

Speaking volumes

Is it time for the cargo city to shine? Dr John Kasarda reports.

Led by a convergence of aviation, globalisation, digitisation and time-based competition, the worlds of air commerce and supply chain management are rapidly merging.

New economy products (typically small, light, compact, high value-to-weight parts, components and assembled products) are increasingly shipped internationally by air in a fast and agile manner.

In our speed-driven, networked economy, individual companies are no longer the effective competing units. Rather, competitive advantage resides in globally dispersed enterprises whose integrated supply chains move via air. The huge volume of time-critical products (including perishables) traversing international boundaries by air annually has resulted in air cargo accounting for approximately 35% of the value of today's world trade.

For new economy products such as micro-electronics, pharmaceuticals, medical devices and aerospace equipment, air cargo accounts for nearly 75% of their international trade by value.

In order to gain a competitive advantage through the speedy global supply-chain connectivity that air cargo provides, high-tech manufacturers and other time-critical industries are locating at sites around or accessible to well-connected airports.

As their suppliers and logistics providers co-locate, they drive additional investment and employment growth in airport regions. Nowhere has this phenomenon been better demonstrated than The Philippines, China and Dubai.

The Philippines phenomenon

FedEx established operations at Subic Bay International Airport in 1995, transforming the former US naval airbase into its Asian regional air express hub.

Within months, substantial foreign investment by time-sensitive firms began flowing into industrial parks around the airport. These have included South Korea's Anam Group – one of the world's largest producers of computer memory chips – which has invested \$400 million in a plant that now turns out 50 million chips per month, equivalent to nearly half the production in South Korea.

Fellow South Korean company, Poongsan, has also constructed a \$100 million facility to make components for chipboards and Taiwan's Wistron (Acer's manufacturing subsidiary/spin-off) has invested \$120 million on a computer assembly facility. Other major micro-electronics firms such as Taiwan's TEMIC Semiconductor, Japan's Omran and Sanjo Alloy from the US have also been attracted to Subic Bay.

Between 1995 and 2000, 150 firms located around the airport, constituting \$2.5 billion in commercial facility investments. During the same period, Subic Bay area exports increased from \$24 million annually to over \$1 billion annually. By 2006, these exports exceeded \$1.4 billion.

Similar growth in investment, jobs and exports is now occurring at and around the former US Clark Air Force base near Manila, now Diosdado Macapagal International Airport, which has become a Southeast Asia regional air express hub for UPS.

There are some developing storm clouds on the Philippines horizon, however. With FedEx about to move its Asia regional hub to the Chinese city of Guangzhou, Subic Bay's industrial expansion days may be limited. There may also be some dampening effects on Diosdado Macapagal's development if UPS continues to expand its new regional air express hub at Shanghai.

The Chinese market

Whereas mainland China has many dynamic cities, two stand out for industrial investment – Guangzhou and Shanghai.

Not surprisingly, these cities have new airports with major air cargo facilities to serve and nurture this investment. Guangzhou, in southern China, opened its one million tonnes of cargo per annum capacity New Baiyun International Airport in August 2004. It proved an instant success, and such is the anticipated level of growth, that work has already begun on raising its capacity to 2.5 million tonnes of cargo per annum by 2015.

With traditional cargo service growing and FedEx moving its Asia regional hub to Guangzhou, time-sensitive firms are flocking to the airport area. Interestingly, New Baiyun is only 110 miles from Hong Kong International Airport (HKIA), the second largest cargo airport in the world after FedEx's Memphis hub.

Both HKIA and New Baiyun serve the Guangdong province of China, known as the "factory of the world", as it is responsible for over one-third of the nation's exports.

Southern coastal China's booming manufacturing sector is expected to provide ample future shipments for both airports, as well as for nearby Shenzhen International Airport, which handled 560,000 tonnes of cargo in 2006.

Indeed, with Guangdong province beginning to transform to high-tech, higher-value production (such as Apple's iPod and iPhone), expanding air cargo services at Hong Kong, Guangzhou and Shenzhen airports will be counted on even more in the future to make the province attractive to time-critical manufacturers and their suppliers.

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To the north, Shanghai's growth is likewise mirrored by the development of its airports. Shanghai Pudong International Airport opened in October 1999. It is now the sixth largest cargo gateway in the world handling 2.2 million tonnes of cargo per annum. Add in the volume of the older Shanghai Hongqiao Airport and the city is easily mainland China's largest air cargo centre.

The Chinese Government is currently expanding cargo facilities at both airports to ensure that between them they are capable of handling seven million tonnes of freight per annum by 2015.

Shanghai's commercial vitality and rapidly expanding air connectivity is attracting foreign companies in their droves, so much so that in 2004 the Shanghai Pudong New Area celebrated the arrival of its 10,000th foreign enterprise. The tenants, that include nearly 200 of the world's top 500 multi-national companies, have between them invested more than \$20 billion in the region.

UPS has established its North Asia regional air express hub at Pudong and FedEx recently decided to set up a sub-regional hub at the gateway.

These air express services are heavily reinforced by a growing number of international air cargo carriers and bellyhold shipments in widebody passenger aircraft. Together they are attracting a multitude of high-tech and other time-sensitive industries to development zones surrounding Shanghai Pudong Airport along with a huge complement of trucking companies, freight forwarders and logistics providers serving these companies.

Dominant Dubai

The leaders of Dubai have been visionary in their use of air commerce to foster investment and development in the Emirate. Recognising that its location halfway between Asia and Europe could make it an important transit point for passenger and cargo traffic, a decision was made in the mid-1980s to fully liberalise its air cargo and passenger access for development purposes.

This put air cargo at Dubai International Airport (DXB) on a rapid trajectory. By 1998, the airport was handling 300,000 tonnes annually in its Cargo Village, with another 120,000 tonnes flowing through temporary areas. Dubai's air cargo has continued its rapid trajectory in recent years to 1.5 million tonnes in 2006, up from 940,000 tonnes in 2003.

With cargo growth at the airport continuing at a breakneck pace, new facilities have followed suit. The first phase of a Mega Cargo Terminal, capable of accommodating five million tonnes of cargo yearly by 2018, has been completed along with a state-of-the-art fresh flower facility.

DXB's airport is within a free trade zone, which makes it even more attractive to companies looking to invest in the Emirate. The Dubai Airport Free Zone (DAFZ) has 1.2 million square metres of space for offices, warehouses and distribution centres and manufacturing plants. Its benefits – which include 100% foreign ownership of companies in the zone, tax-free status for up to 30 years and no personal income tax – are designed to attract those companies producing high value-to-weight goods and shipping them by air.

There are over 330 companies in the DAFZ, including Bang & Olufsen, Boeing, Chanel, Diageo, Johnson & Johnson, LVMH, Mitsubishi, Caterpillar, Porsche, Rolls Royce and Wyeth Pharmaceuticals.



So successful has development been at and around DXB that the Emirate's leaders are currently constructing a second massive airport complex 10 years earlier than planned. The new Dubai World Central Airport (JXB), expected to open in 2008, will be an example of the airport city model. It will include planned clusters of industries in logistics, high technology, financial services and tourism whose needs are served by aviation.

The entire airport city complex, when fully built out, will cover 140 square kilometres (54 square miles), including an airport operating area composed of six parallel runways and three passenger terminals with extensive shopping and entertainment arcades.

The first commercial zone will be Dubai Logistics City (DLC), located adjacent to the airport operating area and next to the Jebel Ali Free Zone.

A fully-integrated multi-modal platform covering nearly 10 square miles, DLC is designed to eventually support an annual air cargo capacity of 1.2 million tonnes annually – over three times that of the current world leader, Memphis (3.7 million tonnes in 2006). DLC will also operate as a free trade zone and offer the complete complement of logistics, transportation and supply chain management services.

An express light rail system and dedicated road network will link DLC to Dubai International Airport 40 kilometres away via a special customs-bonded highway and railway.

Dubai Logistics City tenants will include light manufacturers and assemblers, importers, exporters, freight forwarders, third-party logistics providers and other companies requiring air cargo services and complex supply-chain management.

By mid-2006, more than 80 regional and international operators have reserved in excess of 26 million square feet of DLC land, including such logistics heavyweights and Kuehne & Nagle, Danzas, and Panalpina.

So do all airports have the potential to become cargo cities? The bottom line is that airports with extensive air cargo connectivity and capacity have competitive trade, production, and commercial development advantages over those that do not. Such advantages are fundamental to attracting investment, creating jobs and driving economic development around these airports and throughout their broader airport regions.

