

# Global gateways, local hubs

What can businesses look forward to in future? The Master Plan seeks to strengthen gateways to markets, bring jobs closer to homes and enable more flexible use of land in pilot areas.

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From Woodlands in the north to Tuas and Changi in the west and east of Singapore, these economic gateways will be further enhanced to serve regional and global markets. Each of these areas will also be developed to support new sectors and provide job opportunities. Development of Bishan, a sub-regional centre, and Punggol Digital District will continue to provide jobs closer to home.

For more flexible use of land, the pilot Enterprise District approach at Punggol Digital District and Jurong Innovation District will allow the master developer to respond quickly to market demands and curate the right tenant mix through flexible changes in the use of space within the District's approved quantum.

In addition, piloting the flexible use of industrial space at Woodlands will enable SMEs (small and medium enterprises) to co-locate their manufacturing operations together with knowledge-intensive and service-oriented functions (for example, R&D and after-sales support) for better efficiencies and productivity.



Above | From the top, the future Tuas (image credit: PSA) to be opened in phases from 2021, the upcoming Paya Lebar Central (image credit: Lendlease) that will add greater buzz to the commercial hub and the experimental zone piloting more flexible uses at Woodlands.

Economic gateways create

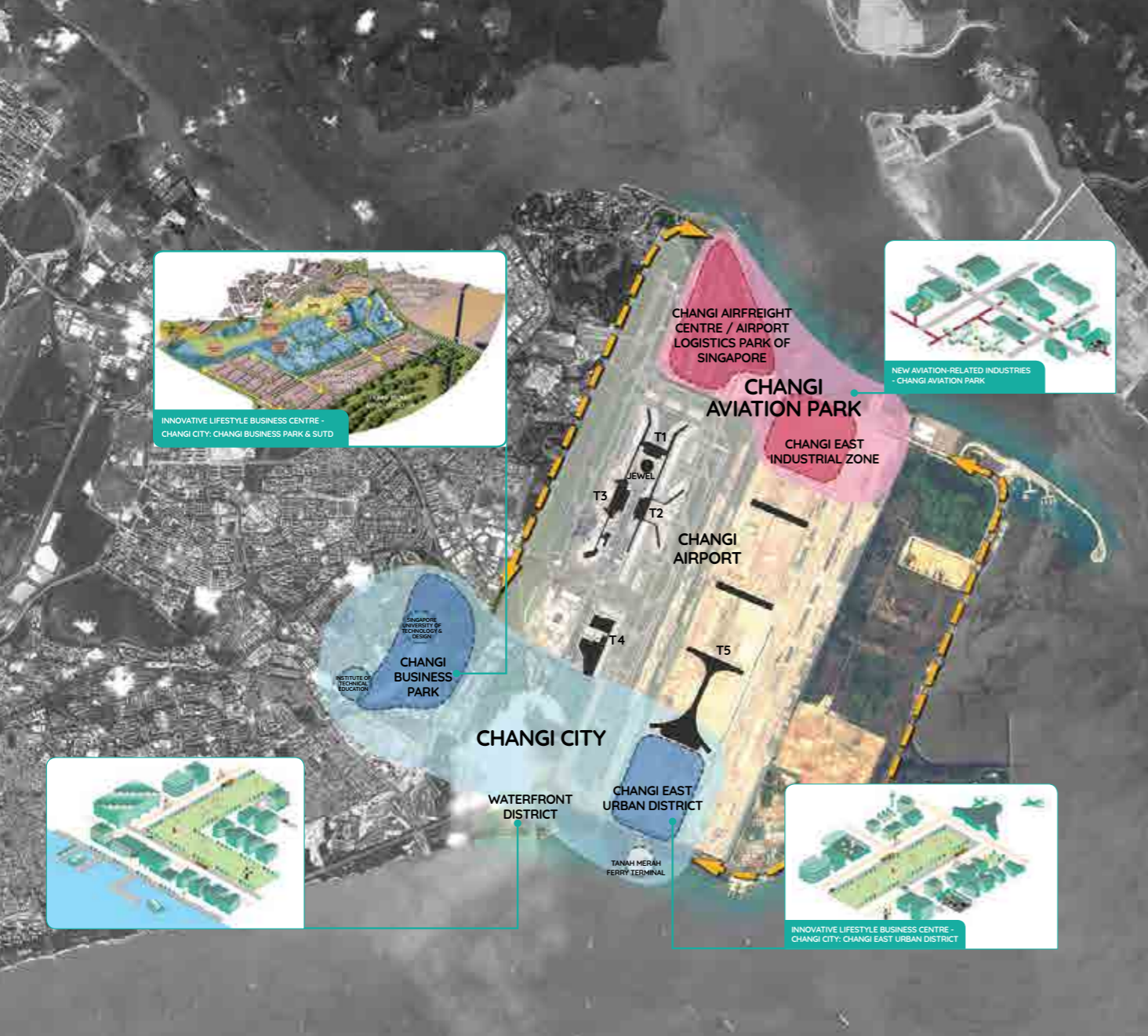
## new opportunities

Regional and sub-regional centres provide

## jobs within reach

Enterprise district and experimental zone offer more

## flexible land use



**Changi Region**

In the Changi Region, with Changi Airport expanding progressively, there are opportunities to create a vibrant, mixed-use area around the airport to continue to sustain Singapore's status as a leading air hub. Connections to the Changi Region will be enhanced by train (Cross Island Line and possible extension of Thomson-East Coast Line) and road (road widening and improvements), and there is potential to explore "fly-ferry" connections between Tanah Merah Ferry Terminal and Changi Airport's Terminal 5.

Aviation and cargo related sectors and businesses can be encouraged to foster a synergistic and innovative ecosystem around the airport, leveraging on the nearby Singapore University of Technology and Design and Changi Business Park.

Beyond creating new job opportunities, the Changi Region is also planned as a mixed-use cluster and destination with a range of recreational offerings and tourist attractions for residents, workers and tourists.

Many cities around the world are also exploring new typologies and ecosystems for their airport areas. Dr John Kasarda, a leading airport-area researcher and business consultant developed the aerotropolis concept, which benefits the wider city, not just airports alone. He is the director of the Centre for Air Commerce at the University of North Carolina's Kenan-Flagler Business School, CEO of Aerotropolis Business Concepts LLC, and president of the Aerotropolis Institute China. John elaborates on what the aerotropolis means and how Singapore can leverage on it.

**What is an aerotropolis?**

**John:** It is a metropolitan sub region whose infrastructure, land use, and economy are centred on an international airport. It consists of 2 components – the airport's aeronautical, logistics, and commercial facilities that make up a multimodal, multifunctional 'airport city' at its core and outlying corridors and clusters of aviation-oriented businesses and industries that benefit from proximity to each other, the airport, and other key transport infrastructure. The aerotropolis' primary

value proposition is that it offers businesses located near or with good transport access to the airport speedy connectivity to their distant suppliers, customers, and enterprise partners.

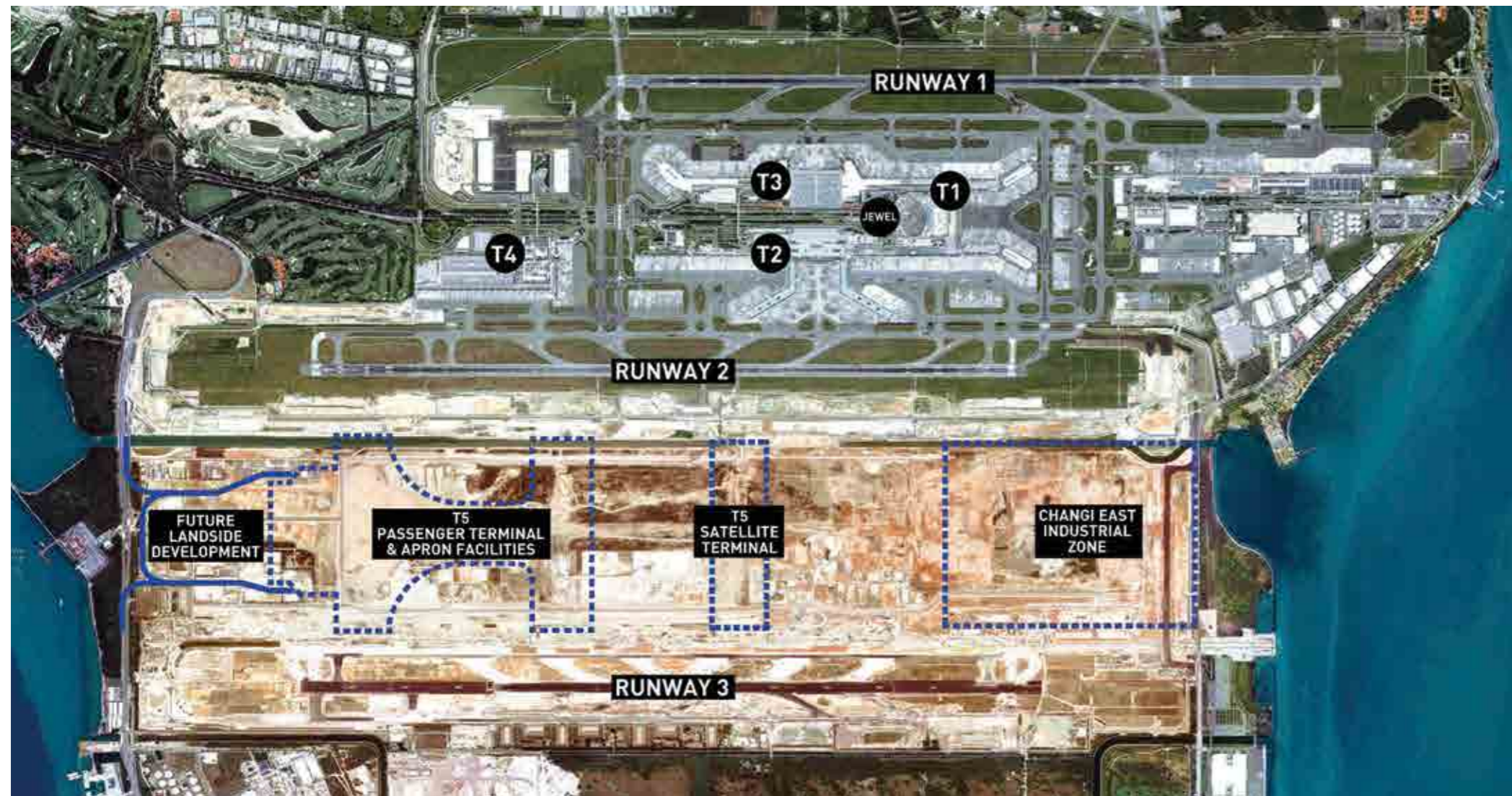
The aerotropolis is also a strategy. A successful aerotropolis represents a coordinated set of infrastructure, commercial real estate, and government policy interventions which upgrade airport-area urban and employment assets, reduce ground-based transport times and costs, and expand air route connectivity to capture global business and boost aviation-generated trade in high-value, time-sensitive goods and services.

**How does an aerotropolis add value to a city?**

**John:** The fastest, best-connected cities are winning in the 21st century, and the aerotropolis rapidly links its firms and people to markets near and far. Improved surface transportation connects them to key aerotropolis clusters and other local markets, including the downtown, while extensive air routes provide quick, efficient connectivity to global markets.



Above | Future plans for the Changi Region and an overview of a possible future ecosystem that can be created leveraging on the Singapore University of Technology and Design (SUTD) and Changi Business Park (map at the bottom right).



Above | The location of Changi Airport Terminal 5 (image at the top) and the Jewel Changi Airport. Image credit: Changi Airport Group.

**What issues does an aerotropolis seek to address?**

**John:** The aerotropolis optimises economies of speed, which is an important advantage for firms and cities. Today, it is no longer the big eating the small, but the fast eating the slow. Business is increasingly global and for many businesses and business people, time is not only cost; it is also currency.

A well-designed aerotropolis functions as an 'urban pipe', reducing the time-cost frictions of space and distance, improving both firm and urban operational efficiency. In addition, the aerotropolis seeks to counter urban sprawl through appropriate commercial and industrial re-clustering around airports and create sustainable communities where residents can live, work, learn, shop, and be entertained in proximity to the airport.

**How can Singapore leverage the aerotropolis concept to grow the Changi region?**

**John:** Singapore possesses two special ingredients for aerotropolis success: Changi Airport and Singapore Airlines, both recognised as best in class in respective industry surveys. Stakeholder alignment is also a key ingredient for future growth, which is evolving with the support of the Civil Aviation Authority of Singapore, the Changi Airport Group, and Singapore's urban planning and development organisations.

To a large extent, Changi Airport and the Changi Region have already leveraged the aerotropolis concept to bring competitive advantages to Singapore while attracting investment to the airport area. This includes an exemplary airport city on Changi Airport property anchored by unique retail and leisure services in its 4 terminals, Jewel Changi Airport, and its airfreight centre and logistics park. Extending up to 5 km outward from the airport, the Changi Region has generated clusters of aerospace, office, financial, high-tech, educational, conference and exhibition, and retail activities. It also hosts 3 significant residential communities in Bedok, Pasir Ris, and Tampines that house nearly 1 million people combined, providing qualified labour.

## The aerotropolis is more than corridors and clusters of aviation-oriented commercial, industrial, and logistics facilities. It consists of living urban places that must be planned and designed as appealing environmental and social realms.

### What are the key considerations when designing spaces and activities around airports?

**John:** The aerotropolis is more than corridors and clusters of aviation-oriented commercial, industrial, and logistics facilities. It consists of living urban places that must be planned and designed as appealing environmental and social realms if the model is to achieve its full potential. Spatial design and activities must appeal to residents, workers, and visitors.

Assessing market demand is essential also, since aerotropolis success ultimately rests on financial sustainability. Economic spaces and activities must be planned to meet the wants and needs of investors, commercial real estate developers, and their business facility end users.

### What does planning for a 24/7 vibrant area around the airport look like?

**John:** Airport city and aerotropolis planning is urban planning, using the same principles that make cities liveable and socially vibrant. These include making them walkable, safe, and welcoming with the mix of urban amenities and nightlife establishments that attract people to them 24/7. Aerotropolis planners should design entertainment subareas that have the same 'bright lights' effect that draws people and street life to major urban centres, including trendy restaurants, quality shopping, nightclubs, and other entertainment venues.

### How can hub airports plan for greater flexibility to respond to external changes?

**John:** Development should be guided by a flexible strategic framework rather than a fixed-in-concrete master plan. With today's turbulent conditions, both planning and operating an airport hub calls for agility. Flexible designs can expand or adapt airport infrastructure and facilities as aviation demands dictate and new technologies emerge.

Agile airport leadership and managers should be both vigilant towards and able to adapt to external changes such as fluctuations in aviation industry cycles, the entrance of new types of airlines, environmental regulations, or political disruptions in trade. They also need to continuously earn social license from surrounding communities to expand the airport's aeronautical infrastructure, commercial property, and air networks.

*Responses have been edited for length.*

### AIRPORT HUBS

John highlights 4 global airport hubs with surrounding aerotropolises.

#### 1 DUBAI INTERNATIONAL AIRPORT AND DUBAI WORLD CENTRAL AIRPORT UNITED ARAB EMIRATES

"Dubai, like Singapore, is a global aviation hub with a city-state attached. About 25 percent of Dubai's GDP (Gross Domestic Product) is linked to aviation in some form. This is forecasted to rise to 40 percent of Dubai's GDP by 2035.

A significant airport city already exists at Dubai International Airport and the Emirate is constructing the Middle East's first purposely planned aerotropolis around its new Dubai World Central Airport."

#### 2 AMSTERDAM SCHIPHOL AIRPORT THE NETHERLANDS

"Amsterdam is the granddaddy of airport city and aerotropolis development. The Amsterdam Schiphol Airport area has drawn numerous global and European regional corporate headquarters as well as fast-cycle logistics businesses, including the largest flower distribution market in the world, the Aalsmeer Flower Auction."

#### 3 INCHEON AIRPORT SOUTH KOREA

"Incheon, South Korea has taken the airport city and aerotropolis model to new levels of planned urban mega-development, featuring the world's largest airport duty-free shopping with US\$2.4 billion in sales in 2018; major logistics, office, commercial, entertainment, and integrated resort complexes on airport property; and a new airport edge city known as Songdo International Business District connected to Incheon Airport by an 8-km bridge and designed from the get-go on 'smart city' principles."

#### 4 PARIS CHARLES DE GAULLE AIRPORT FRANCE

"The Roissy area around Paris Charles de Gaulle Airport has become the region's most powerful business magnet and economic accelerator. Developments include Roissypole, situated on Charles de Gaulle Airport, which contains 246,000 square metres of corporate office space and 8 hotels offering nearly 3,000 rooms.

In the surrounding area, one finds the 320,000-square-metre International Trade Centre, the largest integrated business and congress complex in Europe that also houses 6 hotels offering 1,700 rooms. Numerous other significant airport-linked commercial developments are also taking place in the Roissy region.