



Aerotropolis business magnets

How are the world's airport city/aerotropolis developments faring? Some hugely ambitious projects in the Asia-Pacific region come under the microscope in the first of a two-part global review by Dr John Kasarda.

Today's airports are powerful business magnets and metropolitan region economic accelerators. Functioning much like central train stations of our urban past, they increasingly attract and catalyse business activity, employment and commercial development around and outward from them.

But their impact is far greater and more spatially and functionally pervasive. Airports themselves frequently contain thousands of acres of commercial real estate ranging from terminal retail and leisure services (sometimes exceeding billions of US dollars in annual sales) to office buildings, hotels, and convention and exhibition centres to bonded and free trade zones complete with high-tech assembly and value-added logistics along with biomedical product, perishables, and e-commerce distribution.

Such commercial development has become instrumental in non-aeronautical revenues exceeding aeronautical revenues for a growing number of airports.

As major airports take on most functions of metropolitan centres, including cultural attractions and leisure destinations – epitomised by Singapore Changi's Jewel – they have become urban realms (airport cities) in their own right.

And as the concrete interfaces where the global meets the local in physical flows of time-sensitive, high-value products and people – from fresh lobsters and vaccines to investment bankers and multi-national firm lawyers – air gateways are rapidly drawing modern aviation-oriented businesses and industries to their outlying areas.

These businesses and industries (and associated residential developments) feed off each other and their accessibility to the airport, giving rise to an extended aerotropolis of which the airport city serves as the multi-modal, multi-functional commercial and logistics core (see www.aerotropolis.com).

Trendsetting China

Asia leads the way in airport city and aerotropolis development and China is the region's most enthusiastic adopter of the aerotropolis model, with more than 100 of its airports and their surrounding areas incorporating its principles.

Among the most prominent are Beijing Capital (PEK), Shanghai Hongqiao (SHA), Guangzhou Baiyun (CAN) and Zhengzhou Xinzheng (CGO).

Beijing Capital International Airport – Asia's busiest, serving approximately 100 million passengers in 2019 – is corner-stoned by its airport city logistics park (ACLPL).

The \$900 million ACLPL consists of air cargo and air express centres, import/export warehouses, an integrated support service area with related office complexes, and bonded product exhibition.

From 2018 to 2020, new enterprises in biomedicine, smart electronics, and cross-border e-commerce located in the airport city logistics park.

The ACLPL is now part of the 178-square-kilometre Beijing Airport Core Economy Zone (BACEZ) spreading into Beijing's Shunyi District. The BACEZ contains more than 3,000 enterprises, including operations of over fifty Fortune 500 firms.

The Shunyi portion of the zone is continuing its transition from more-traditional industries (automobile production, for example) to



high-tech assembly and knowledge-based business services more oriented to air transport.

Meanwhile in Shanghai, the seamless fusion of the airport with subway, regional and high-speed rail drives an impressive airport city adjacent to Shanghai Hongqiao.

Some of Shanghai's more distinctive office buildings make up this airport edge city. By 2020, over 300 high-end structures had been built, comprising approximately 5.6 million square metres of floor space at a total investment of exceeding \$100 billion.

This includes the massive two-million-square-metre national exhibition arena (the largest in the world) along with office buildings housing international and domestic corporate headquarters, knowledge workers in advanced business and professional services, financial and trading enterprises, economic organisations, and upscale retail.

Between 2018 and 2020, prestigious international schools, a Medical Zone containing hospitals providing nearly 2,000 beds, and four five-star hotels were added.

About 650,000 people currently work in Hongqiao Airport City, also known as the Hongqiao CBD (Central Business District).

The sprawling Pearl River port city of Guangzhou has a major advantage in terms of its aerotropolis development as Baiyun International Airport serves as the hub for China Southern Airlines (China's largest in fleet size, revenue, and passengers carried) as well as the Asia-Pacific hub for FedEx.

Yet a Guangzhou Aerotropolis had been slow to materialise, due in part to the inability to align local jurisdictions and other key stakeholders for co-ordinated actions.

The establishment of the 116-square-kilometre cross-jurisdictional Guangzhou Aerotropolis Development District (GADD) in September 2015 reconciled this problem.

Catalysed by an expanded bonded zone and the airport's magnificent new passenger terminal, Guangzhou Aerotropolis investment accelerated between 2017 and 2020 in logistics and cross-border e-commerce, trade and exhibition, and hospitality as well as office building complexes.

Among the biggest are the 67-hectare China–Australia–New Zealand–South Korea Free Trade Business Park (\$602 million) and the

\$1.3 billion Greenland Group/Guangdong Province Airport Authority joint venture on 33 hectares.

Both developments are just three kilometres from CAN, with the former focusing on trade, and the latter mostly on aviation-industry headquarters, financial institutions, government administrative offices and hotels.

Centred around Zhengzhou Xinzheng International Airport (CGO), the 415-square-kilometre Zhengzhou Airport Economy Zone (ZAEZ) has grown so remarkably since its formal inception in March 2013, that in April 2019 the *People's Daily* crowned it 'China's Aerotropolis'.

Over 200 million smartphones were assembled in the ZAEZ last year, generating \$44.2 billion in electronic information industry output. Smartphone assembly parks are complemented by rapidly developing biomedicine parks, silicon wafer manufacturing facilities, hotels and office buildings as well as construction of one of China's largest trade and exhibition complexes.

In 2019 alone, 22 major projects settled in the ZAEZ accounting for a combined investment of \$11.9 billion. With its 29 international air cargo routes, CGO has been China's fastest growing in air cargo volumes during four of the last five years.

Future China aerotropolises in planning include those around the spectacular Beijing Daxing International Airport that opened in September 2019 and in Ezhou in central China's Hubei Province, where the provincial government is teaming with SF Express (China's primary air logistics provider) to develop a \$6 billion air cargo airport that they ambitiously envision will be the largest in Asia with a scalable capacity of 7.6 million tonnes of cargo annually.

Elsewhere in Asia-Pacific

Airport city and aerotropolis development has been highly active in numerous Asian locations beyond China. Incheon International Airport (ICN), with 71.2 million passengers and 2.5 million tonnes of cargo in 2019, anchors the most comprehensive airport city and aerotropolis in the Asia-Pacific region.

ICN's two terminals lead the world in duty-free sales (over \$2.4 billion in 2019). There is also substantial commercial real estate development on its vast property, including (among others) office building complexes, five-star hotels, integrated gaming resorts, water parks, and major logistics zones. Maglev rail connects key sections of airport property.

Outside ICN's fence, the 209-square-kilometre Incheon Free Economic Zone is fostering development of the greater aerotropolis. The Zone attracted over \$40 billion in investment in modern goods handling and business services sectors between 2010 and 2020.

Arguably, the most impressive cluster is the Songdo IBD (International Business District), a \$35 billion smart city being built from scratch on 6.1 square kilometres of reclaimed land.

Approximately 80% complete, progress at the Songdo IBD slowed in the past three years due to a fall out between its two developers – New York's Gale International and South Korea's POSCO E&C, the nation's top steel producer.

Hong Kong International Airport (HKIA) and its outlying areas have likewise fully embraced airport city and aerotropolis development. In addition to extensive terminal retail and leisure services, the airport hosts major hotels and boasts an international conference and exhibition centre in AsiaWorld-Expo, a multi-purpose World Trade Centre, and the world's busiest air cargo facilities.

Tung Chung New Town lies just 500 metres from the airport boundary, where high-rise residential towers, shopping centres, and cultural venues continue to expand.



Also, the nearby Hong Kong Disneyland Resort welcomed nearly seven million visitors in 2019. Two new themed areas were under construction in 2020 — Arendelle: The World of Frozen and Stark Expo Hong Kong.

The opening of the 55-kilometre Hong Kong–Zhuhai–Macau bridge in October 2018 was pivotal in integrating China’s Pearl River Delta (the ‘Workshop of the World’) with HKIA.

Together with fast-ferry services to Delta coastal cities and an efficient airport express train, this bridge has made HKIA’s airport city the quadrimodal CBD of an extended aerotropolis populated by approximately 40 million.

In Singapore, Singapore Changi’s extensive array of terminal retail venues along with leisure offerings — including exotic gardens, hospitality services, movie theatres and swimming pools — are instrumental in the airport’s frequent rating as the world’s best for passenger amenities.

The opening of Jewel Changi Airport in October 2019 on 3.5 hectares of land next to Terminal 1 topped all airport city developments. Jewel’s distinctive glass-and-steel façade, rising ten stories with 134,000sqm of floor area, represents an amazing leisure destination of gardens, hiking trails, 300 retail and dining outlets, a hotel and a 40-metre-high rain vortex at its centre, among other attractions.

Extending outward from the airport are clusters of logistics and business parks, conference centres, university campuses, and integrated resorts.

In India, the GMR Group, which operates Hyderabad’s Rajiv Gandhi International Airport, is executing a theme-based airport city master plan consisting of six major commercial clusters: aerospace, business services, education, entertainment, health, and logistics.

Each cluster is being developed with unique design features reflecting its land-use functions. Its 1,500 acre airport city includes a multi-product special economic zone consisting of temperature controlled and fast-cycle distribution facilities, MROs, aircraft engine parts manufacturing, and other aviation-oriented businesses.

Stretching 10 to 20km outward from the airport, a greater Hyderabad Aerotropolis is dominated by IT and other high-tech, aviation-oriented sectors. India’s IT giants, Infosys and Wipro, have substantial campuses, as do US-based Microsoft and aerospace firms, such as Sikorsky.

In Malaysia, Kuala Lumpur International Airport (KLIA) aims to become a major platform for commercial development and international trade under the name KLIA Aeropolis.

Aeropolis is expansive, covering 10,000 hectares, of which 3,000 hectares are geared to commercial, industrial, institutional, and leisure uses.

While Aeropolis has achieved several significant commercial goals to date, including having its own Formula 1 racetrack (pictured above) and excellent terminal retail and passenger leisure services along with five-star hotels, its full promise has yet to be attained.

As of 2020, Malaysia Airports Holding Berhad, which operates both the airport and Aeropolis, remained focused on implementing plans for extensive airport city and aerotropolis development.

Elsewhere, in Chinese Taipei, protests over farmland expropriation has slowed the development of the 4,500-hectare Taoyuan Aerotropolis adjacent to Taoyuan International Airport.

Conflicts with farmers and other landowners as well as environmental issues were being addressed in 2020 by Taoyuan County officials and central government bodies in efforts to jump start the national government’s flagship aerotropolis project, originally expected to attract \$16 billion in investment.

While in Australia, in 2019 plans were completed for a Western Sydney Aerotropolis around Sydney’s second international airport to be constructed about 55km west of Sydney’s CBD.

The aerotropolis is being backed by huge financial commitments by the central government for connecting rail and highway infrastructure with significant private sector investment already committed by a number of international firms. The target date for airport and aerotropolis operation is 2026.

Finally, considerable investment in airport cities and extended aerotropolises is also proceeding on and outward from U-Tapao Airport on Thailand’s Eastern Economic Corridor and Clark Airport in the Philippines.

While both are former US air bases, Clark envisions itself as Manila’s second international airport and U-Tapao Bangkok’s third, the latter to be connected by high-speed rail to the city’s downtown in under an hour.

San Miguel Corporation, the Philippine beer giant, has proposed to construct a new international airport following the aerotropolis model in Bulacan, 11 kilometres north of Manila, but environmental issues concerning the adjacent estuary as well as protests by local fishermen, who would be impacted, have impeded progress.

The projects described above represent some of the largest, but by no means only airport city and aerotropolis initiatives in Asia and the Pacific.

Many others are moving forward that should solidify this global region’s leadership position in airport-linked commercial and industrial development for decades to come.

In the next issue of *Airport World*, I will provide updates on key airport city and aerotropolis projects in the Africa, the Americas, Europe and the Middle East.

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