

# What makes Changi Airport shine

Nearly four decades on, Changi Airport remains a leading international air hub in an intensely competitive and volatile industry. Jewel reflects the innovative spirit that drives Changi Airport Group's efforts to stay in the top league.

## Liew Mun Leong

Today, we commemorate the 10th anniversary of the formation of Changi Airport Group (CAG).

It has been 38 years since Changi Airport started operations on July 1, 1981 and I have been deeply involved in its development from as early as the mid-70s. Despite scepticism from many quarters, our leaders back then believed that the future capacity of Changi Airport should cater for 30 million passengers per annum (mppa). Today, we have superseded this amid strong growth in passenger demand, with a total handling capacity of 85 mppa across our four terminals. How did we achieve this?

### FORESIGHT AND PLANNING

From the outset, our leaders had the foresight to invest in the airport. Running an airport is like managing an asset-heavy business. It is also inherently complex. To build more capacity takes a long time and comes with high infrastructural costs.

At the same time, the aviation industry is dynamic and volatile, making it challenging to look to the future even though it is necessary to do so. With the combination of a risk-taking mindset and a team of highly astute and dedicated staff to plan, design and manage the airport, we were fortunate to have done well.

In 2009, our leaders further made the bold move to corporatise the airport by forming CAG as a private company and restructuring the Civil Aviation Authority of Singapore (CAAS). CAG was to undertake airport operations and air hub development, while CAAS focused on its regulatory and air traffic management roles. Corporatisation has allowed CAG to be more customer-focused and gives it greater flexibility to respond and innovate in a rapidly changing aviation environment



Located where an open-air carpark used to be, Jewel Changi Airport is a high-value, multi-functional commercial asset averaging a footfall count of 300,000 a day. Its unveiling is a demonstration of continual efforts to ensure that Changi Airport remains a leading international air hub, says the writer. ST FILE PHOTO

where there is intense competition, especially in the region.

In recent years, many airports have made significant improvements in their operational efficiency and service levels. Transfer passengers account for about 30 per cent of Changi's total traffic, and it is a competitive market, with travellers having the option of different air hubs to stop over or transit. Since the formation of CAG, the number of passengers passing through Changi has gone up from 37 million to 66 million annually. But our efforts to attract passengers and visitors to Singapore continue. This is where the latest addition, Jewel Changi Airport (Jewel), comes in.

### THE BIRTH OF A GEM

Recently, I accompanied the Chinese Ambassador to Singapore, Mr Hong Xiaoyong, on a visit to Jewel. The moment he saw Jewel, he turned to his embassy colleagues and said in Mandarin, "This is innovation in Singapore!" and diplomatically repeated that to me in English.

I responded that Jewel is indeed a bold innovation in ideas and technology and briefed him on how it was originally an open-air carpark with 800 lots built about 40 years ago for hourly parking using paper coupon payment. I am familiar with the history of the site because I was the engineer in charge of building the carpark back then. The open-air carpark has now

been converted into a high value, multi-functional commercial asset with extended airport functions, shopping, restaurant outlets, an airport hotel, recreational facilities and attractions, including 2,500 carpark lots.

The unveiling of Jewel on April 17 is a clear demonstration of our continual innovative efforts to ensure that Changi Airport remains a leading international air hub. I have been involved with the building of Changi Airport from its early phases in 1975, but Jewel is truly one of the highlights of my professional career.

Its birth began at least nine years ago. Changi was critically short of parking lots at Terminal 1 (T1). As T1 was hemmed by T2 and T3, expansion was possible only at the open-air carpark in front of T1. Airport land is precious and we wanted to create greater economic value in the use of the 3ha (about the size of four football fields), which lies at the heart of Changi Airport, surrounded by the three terminals.

However, we rejected the obvious solution of simply building a multi-storey carpark in front of T1, an approach which has been conveniently adopted by quite a few major airports in the rest of the world.

CAG chief executive Lee Seow Hiang came up to me one day with the idea of constructing a commercial building with additional carpark spaces on the site. The proposed building could

be integrated with an expanded T1 and open the flexibility for us to re-imagine what an airport infrastructure could be.

Frankly, at the time I was sceptical if the idea could work financially. But I left it to Mr Lee and his team to innovate and develop his new "dream". A bid was eventually called for design proposals to develop the site and several parties took part in the competition. Finally, a bold and highly imaginative glass dome conceptualised and designed by world-renowned architect Moshe Safdie was selected.

Throughout, there was one key strategic goal – to upgrade and maintain the attractiveness of Changi Airport as an international air hub by entertaining and providing stopover passengers with more "pleasurable transit time" when passing through Changi. We also wanted to better serve growing passenger segments such as those who travel to Singapore to connect to cruises and ferries. With this, we also wanted Jewel to be a space for all Singaporeans to enjoy bonding with family and friends.

### OF GRIT AND GUMPTION

Executing the idea of Jewel did not happen without hurdles to cross. Besides financial viability, we had to address queries from various agencies on why there was a need for another mall at Changi Airport – would it cannibalise sales from

nearby Housing Board neighbourhood shops and other shopping malls, aggravate the problem of a shortage of retail workers, and cause traffic jams to the airport?

These were valid concerns that had to be convincingly addressed. It took three years to persuade all the relevant stakeholders. Finally, Prime Minister Lee Hsien Loong signalled his endorsement after we presented the project to the Cabinet at the Istana. His response was encouraging – it is an air hub project and we would do it as a "leap of faith". That year, the concept of Jewel was introduced to Singaporeans at the National Day Rally and there was palpable excitement.

Four-and-a-half years of hard work followed to construct a complex infrastructure that Mr Safdie rated as nine out of 10 in terms of technical difficulties to build.

The biggest challenge was to engineer the 37m-high elliptical glass dome, which spans columnless across the core area. It is a 10-storey building of about 1.5 million sq ft with five basement levels for 2,500 carpark lots and another five levels above ground housing retail shops, food and beverage, the Rain Vortex, Forest Valley, a 130-room airport hotel and other fun attractions.

The roof facade is arguably the biggest single-layer glass roof in the world. It is framed by 9,000

individually sized special glass pieces which maximise light transmission and reduce heat gain at the same time to allow the more than 2,000 trees and 100,000 shrubs to survive indoors.

The entire project, which is a partnership venture between CAG and Capitaland, cost \$1.7 billion (including land costs, development charges and professional fees).

### SETTING A NEW BENCHMARK FOR THE AVIATION INDUSTRY

On April 17, the day of the Jewel opening, the footfall count (each time a person enters or exits) was about 260,000. It is averaging 300,000 a day now.

There were families of all races and ages, including children and the elderly, some arriving in their wheelchairs. They were smiling, excited and fascinated with the extraordinary project that stood before them, some looking bewildered and marvelling that such a feature could be built in Singapore.

I could almost hear them thinking proudly – "Singapore can build this and we own it!"

Internationally, Jewel has also gained much attention. Some in the media have opined that Jewel is a game changer for airports. Across various news and social media platforms, Jewel received overwhelmingly positive responses.

Recently, a gentleman with two children abruptly stopped me at the fifth floor of Jewel to congratulate us for the success in Jewel. He said that he had been to Jewel five times over the last two months to enjoy the facilities. For those in the aviation industry, Jewel has set a new benchmark in air travel. With Jewel, we have not only greatly strengthened Changi Airport as an international air hub but also provided the public, who may not be air passengers, with an additional public space to enjoy.

Space in land-scarce Singapore is very precious. I am glad we have managed to innovatively unlock the value in this open-air carpark land by turning it into a jewel. As CAG enters a new decade, with the Changi East development beckoning, it will have to embrace the risks and challenges of an even more unpredictable environment facing the aviation industry.

We may not know what success will look like in the future, but so long as our people remain deeply rooted in the values and sense of purpose that have underscored Changi Airport's achievements, we can be assured that the Singapore air hub will remain competitive and stay ahead of the game.

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