Development Department and Planning Department. (2015, July). *'Planning, Engineering and Architectural Study for Topside Development at the Hong Kong Boundary Crossing Facilities Island of Hong Kong-Zhuhai-Macao Bridge' Stage 1 Public Engagement Digest*. Retrieved from https://www.lantau.gov.hk/filemanager/content/news-and-publications/BCF_Digest_s1.pdf

CLP Group. (2020). *Annual Report 2019*. Retrieved from https://www.clpgroup.com/en/Investors-Information-site/Documents/Financial%20Report%20PDF/e_2019Annual%20Report.pdf

Commerce and Economic Development Bureau, Commerce, Industry and Tourism Branch. (n.d.). *Government Electronic Trading Services (GETS)*. Retrieved from https://www.cedb.gov.hk/citb/en/Policy_Responsibilities/gets.html

Commerce and Economic Development Bureau. (2016, April). *Development of Trade Single Window in Hong Kong*. Retrieved from https://www.cedb.gov.hk/citb/doc/en/trade_single_window_consultation_paper_e.pdf

Commerce and Economic Development Bureau. (2016, April). *Legislative Council Panel on Commerce and Industry - Development of a Trade Single Window*. Retrieved from https://www.legco.gov.hk/yr15-16/english/panels/ci/papers/ci20160419cb1-794-3-e.pdf

Costello, S. (2020, March). *Where Is the iPhone Made?* Retrieved from https://www.lifewire.com/where-is-the-iphone-made-1999503

Council meeting of 27 May 2020 Proposed amendments to Inland Revenue (Amendment) (Ship Leasing Tax Concessions) Bill 2020. (2020, May). Retrieved from https://www.legco.gov.hk/yr19-20/english/counmtg/papers/cm20200527cb3-451-e.pdf

DB Schenker. (2019, March). *The Top 10 Freight Airports in the US. Now That's Logistics.* Retrieved from https://nowthatslogistics.com/the-top-10-freight-airports-in-the-us/

Deutsche Post DHL Group. (2019, June). *Logistics Trend Radar.* Retrieved from https://www.dhl.com/content/dam/dhl/global/core/documents/pdf/glo-core-trend-radar-widescreen.pdf

DHL Express opens North Asia Hub. (2012, July). *Air Cargo World*. Retrieved from https://aircargoworld.com/news/dhl-express-opens-north-asia-hub/

Digital Trade and Transportation Network. (n.d.). *DTTN History*. Retrieved from http://www.hk-dttn.com/about/english/history.html

Dubai Airports. (2019, December). *Dubai Airports Cargo & Logistics*. Retrieved from https://www.dubaiairports.ae/corporate/media-centre/fact-sheets/dubai-airports-cargo-logistics/

Eastern Airlines Logistics. (2013). *Our Terminals*. Retrieved from http://www.eal-ceair.com/infos/ground_terminal_intro.html

Emirates SkyCargo. (n.d.). *Emirates SkyCentral*. Retrieved from https://www.skycargo.com/facilities/emirates-skycentral/

Emirates SkyCargo. (n.d.). *Ground Handling Capabilities*. Retrieved from https://www.skycargo.com/facilities/ground-handling/

FedEx Express Opens Facility in Dubai. (2012, November 7). *JOC*. Retrieved from https://www.joc.com/air-cargo/express-cargo/fedex/fedex-express-opens-facility-dubai_20121107.html

FedEx. (2018, January 8). *New Shanghai International Express and Cargo Hub Extends FedEx Operational Strength for Customers in Asia Pacific*. Retrieved from https://newsroom.fedex.com/newsroom/new-shanghai-international-express-cargo-hub-extends-fedex-operational-strength-customers-asia-pacific-2/

Financial Services Development Council. (2018, May). *Maritime Leasing Paper*. Retrieved from http://www.fsdc.org.hk/sites/default/files/Maritime%20Leasing%20Paper%20%28Eng%29_0.pdf

Focus Logistics. (2016, January).*「萬商物流大園新倉啟用 開展B2C跨國業務」*. Retrieved from http://www.focus-logistics.com.tw/show2.asp?prodcode=n009

Frost & Sullivan. (2016, September). *Future of Logistics*. Retrieved from https://store.frost.com/future-of-logistics.html

Fwa, T. F. (2016). *50 Years of transportation in Singapore: achievements and challenges*. New Jersey, N.J.: World scientific.

Gammon Construction Limited. (n.d.). *Project Details – Cathay Pacific Air Cargo Terminal*. Retrieved from https://www.gammonconstruction.com/en/project-details.php?project_id=70

Gammon Construction Limited. (n.d.). *Project Details – DHL Central Asia Hub*. Retrieved from https://www.gammonconstruction.com/en/project-details.php?project_id=73

Gammon Construction Limited. (n.d.). *Project Details – HACTL SuperTerminal*. Retrieved from https://www.gammonconstruction.com/en/project-details.php?project_id=81

Goodhope Freight. (n.d.).「蛇口港國際海運集裝箱碼頭」. Retrieved from https://goodhope86.com/value/seaports/shekou.html

Graham, J. (2015, June). *New QR Live product launched by Qatar Airways Cargo. Air Cargo Week*. Retrieved from https://www.aircargoweek.com/qr-live-product-launched-qatar-airways-cargo/

Hamad International Airport. (n.d.). *Hamad International Airport Factsheet*. Retrieved from https://www.qrcargo.com/docs/HIA_Fact_Sheet.pdf

Hamad International Airport. (n.d.). *World Class Cargo Facilities at Hamad International Airport*. Retrieved from https://dohahamadairport.com/airlines/cargo

HKSAR Government Press Releases. (2016, August). *SCED visits Hongkong Post (with photos)*. Retrieved from https://www.info.gov.hk/gia/general/201608/11/P2016081100578.htm?fontSize=1

Hong Kong Airport Authority. (2018, June 6). *Tender Awarded for Premium Logistics Centre at HKIA*. Retrieved from https://www.hongkongairport.com/en/media-centre/press-release/2018/pr_1291

Hong Kong Airport Authority. (n.d.). *Overview, Air Cargo.* Retrieved from https://www.hongkongairport.com/en/the-airport/air-cargo/

Hong Kong General Chamber of Commerce. (2020, April). *Smart City Consortium Advisory Report on Smart City Blueprint 2.0.*

Hong Kong Institute of Asia-Pacific Studies. (2013).*「香港物流業中小企業挑戰、機遇與應對策略」*. Retrieved from http://www.cuhk.edu.hk/proj/sme-logistics/documents/SMLEs_Report_final.pdf

Hong Kong Logistics Development Council. (2020). *Terms of Reference*. Retrieved from https://www.logisticshk.gov.hk/en/about/reference.html

Hong Kong Maritime and Port Board. (2017). *Maritime Hong Kong at a Glance*. Retrieved from https://www.investhk.gov.hk/sites/default/files/2017-maritime-leaflet-en.pdf

Hong Kong Maritime and Port Board. (2018). *HK Port*. Retrieved from https://www.hkmpb.gov.hk/en/port.html

Hong Kong Shippers' Council. (2001). *FedEx opens Express Center in Pudong. Shippers Today*. Retrieved from http://info.hktdc.com/shippers/vol24_6/vol24_6_airfr03.htm

Hong Kong Shippers' Council. (2009).「貨運業概要」. Retrieved from http://www.hkshippers.org.hk/Uploads/files/chi_indsummaries_20100511.pdf

Hong Kong Trade and Development Council. (n.d.) *About HKTDC*. Retrieved from https://aboutus.hktdc.com/

Housing & Development Board. (n.d.). *Direct Allocation*. Retrieved from https://www.hdb.gov.sg/cs/Satellite?c=Page&cid=1383802565862&d=Touch&pagename=InfoWEB/Page/ArticleDetailPage

Incheon Airport. (2019, December). *Air Traffic Statistics*. Retrieved from https://www.airport.kr/co/en/cpr/statisticCategoryOfDay.do

Incheon Airport. (n.d.). *Overview*. Retrieved from https://www.airport.kr/co_cnt/en/majbus/logistic/frezon/frezon.do

Inland Revenue Department. (n.d.). *Comprehensive Double Taxation Agreements concluded*. Retrieved from https://www.ird.gov.hk/eng/tax/dta_inc.htm

International Air Transport Association. (n.d.). *Cargo iQ*. Retrieved from https://www.iata.org/en/programs/cargo/cargoiq/

International Chamber of Shipping. (2019, November). *International Chamber of Shipping opens China Liaison Office in Hong Kong. International Chamber of Shipping Press Releases*. Retrieved from https://www.ics-shipping.org/news/press-releases/2019/11/21/international-chamber-of-shipping-opens-china-liaison-office-in-hong-kong

JTC Corporation. (n.d.). *JTC Concept and Price Tender (CPT)*. Retrieved from https://www.jtc.gov.sg/industrial-land-and-space/Pages/concept-and-price-tender.aspx

Jurong Port. (n.d.). *Combi Terminal for Multipurpose Vessels: Jurong Port Singapore.* Retrieved from https://www.jp.com.sg/our-expertise/terminals/combi-terminal/

Kerry Logistics Network. (2020). *Industry Solutions*. Retrieved from https://www.kerrylogistics.com/our-expertise/industry-solutions/

Legislative Council Secretariat. (2015, June 15). *Background brief on the logistics development in Hong Kong*. Retrieved from https://www.legco.gov.hk/yr14-15/english/panels/edev/papers/edev20150622cb4-1165-5-e.pdf

Lloyd's List. (2018, December). *Top 10 flag states 2018*. Retrieved from https://lloydslist.maritimeintelligence.informa.com/LL1125024/Top-10-flag-states-2018

Louisville Regional Airport Authority. (2019, December). *Aviation Statistics*. Retrieved from https://www.flylouisville.com/wp-content/uploads/2020/02/Aviation-Stats-2019-12.pdf

Marine Department. (2019). *Port of Hong Kong in Figures (2019 Edition)*. Retrieved from https://www.mardep.gov.hk/en/publication/pdf/portstat_pamphlet19.pdf

Marine Department. (2020, May). *Ranking of Container Ports of the World*. Retrieved from https://www.mardep.gov.hk/en/publication/pdf/portstat_2_y_b5.pdf

Memphis International Airport. (2019, January). *Memphis International Airport Activity Report January 2019*. Retrieved from https://www.flymemphis.com/Areas/Admin/Images/Upload_2020034132400.pdf

Memphis International Airport. (n.d.). *Properties and Cargo*. Retrieved from https://www.flymemphis.com/properties-and-cargo

Ministry of Trade and Industry Singapore (n.d.). *The Future Economy Council*. Retrieved from https://www.mti.gov.sg/FutureEconomy/TheFutureEconomyCouncil

Najberg, A. (2018, June 6). *Cainiao-led group to build Hong Kong logistics hub. Alizila*. Retrieved from https://www.alizila.com/cainiao-hk-logistics-center/

Narita International Airport Corporation. (2016). *Cargo | 2015-2016 Airport Report*. Retrieved from https://www.naa.jp/en/annual/2015_pdf/12.pdf

Narita International Airport Corporation. (n.d.). *Global Mega Logistics City*. Retrieved from https://www.naa.jp/en/b2b/cargo/logistics.html

Nichols, M. (2019, August 15). *FedEx negotiates deal to increase presence at Alaska airport. Memphis Business Journal*. Retrieved from https://www.bizjournals.com/memphis/news/2019/08/15/fedex-negotiates-deal-to-triple-its-presence-at.html

OAG. (n.d.). *Megahubs Index 2019*. Retrieved from https://www.oag.com/oag-megahubs-2019

Our Hong Kong Foundation. (2017, April). *From Large-Scale Reclamation to an Ideal Home*. Retrieved from https://www.ourhkfoundation.org.hk/sites/default/files/media/pdf/LanHse_PolicyAdv_2_en.pdf

PACTL. (2014). *Cool Center*. Retrieved from http://www.pactl.com/uploads/2020021725740.pdf

PACTL. (2014). *Cross-border E-commerce Cargo Handling Center*. Retrieved from http://www.pactl.com/uploads/2020021725636.pdf

PACTL. (2014). *Fact Sheets*. Retrieved from http://www.pactl.com/uploads/2020021725614.pdf

Pharma.Aero. (n.d.). *Pharma.Aero*. Retrieved from http://pharma.aero/

Pisoke, M. (2020, February). *FreightTech: The future of logistics*. Retrieved from https://www.rolandberger.com/zh/Publications/FreightTech-The-future-of-logistics.html

Planning Department. (2015, September). *Report on 2014 Area Assessments of Industrial Land in the Territory*. Retrieved from https://www.pland.gov.hk/pland_en/p_study/comp_s/industrial_report_2014/index.htm

Planning Department. (2016, October). *Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030*. Retrieved from https://www.hk2030plus.hk/document/2030+Booklet_Eng.pdf

Planning Department. (2019, November). *Study on Existing Profile and Operations of Brownfield Sites in the New Territories*. Retrieved from https://www.pland.gov.hk/pland_en/p_study/comp_s/Brownfield/Report/Brownfield Study_FR_ENG.pdf

Planning, Environment and Lands Bureau. (1998). *Territorial Development Strategy Review: A Response to Change and Challenges Final Executive Report*.

Port of Rotterdam. (2015). *Port infrastructure*. Retrieved from https://www.portofrotterdam.com/en/our-port/facts-and-figures/facts-figures-about-the-port/port-infrastructure

Port of Rotterdam. (2019). *Facts & Figures*. Retrieved from https://www.portofrotterdam.com/sites/default/files/facts-and-figures-port-of-rotterdam.pdf

PSA. (n.d.). *PSA Singapore Factsheet*. Retrieved from https://www.globalpsa.com/wp-content/uploads/PSA-SINGAPORE.pdf

Qatar Hamad Airport to build cargo terminal to support Qatar Airways. (2019, November 4). *Turkey SeaNews*. Retrieved from https://www.seanews.com.tr/qatar-hamad-airport-to-build-cargo-terminal-to-support-qatar-airways/184871/

Rating and Valuation Department. (2019). *Private Storage - Completions, Stock and Vacancy.* Retrieved from https://www.rvd.gov.hk/en/property_market_statistics/completions.html

Reda, Omnia. (2016). *Terminal Operations in Container Transshipment Hubs: Literature Review and Research Directions*. Retrieved from https://www.researchgate.net/publication/293593850_Terminal_Operations_in_Container_Transshipment_Hubs_Literature_Review_and_Research_Directions

Risher, W. (2018, March 14). *FedEx investing $1 billion to expand its Memphis hub, improve network. USA Today*. Retrieved from https://www.usatoday.com/story/money/nation-now/2018/03/14/fedex-investing-1-billion-expand-its-memphis-hub-improve-network/424574002/

Rotterdam port signs an agreement for container movement via inland shipping. (2019, April). *Maritime Gateway*. Retrieved from http://www.maritimegateway.com/rotterdam-port-signs-agreement-container-movement-via-inland-shipping/

Sales, M. (2016). *Aviation Logistics: the Dynamic Partnership of Air Freight and Supply Chain.* London, England: Kogan Page.

Savills World Research. (2018, March). *Modern Logistics and the Hong Kong International Airport Kwo Lo Wan Site.* Retrieved from https://pdf.savills.asia/asia-pacific-research/asia-pacific-research/hk-logistics-03-2018.pdf

Shenzhen International. (n.d.). *Integrated Logistics Hub Business*. Retrieved from https://www.szihl.com/en/business/logistic_parks.php

Shin, J. (2018, June). *Best Practices for improving coordination at Ports*. Retrieved from http://www.imo.org/en/About/Events/Documents/porteventpresentations/Session 3-Jinsun Shin-Busan Port Authority.pdf

Ted Stevens Anchorage International Airport. (2014, December). *2014 Master Plan Update*. Retrieved from http://www.dot.state.ak.us/anc/about/docs/CH_4_Facility Requirements_Final.pdf

The Task Force on Land Supply. (2018, December). *Striving for Multi-pronged Land Supply - Report of the Task Force on Land Supply*. Retrieved from https://www.landforhongkong.hk/en/views/index.php

Tiger Steel Engineering LLC. (n.d.). *Cargo Mega Terminal - Dubai International Airport ULD Structure*. Retrieved from http://www.tigersteel.net/web/cargo-mega-terminal-dubai-international-airport-uld-structure/

Transport and Housing Bureau, & Highways Department. (2020, May). *Tuen Mun South Extension.* Retrieved from https://www.legco.gov.hk/yr19-20/english/panels/tp/tp_rdp/papers/tp_rdp20200605cb4-646-1-e.pdf

Transport and Housing Bureau. (2015). *Proposals for enhancing the use of port back-up land in Kwai Tsing (2015)*. Retrieved from https://www.gov.hk/en/residents/government/publication/consultation/docs/2015/STT.pdf

United Nations Centre for Trade Facilitation and Electronic Business. (2005). *Recommendation and Guidelines on establishing a Single Window*. Retrieved from http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec33/rec33_trd352e.pdf

United Nations Conference on Trade and Development. (2019, July). *Maritime connectivity: countries vie for positions*. Retrieved from https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2151#:~:text=UNCTAD's%20liner%20shipping%20connectivity%20index,increased%20by%2051%25%20since%202006.

United Nations Industrial Development Organization. (2019, November 29). *International Guidelines for Industrial Parks*. Retrieved from https://www.unido.org/sites/default/files/files/2020-05/International_Guidelines_for_Industrial_Parks_EN.pdf

UPS. (2020). *UPS Shanghai International Hub Fact Sheet*. Retrieved from https://pressroom.ups.com/pressroom/ContentDetailsViewer.page?ConceptType=FactSheets&id=1426321592340-345

UPS. (2020). *UPS Worldport Facts*. Retrieved from https://pressroom.ups.com/pressroom/ContentDetailsViewer.page?ConceptType=FactSheets&id=1426321566696-701

UPS. (2020, February). 「UPS 在台灣啟用全新物流中心」. Retrieved from https://www.pressroom.ups.com/pressroom/ContentDetailsViewer.page?ConceptType=PressReleases&id=1582646098282-387

Wong, C., Ma, H., & Leung, L. (2018, August). *Collaboration at the Hong Kong Port - Benefits from Facility Sharing*. Retrieved from https://sdsc.hsu.edu.hk/wp-content/uploads/2018/08/Report_Collaboration-at-the-HK-Port.pdf

World Bank Group. (2019, October). *Trading for Development in the Age of Global Value Chains*. Retrieved from https://www.worldbank.org/en/publication/wdr2020

World Bank Group. (n.d.). *LPI Global Rankings 2018*. Retrieved from https://lpi.worldbank.org/international/global

World Bank Group. (n.d.). *Merchandise trade (% of GDP)*. Retrieved from https://data.worldbank.org/indicator/TG.VAL.TOTL.GD.ZS?most_recent_value_desc=true

World Port Source. (n.d.). *Port of Singapore*. Retrieved from http://www.worldportsource.com/about.php

【財政預算案2020】物流業批資助額「杯水車薪」盼有緊急援助補貼. (2020, February 6). *Hong Kong Economic Times*. Retrieved from https://inews.hket.com/article/2574994/%E3%80%90%E8%B2%A1%E6%94%BF%E9%A0%90%E7%AE%97%E6%A1%882020%E3%80%91%E7%89%A9%E6%B5%81%E6%A5%AD%E6%89%B9%E8%B3%87%E5%8A%A9%E9%A1%8D%E3%80%8C%E6%9D%AF%E6%B0%B4%E8%BB%8A%E8%96%AA%2%E3%80%8D%E3%80%80%E7%9B%BC%E6%9C%89%E7%B7%8A%E6%80%A5%E6%8F%B4%E5%8A%A9%E8%A3%9C%E8%B2%BC

倡建「貿易單一窗口」 增通關效率. (2019, March 1). *Ta Kung Pao*. Retrieved from http://www.takungpao.com.hk/231106/2019/0301/253923.html

長榮空運倉儲. (n.d.).「庫區介紹」. Retrieved from https://www.egac.com.tw/tw/whouse.aspx

赤灣集裝箱碼頭有限公司. (n.d.)「公司簡介」. Retrieved from http://www.cwcct.com/Catalog_25.aspx

【大灣區】物流業面對激烈競爭 冀當局加快推行貿易措施保優勢. (2019, December 12). *HK01*. Retrieved from https://www.hk01.com/社會新聞/409349/大灣區-物流業面對激烈競爭-冀當局加快推行貿易措施保優勢

廣州港股份有限公司黃埔港務分公司. (n.d.).「公司概況」. Retrieved from http://www.hp.gzport.com/corpinfo.html

廣州港集團. (2018).「港口業務」. Retrieved from http://www.gzpgroup.com/jtyw/gkyw/201804/t20180402_2263.html

廣州港南沙集裝箱碼頭分公司. (2015).「公司概況」. Retrieved from http://www.gznict.com/?page_id=265

廣州集裝箱碼頭有限公司. (n.d.). 「廣州集裝箱碼頭有限公司設施設備」. Retrieved from https://www.gct.com.cn/about_gct/about_gct_mtss.htm

廣州南沙海港集裝箱碼頭有限公司. (2012).「港口設施」. Retrieved from https://www.goct.com.cn/sitecn/gkss/1589.html

航運業冀海運局成法定機構. (2017, November 20). *Ta Kung Pao*. Retrieved from http://www.takungpao.com.hk/finance/text/2017/1120/127374.html

華儲股份有限公司 . (n.d.).「關於華儲」. Retrieved from https://www.tactl.com/profile.php#FactSheet

加碼10億 DHL擴建桃園運務中心. (2018, October 3). *「工商時報」*. Retrieved from https://www.chinatimes.com/newspapers/20181003000363-260204?chdtv

聯邦快遞擴建桃園服務站. (2005, November). *Liberty Times Net*. Retrieved from https://ec.ltn.com.tw/article/paper/44861

貿發局與商會會晤 業界冀三大範疇助中小企. (2020, April). *Hong Kong Economic Journal.* Retrieved from https://www2.hkej.com/instantnews/hongkong/article/2449494

山東港口青島港. (n.d.).「乾散貨業務」. Retrieved from http://www.qdport.com/#/zyyw?page=32

桃園高端倉儲 國際物流中心開幕. (2014, June 27).*「大紀元新聞網」*. Retrieved from https://www.epochtimes.com/b5/14/6/27/n4187767.htm

桃園國際機場. (2020, January).「媒體中心」. Retrieved from https://www.taoyuan-airport.com/main_ch/docdetail.aspx?uid=23&pid=23&docid=18299

天津港太平洋國際集裝箱碼頭. (2015).「公司概況」. Retrieved from http://www.tpct.cc/main/about.aspx?cid=2

天津港發展控股有限公司. (2020).「業務簡介」. Retrieved from http://www.tianjinportdev.com/sc/bus_cargo.php

通用運費網. (2018, September).「天津港」. Retrieved from https://www.ufsoo.com/port/tianjin/

香港航運業發展遜新加坡？業界冀成立航運業「機管局」. (2019, November 20). *Hong Kong Economic Times*. Retrieved from https://inews.hket.com/article/2502155?r=cpsdlc

新沙港務有限公司. (2014).「碼頭條件」. Retrieved from http://www.xs.gzport.com/gqjs/mttj/201501/t20150119_855.html

鹽田港集團. (n.d.).「大鏟灣港區」. Retrieved from http://www.ytport.com/ywzx/dcwgq/201810/t20181026_699.html

永儲股份有限公司. (2010, August).「物流中心簡介」. Retrieved from http://www.everterminal.com.tw/Sales/001永儲物流中心保稅倉庫簡介.pdf

遠雄自由貿易港區. (2014).「設備介紹」. Retrieved from http://www.farglory-holding.com.tw/f7-1.jsp

招商局港口控股有限公司. (2016).「寧波舟山港股份有限公司」. Retrieved from http://www.cmport.com.hk/Fanti/business/Detail.aspx?id=10001165

招商局港口控股有限公司. (2016).「上海國際港務(集團)股份有限公司」. Retrieved from http://www.cmport.com.hk/Fanti/business/Detail.aspx?id=10001169

中國港口. (n.d.).「深圳港西部港區」. Retrieved from http://www.chinaports.com/ports/e3343f35-09f5-490b-ad2a-f2f5d3bf3ac6#port-n2

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Our Hong Kong Foundation was founded in November 2014 by Mr C.H. Tung, the Vice Chairman of the National Committee of the Chinese People's Political Consultative Conference. The OHKF is a leading non-profit and non-governmental organisation dedicated to promoting Hong Kong's long-term interests and sustainable development by drawing upon Hong Kong's unique advantages and opportunities under the framework of 'One Country, Two Systems'.

To accomplish our mission, the OHKF has set up the Public Policy Institute, the China Institute, the SciTech Innovation platform, the Business for Social Good platform, the Academy of Chinese Studies, and the Hong Kong Chronicles Institute.

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