

BUSINESS & OPERATIONS

Review





GLOBAL

Connectivity

Connecting **Singapore** to over 400 cities in about 100 countries and territories worldwide

SOUTH AMERICA

Brazil
Colombia

NORTH AMERICA

Canada
United States

EUROPE

Eastern/Central

Albania
Azerbaijan
Bulgaria
Croatia
Czech Republic
Hungary
Poland
Romania
Russia
Serbia
Slovenia
Turkey
Ukraine

Western Europe

Austria
Belgium
Denmark
Estonia
Faroe Islands
Finland
France
Germany
Great Britain (UK)
Greece
Iceland
Ireland
Italy
Lithuania
Luxembourg
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland

2 City Links



SOUTH AMERICA

50 City Links



NORTH AMERICA

131 City Links



EUROPE

AFRICA

East Africa

Burundi
Ethiopia
Kenya
Mauritius
Rwanda
Seychelles
Tanzania
Uganda

North Africa

Egypt

South Africa

Botswana
Mozambique
South Africa
Zimbabwe

West Africa

Benin
Burkina Faso
Cote d'Ivoire
Ghana
Niger
Nigeria

Central Africa

Chad
Congo
Republic of Congo

ASIA

Central Asia

Turkmenistan
Uzbekistan

Middle East

Bahrain
Qatar
Saudi Arabia
United Arab Emirates

Northeast Asia

China
Hong Kong SAR
Japan
Macau
South Korea
Taiwan

South Asia

Bangladesh
Bhutan
India
Maldives
Nepal
Sri Lanka

Southeast Asia

Brunei Darussalam
Cambodia
Indonesia
Laos
Malaysia
Myanmar
Philippines
Thailand
Timor Leste
Vietnam

SOUTHWEST PACIFIC

Australia
Cook Islands
Fiji
New Zealand
Norfolk Island
Papua New Guinea
Samoa
Solomon Islands
Tonga
Vanuatu

28 City Links



AFRICA

125 City Links



ASIA

72 City Links

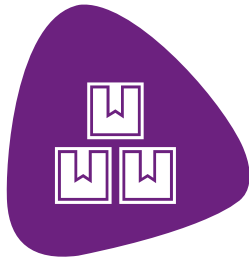


SOUTHWEST PACIFIC

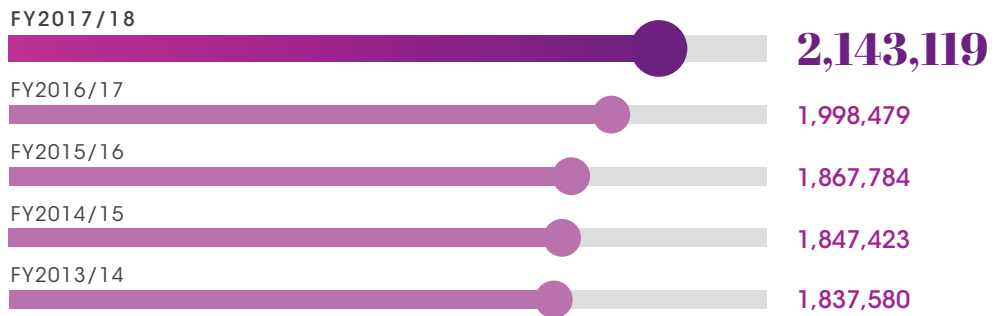
AIR TRAFFIC Statistics



PASSENGER MOVEMENT



AIRFREIGHT MOVEMENT (Tonnes of Airfreight)



COMMERCIAL AIRCRAFT MOVEMENT



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REVOLUTIONISING Air Travel

On 31 October 2017, Changi Airport celebrated the commencement of its newest terminal, T4, by welcoming its first passengers with fanfare. After five years since its conception in 2012 and with construction completed in 2016, T4 opened its doors and presented a game-changing passenger experience at Changi Airport. In the lead up to its opening during the year, immense preparatory works on systems and processes, and the training of people were conducted, to ensure T4's operational readiness.

DESIGN APPROACH

Situated at the site of the previous Budget Terminal, boundaries were pushed in terms of the architectural approach and terminal layout for T4 to achieve maximum capacity with a smaller footprint. The 225,000

sqm terminal has a handling capacity of 16 million passenger movements per annum - half the size of T3 with two thirds its handling capacity.

A 300-metre-long Central Galleria was introduced to separate the public zone from the transit area, providing a clear view from the check-in hall of the transit area. The 11-metre-high ceiling and skylights admitting light into the terminal make T4 appear bigger. For more optimal deployment of manpower and equipment, T4 adopted a centralised layout for departure and arrival immigration, as well as pre-board security screening. In the Departure Hall, the check-in islands are angled towards the immigration control area to create natural and intuitive wayfinding for passengers. In addition, this allows

the Automated Check-in Kiosks (ACK) and Automated Bag Drop (ABD) machines to be positioned for efficient passenger flow through the Fast and Seamless Travel (FAST) process. T4's interior design is based on a symmetrical petal design, inspired by the orchid petal. It appears as the central repetitive motif used in various locations within T4, such as on the kerbside drop-off, interior skylight lanterns, marble flooring and carpets, adding to its boutique feel. The coherent design is something special for T4.

With skylights and glass walls allowing natural light in, T4 simulates a natural environment for plants and trees to thrive. The terminal's landscaping covers 2,000 sqm and is home to about 190 large trees.

For its creative design in terminal layout and focus on providing a barrier-free environment, T4 received the Universal Design Mark Platinum Award, the highest accolade under the Building & Construction Authority Universal Design Mark scheme.

INNOVATION AND TECHNOLOGY

For the first time at Changi Airport, a fully automated departure



▶ T4's check-in rows are angled towards the common immigration control area, to create natural and intuitive wayfinding for passengers. The 11-metre-high ceiling and skylights admitting light into the terminal make T4 appear bigger.



▶ Along the contiguous Boarding Corridor that stretches 800 metres along the terminal is length, 160 ficus trees form a boulevard, separating the boarding area from the common area at the departure gates.

process under CAG's FAST initiative was introduced. T4 is the first terminal at Changi Airport to offer end-to-end self-service options by automating processes at check-in, bag drop, immigration and boarding, integrating facial recognition technology. It allows more optimal use of manpower resources to continue to deliver a better Changi Experience, against a backdrop of a tightening labour market in Singapore. A total of 65 ACKs, 50 ABD machines, 18 Automated Immigration Gates and 46 Automated Boarding Gates were installed.

To enhance efficiency and processes at the screening checkpoints, T4 is also the first terminal in Changi Airport to introduce computed tomography (CT) at all the security lanes to screen hand carry luggage at the passenger security checkpoint. With advanced 3D screening technology, there is no need for passengers to present electronic devices such as laptops and tablets.

An Automatic Tray Return system with parallel divestment stations has also been installed, with two clear advantages. The system no longer requires security staff to manually return trays, freeing them up to pay closer attention to passengers. It also allows two passengers to present their belongings for screening simultaneously, speeding up the entire process.

A 70-metre-long Immersive Wall above the centralised security screening area provides a stress-free environment for passengers as they undergo checks.

THEATRE OF EXPERIENCES

T4 presents a rich mix of art, culture and technology, with theatre performances, heritage-themed façades, immersive LED displays and entertainment features.

A unique feature in T4 is the curated art programme that embodies

▶ T4 is the first Changi terminal to offer end-to-end self-service travel options via FAST, comprising automated check-in, bag drop, immigration and boarding.



the spirit of dynamism, originality and connection with aviation to inspire and entertain passengers and visitors. A grand-scale kinetic sculpture, Petalclouds, spans 200 metres of the Central Galleria. It combines art and technology to create a harmonic, collective choreography of six identical 'petal clouds'. Another three art works, namely 'Hey Ah Chek!' by local sculptor and cultural medallion winner, Chong Fah Cheong, 'The Travelling Family' by Swiss-Italian

sculptor Kurt Metzler and 'Les Oiseaux (The Birds)' by French artist Cedric Le Borgne are installed in the departure and arrival halls.

A six-metre-high steel sculpture is the centrepiece of T4's themed garden, Steel in Bloom. Covered in intricate botanical motifs, it draws inspiration from the silhouettes of plants, creating a playful contrast between man-made material and nature.



▶ Petalclouds at T4 evokes the impression of clouds dancing gracefully in the sky.



▶ 'Peranakan Love Story' is a collaboration with renowned Singaporean composer and artiste Dick Lee.



▶ The 70-metre by 5-metre Immersive Wall showcases compelling imageries of Singapore's skyline, ASEAN landmarks, as well as a whimsical animated clip on suitcases being screened before flight.

For the first time at Changi Airport, Singapore's local culture and flavour are showcased permanently to international passengers. The Heritage Zone in the transit area features a row of nine shophouses spanning the 1880s to the 1950s. Retail and food and beverage outlets housing local brands like *Bee Cheng Hiang*, *Bengawan Solo*, *Curry Times*, *Eu Yan Sang*, and *Heavenly Wang* are integrated into the shophouses. CAG worked very closely with the tenants on the shop décor to exude nostalgia through furnishings and interior design.

A surprise element is injected through a special performance display on the shophouse façade. An LED screen transforms two Peranakan shophouse bays into a digital stage, to present a six-minute cultural mini-theatre show - 'Peranakan Love Story'.

A Peranakan Gallery on the mezzanine floor features historical exhibits and artefacts of the Peranakan culture such as embroidered Sarong Kebaya, antique wooden wedding bed, and porcelain 'nyonya ware'. The gallery, a first-ever collaboration between CAG and National Heritage Board, enhances the heritage experience as passengers

get to discover and learn about the rich Peranakan culture.

PLETHORA OF DELIGHTS TO THRILL PASSENGERS

Shopping and dining have always been an integral part of the airport experience, and T4 presented an opportunity to introduce new concepts to Changi Airport's extensive retail and food and beverage options. The shops and restaurants at T4 comprise well-loved local and international brands with 16,000 sqm dedicated to a wide array of retail and dining options. Of the 81 outlets, 62 are retail and service outlets and 19 are food and beverage ones.

About 25% of them are new to Changi Airport. These include local footwear label *PAZZION*; dining outlets like *Treasures (Yi Dian Xin)* by *Imperial* and *Tiger Den*, as well as Australian pharmacy - *Airport Pharmacy*. In addition, British retailer *WHSmith* opened its first Singapore store in T4.

Making a debut in T4 and Changi Airport is the concept of a seamless duty-free shopping experience with integrated Cosmetics & Perfumes as well as Wines & Spirits concessions operated by *The Shilla Duty Free* and *DFS* respectively. Having two different operators work together



▶ With the concept of an integrated duty-free zone, passengers are able to conveniently check-out their purchases in a single transaction, hence enjoying a seamless shopping experience.



▶ Singapore brand *TWG Tea* introduced tea sampling for the first time in Changi Airport. Tea aficionados may find it hard to resist *TWG's* treasure trove of exotic teas and accessories.

to integrate their services is unique in an airport. Passengers can shop and combine their duty-free purchases in a single check-out transaction, bringing them much convenience and time savings. More than 450 staff from both companies underwent a robust joint training programme to ensure they have comprehensive product knowledge in both categories.

The T4 shopping experience is enhanced by stores with 11-metre-high façades and visually impactful storefront designs. This zone offers a selection of popular retail brands - *Charles & Keith*, *Coach*, *Furla*, *Gassan Watches*,

Michael Kors, *The Cocoa Trees* and *TWG Tea Boutique*. CAG worked very closely with tenants of these anchor clusters to create a premium shopping experience.

In the public area, airport visitors can dine at 11 food and beverage outlets, including new at Changi restaurants such as local food chain *Andes at Astons*, *London Fat Duck*, *Old Street Bak Kut Teh* and *Sushi Goshin by Akashi*. *Food Emporium by NTUC Foodfare*, also a new tenant at Changi, operates a food court with colonial-inspired design features, carrying a wide range of local favourites. With increasing consumer preference

for healthier food options, CAG encouraged more food and beverage operators to expand their range of healthier choices. Apart from that, CAG worked with the operators to introduce more self-help ordering and payment options to reduce queue time, improve productivity and enhance efficiency.

STAFF-FRIENDLY TERMINAL

Besides designing for passengers, T4 is also designed to be a staff-friendly terminal for the 3,000 staff working there. Staff-centric amenities have been incorporated for a more conducive working environment. These include ergonomically-designed work stations, dumbwaiters (a small freight lift to transport items such as wheelchairs and strollers at the apron area) at aircraft stands, and four staff lounges for them to rest, enjoy their meal breaks and interact with other colleagues. The baggage handling area is more brightly illuminated and better ventilated with fans and spot cooling grills. Non-slip flooring and colour-coded zones improve the work and safety conditions of operations for baggage handling staff.

PREPARING T4

Prior to the commencement of operations, the year saw



▶ The T4 Housekeeping team maintains the cleanliness of the new terminal with a team of autonomous cleaning machines.



▶ 'Live' trials involving selected T4 airlines were carried out in the final stage of tests before T4 commenced operations.

the installation and testing of key airport, engineering and IT systems and processes, including FAST. Training and familiarisation programmes were organised for airport staff and partners. The terminal's interior fittings, installation of facilities, art and horticulture works, as well as renovation of shops and restaurants were also carried out.

OPERATIONAL READINESS TRIAL

With many new systems and processes at T4, including state-of-the-art technologies and equipment deployed for the first time in Changi Airport, thorough

testing had to be conducted. Trials involved the airport community comprising government agencies, airlines, and ground handling companies.

Months of rigorous Operational Readiness and Airport Transfer (ORAT) trials and 'live' flight trials were carried out, starting as early as October 2016. The trials involved over 2,500 airport staff and 7,500 volunteer participants. Over a million bags were put through the T4 baggage handling system during a three-month stress test period and the ORAT trials.

Members of the public participated in the trials as passengers, to test out various airport systems and processes. These include the suite of FAST options, security screening, GST refund, baggage claim, ground transport, way-finding and passenger and baggage transfer. In addition, about 50 volunteers with disabilities were invited to test way-finding as well as departure and arrival processes. Roadway trials were also conducted with taxi drivers to familiarise them with getting around T4.

The final trial stage was the 'live' trials involving selected T4 airlines such as Air Asia, Cathay Pacific, Cebu Pacific, Korean Air and Spring Airlines. Here, software integration was tested, and realism was injected by handling real passengers and operating real-time flights for both departure and arrival. In all, 11 'live' flight trials were conducted.

T4 MEDIA PREVIEW, VIP TOURS AND OPEN HOUSE

Members of the media were given a first peak into T4 from 24 to 31 July 2017. More than 100 local and international reporters from Indonesia, Philippines and Vietnam were taken on a terminal tour and got a first hand look at what it had to offer. The special preview was



▶ Over 100,000 visitors thronged T4 during the two-week Open House in August 2017.



▶ A fire evacuation drill was carried out as part of T4's full dress rehearsal.

well received and saw T4 garnering many headlines worldwide.

More than 60 groups of VIPs were hosted to an informative guided tour hosted by T4 Ambassadors, during the period from 31 Jul to 4 Aug 2017. The VIP groups included airport partners such as management teams from airlines and ground handling companies, business partners of commercial tenants, government agencies, grassroots leaders and community groups.

A T4 Open House was held from 7 to 20 August 2017 for members of the public. During the two-week Open House, over 100,000 visitors came through the doors. More than 350 CAG staff volunteers and airport partners became T4 Ambassadors to showcase the terminals' unique features. Social media influencers were also actively engaged to publicise #ChangiT4. This effort saw over 8,000 pieces of user-generated content by Open House visitors shared on social media.

AIRPORT COMMUNITY READY FOR OPENING

A week before T4 commenced operations, CAG conducted a full-dress rehearsal for operations at T4 involving about 1,500 airport staff, tenants and participants. The

rehearsal included final systems checks and tests by airlines, commercial tenants, ground handling companies and other airport partners.

COMMENCEMENT OF OPERATIONS

T4 welcomed its first passengers on 31 October 2017. Cathay Pacific flight CX659 from Hong Kong was the first flight to arrive at the new terminal at 0525 hours. Its passengers were warmly welcomed with orchids and goodie bags as they stepped into the terminal. Passengers departing on the first departure flight CX650 at 0650 hours bound for Hong Kong,

were also treated to yummy local delights, games and activities at the G19 boarding gate area. By the end of the day, T4 had handled 19 arrival and departure flights by Cathay Pacific and Korean Air, carrying about 4,200 passengers.

Nine airlines began operations at T4 in phases – Cathay Pacific and Korean Air (31 October), Cebu Pacific and Spring Airlines (2 November) and Air Asia Group (of four airlines) and Vietnam Airlines (7 November). VietJet Air shifted its operations to T4 on 6 March 2018. Today, T4 is served by 11 airlines flying to 21 regional destinations. Together, they are estimated to serve more than 8.3 million passengers at T4 per annum.

To mark its operational launch, a host of opening specials from retail to food deals were available to promote shopping and dining. Embracing the rich heritage display at T4, a shopping promotion themed *Those Were The Days* was also launched between 5 March and 1 May 2018, reviving childhood memory fun times with old school games and activities, and offering passengers limited edition gifts-with-purchase. All 29,000 premiums were fully redeemed one month before the promotion ended.



▶ Passengers preparing to board the first departing flight, Cathay Pacific Airways flight CX650, at the Automated Boarding Gate.

GROWING THE Air Hub of Choice

In FY2017/18, the aviation industry saw another year of healthy growth for both passenger and cargo traffic. Changi Airport captured a fair share of this traffic, with passenger movements growing 6.1% to reach 63 million for the year – the first time it has crossed the 60-million passenger mark. Aircraft movements increased 4.2% to reach 377,429 flights. Traffic to all regions saw growth, with strong double-digit growth in Africa (+25%), North America (+21%), South Asia (+14%) and Europe (+10%), following exciting developments for the year.

Changi Airport continued to expand its network and added 11 new city links for the year, to China (Harbin, Shijiazhuang, Yantai), Greece (Athens), India (Madurai), Indonesia (Padang*), Japan (Hiroshima, Okinawa), Malaysia (Bintulu*), Sweden (Stockholm) and the United States (Honolulu).

During the year, three new airlines – Hebei Airlines, JC (Cambodia) International and Norwegian, joined Changi's family of over 100 airlines.

STRENGTHENING PASSENGER MOVEMENTS IN REGIONAL MARKETS

Changi's top five markets retained their respective positions compared to the previous year, with Indonesia ranking as the busiest, followed by Malaysia, China, Thailand and Australia. In terms of destination by passenger movements, Kuala Lumpur, Jakarta and Bangkok took the top three spots, followed by Hong Kong and Manila.

India is Changi's sixth biggest market and the fastest growing among Changi's top 10 markets, recording a robust 16% year-on-year growth that is driven by strong visitor arrivals from both primary and secondary Indian cities. Working closely with its airline partners, Changi Airport deepened

its existing connectivity to India with additional services to cities such as Coimbatore and Delhi. It also welcomed a new city link to Madurai – one of the oldest cities in Tamil Nadu with a rich heritage culture. With these developments, Singapore is now connected to 15 Indian cities with more than 260 weekly services, operated by eight airlines.

China continued to be a key market for Changi Airport, with passenger traffic crossing the six-million mark for the first time, clocking 6.4 million passenger movements between the two countries for the year. With Hebei Airlines coming onboard as one of Changi's new airlines, there are now 13 carriers operating between Singapore and China.

Changi is connected to 35 Chinese cities, offering more than 350 weekly services.

INCREASING CONNECTIVITY WITH NEW LONG-HAUL ROUTES

The year in review saw growth in long-haul routes from Changi Airport. In the long-haul low-cost segment, Changi Airport established new connections to Europe, including the launch of Scoot's services to Athens. On the full service segment, Lufthansa also reinstated its Munich-Singapore service, strengthening Singapore's connectivity to Germany.

At the end of March 2018, Qantas Airways resumed its Sydney-Singapore-London A380 services after a hiatus of five years. Qantas also increased capacity for its Singapore-Melbourne and Singapore-Perth routes. This has enabled Changi's Singapore-Australia and Singapore-London routes to grow in capacity by 5.5% and 21.3% respectively.

With Africa regarded as the next frontier in emerging markets,



Changi Airport organised an event to celebrate the crossing of the 60-million passengers milestone in December 2017.

* Services to these cities have since ceased.

Changi Airport is pleased to welcome the return of Ethiopian Airlines during the year. As the airline has one of the most extensive networks within the African continent, its launch of five weekly services from Changi to Addis Ababa strengthens Changi's connectivity with the African continent.

Over in the United States, Scoot launched services to Honolulu (via Osaka), and United Airlines launched the world's longest non-stop route served by the B787-9, offering a new service between Singapore and Los Angeles.

BUILDING AND EXPANDING PASSENGER SEGMENTS

In addition to route development efforts, CAG also collaborated with travel industry partners to pursue sustainable traffic growth across various passenger segments – including transfer and transit, MICE (Meetings, Incentives, Conventions and Exhibitions) and fly-cruise.

Together with Singapore Airlines (SIA) and the Singapore Tourism Board (STB), a three-year partnership was renewed to strengthen Singapore's destination appeal in driving visitor traffic to and through Singapore. The tripartite which commits more than

S\$30 million to the partnership, has since rolled out marketing campaigns in 19 markets in various regions around the world. The renewed partnership will also see the broadening of the Singapore MICE Advantage Programme (SMAP) and refreshing offers to attract business visitors to Singapore. It will secure more MICE events to be held here.

These marketing efforts will complement existing initiatives such as the Free Singapore Tour, a long-standing, complimentary service jointly offered by CAG, SIA and STB. The initiative provides transfer passengers on longer layovers with a taste of Singapore and attracted more than 70,000 passengers during the year.

In conjunction with the return of Qantas Airways' London services via Singapore, and their capacity injection on other routes from Changi, a three-year partnership involving a S\$5 million commitment between CAG, STB and Qantas Airways was also launched to promote Singapore both as a destination and as a connecting gateway to Asia, Europe and Australia. This collaboration will see a series of joint marketing campaigns launched in Australia, Southeast Asia and the United Kingdom to promote travel on



▶ [Left to right]: Mr Benjamin Chan (SIA), Ms Melissa Ow (STB) and Mr Peh Ke-Wei (CAG) at the SMAP launch at IMEX Frankfurt 2017.



▶ The resumption of Qantas Airways' services strengthens Changi Airport's position as the region's leading air hub.

Qantas Airways' services via Singapore.

To cultivate fly-cruise traffic, CAG entered into a three-year collaboration with Genting Cruise Lines' Dream Cruises and STB. The partnership is aimed at promoting Singapore as an Asian cruise hub, as well as positioning Singapore as a strategic gateway to neighbouring countries through fly-cruise itineraries. This marketing initiative is estimated to bring in 600,000 visitors, and more than S\$250 million in tourism receipts.

PROMOTING CHANGI AIRPORT AND SINGAPORE IN KEY MARKETS

At the same time, CAG continued to drive its business objectives of inspiring travel, increasing passenger expenditure and building the Changi brand in Australia, China, India and Indonesia, through partnerships and integrated marketing campaigns.

Positioning Changi Airport as the gateway to the region and beyond, passengers were introduced to the many facilities, retail, food and beverage options that would help make their transit in Changi Airport a pleasant and delightful one.

Beyond tactical campaigns to drive sales of air tickets and travel packages, a key thrust for the year was to develop brand platforms that resonated with Changi's target audience in these markets. Key brand messages, emphasising the airport's unique elements to evoke emotions, helped increase overall brand equity and advocacy among passengers.

Efforts to increase retail spend at the airport have been successful through various partnerships. Targeted retail campaigns for China and Indonesia passengers, featuring discounts off minimum purchase proved to be effective in driving up transaction values and overall spend.



▶ Launch of Pharma@Changi initiative to enhance handling capabilities for pharmaceuticals air cargo.

LEVERAGING CHANGI'S AIR CARGO CAPABILITIES

Amid a challenging global air freight market, the year saw stellar performance on the air cargo front. For the first time, airfreight throughput at Changi Airport crossed the two-million tonne mark, growing 7.2% year-on-year to reach 2.1 million tonnes of cargo. Improvement in cargo flows was recorded across the board, for exports (+12%), imports (+7%) and transshipments (+5%). Freighter connectivity to new destinations were established with links to France (Paris), Indonesia (Semarang), and the United Arab Emirates (Dubai).

Changi Airport became the first airport community in Asia Pacific to attain the IATA Centre of Excellence for Independent Validators Certification for Pharmaceutical Handling (CEIV Pharma) across the supply chain comprising airlines, ground handlers and freight forwarders. CAG worked closely with the companies on audit reports and facilitated discussions between these companies and IATA. With these efforts, Singapore is now an air cargo hub with the most number of IATA CEIV Pharma certified logistics companies in the Asia Pacific region.

In October 2017, CAG formalised the Pharma@Changi initiative with nine other CEIV-certified partners in Singapore. As part of the two-year Memorandum of Understanding, the companies will jointly pursue the best standards in pharmaceuticals handling, and promote Changi Airport as a trusted and reliable pharmaceutical air cargo hub in the region. Over the last three years, pharmaceutical cargo ranked among the top five cargo types transported via airfreight globally, in terms of total value. For FY2017/18, Changi Airport handled 24,900 tonnes of pharmaceutical cargo.

In recognition for its efforts, Changi Airport was awarded the 'Asia Pacific Airport of the Year 2017 (Customers' Choice)' by Payload Asia, the 'Cargo Airport of the Year' (over one million tonnes) by Air Cargo News, the 'Best Airport 2017' award at the Asian Freight, Logistics & Supply Chain Awards, as well as the 'Diamond Award' (over one million tonnes) at the Air Cargo Excellence Awards.

TOUCHING Millions of Hearts

The relentless passion of Changi's 50,000-strong airport community to create the best possible airport experiences for millions of passengers extends beyond efficient airport operations and ensuring a safe and secure environment. World-class facilities, excellent customer service with warm hospitality, and the anticipation of passengers' travel needs are always key considerations to deliver a personalised, stress-free and positively surprising Changi Experience.

It was thus heartening to gain recognition yet again by passengers from around the world at the Skytrax awards in March 2018, when Changi was named the World's Best Airport. This was the sixth year in a row and the ninth year overall that Changi has won this accolade from Skytrax. For the 30th consecutive year, Changi

was also named the Best Airport in the World by leading UK travel publication Business Traveller. These were just two of the 27 Best Airport awards that Changi Airport received in FY2017/18, bringing its total haul of such awards to date (31 March 2018) to more than 560.

SAYING HELLO TO KITTY AND FRIENDS

Changi Airport took centre stage for all Sanrio fans from Singapore and beyond as it transformed into a Nordic wonderland for the June 2017 school holidays. Seven loveable Sanrio characters – Cinnamoroll, Gudetama, Hello Kitty, the Little Twin Stars, My Melody, and Pompompurin - greeted airport visitors in a first-in-Singapore appearance. Snow was also seen in Changi Airport in a specially designed snow house where children and the young-at-heart immersed and frolicked in wintry fun. Visitors also caught a rare sighting of the Northern Lights and engaged

in themed experiences and activities at the largest destination-themed Nordic exhibition, inspiring travel to the Nordic countries of Denmark, Iceland, Finland, Norway and Sweden.

The kawaii experience continued during the annual year-end festive celebrations as the adorable Sanrio family returned to spread the festive spirit in November 2017. The T3 Departure Hall was transformed into an idyllic Mystical Garden, where visitors could pose for photos with the crowd-favourite Sanrio characters. A specially built gazebo provided a unique vantage point of the garden, while daily light and snow shows delighted the young and old alike.

One special highlight of the revelry was the largest indoor autonomous drone show in Singapore, which married art and technology to enhance the festive experience. Every night for the duration of the event, 40 drones lit up the dimmed Mystical Garden like fireflies, in a synchronised routine, forming shapes like a snowflake and Christmas tree, creating an intimately magical experience for the crowds below. By the end of the holiday season, more than a hundred of these enthralling drone shows were performed to a



▶ Hundreds turned up for the launch of Changi's Mystical Garden with Sanrio characters in the T3 Departure Hall in November 2017.



▶ The 504 clocks that make up 'A Million Times at Changi' are able to synchronise their movements to form messages and symbols.

cumulative audience of more than 57,000.

Basement 2 of T3 was also home to a new Sanrio-themed children's playground. Over at T2, a four-metre-tall Hello Kitty topiary in the Departure Hall was the perfect backdrop for selfie moments. At the end of the festivities, more than 150,000 limited-edition Sanrio plush toys were redeemed by fans and shoppers.

CREATING A MILLION MEMORIES

To create even more enchanting memories for passengers and visitors, Changi Airport unveiled a unique work of art – A Million Times at Changi – in November 2017 at T2. It is one of the biggest kinetic artworks in the world, and the first installation in Changi that combines kinetic movement, music and shadow play. The 'clock face', which is made up of 504 smaller clocks fitted with individual motors, not only serve to tell the time, but forms a visual representation of the abstract concept of time. With this new art installation, Changi Airport now has three kinetic sculptures, including Kinetic Rain in T1 and Petalclouds in T4.

In April 2017, Changi Airport introduced the 'Discover Changi'

tour for passengers to discover hidden gems within the transit areas of the airport. The guided tours are hosted by Changi Experience Agents (CEAs). Apart from sharing interesting facts about the airport's facilities and offerings, the CEAs can also curate tour routes based on passengers' interests for a more personalised touch.

Throughout the year, the CEAs also continued to delight passengers through their 'WOW' initiatives during festive and special occasions like Valentine's Day and ONE Changi Kindness Day. During these engagements, CEAs roved the terminals to surprise passengers with occasion-specific treats, gifts, fun activities and photo opportunities. Throughout FY2017/18, these 'WOW' initiatives elevated the Changi Experience for more than 65,000 passengers.

In January 2018, CAG also rolled out the Quiet Terminal initiative at all four terminals, limiting public announcements to essential ones, such as those regarding emergencies, lost and found cases involving children and passports, flight delays, and gate and belt changes. This halved the number of announcements

made in the airport, thus creating a more relaxing environment for passengers. It also enabled passengers to focus their attention on more critical announcements.

Passengers and visitors at Changi Airport were also treated to a variety of huge horticultural displays over the year. Located in both the public and transit areas, these vibrant displays use thousands of live plants and fresh flowers to commemorate occasions and festivals like Chinese New Year, National Day, Christmas, Deepavali and the 50th anniversary of National Service, and serve as photo spots for memories to be captured.

Further enhancing the passenger experience at T3 was the revamp of its signature 'Green Wall', which was completed in January 2018. The new 'Green Wall' features 113,000 individual plants of more than 50 species, almost four times the number of the old wall. Despite this increase in the amount of greenery, the time needed to maintain this five-storey-high vertical garden has been cut by more than half, thanks to the wall's new and improved system of plant arrangement, and automation of the watering and fertilisation processes.



▶ More than 50 species of specially selected plants on the new 'Green Wall' provide different layers and textures to the wall.

ENHANCING EFFICIENCY, BOOSTING PRODUCTIVITY

CAG continually strives to make processes and systems as efficient as possible. To this end, dedicated FAST (Fast and Seamless Travel) zones were introduced at the T1 Departure Hall in 2017, successfully paving the way for an efficient, self-service check-in experience. Passengers flying on Jetstar and Qantas Airways were the first to enjoy the new Automated Check-in Kiosks and Automated Bag Drop systems, similar to those introduced in the newly opened T4.

This focus on efficiency also extends to the airport's transport

systems. In December 2017, when the T1 taxi stand was relocated to Basement 1 of Jewel Changi Airport (Jewel), CAG took the opportunity to implement a new intelligent taxi dispatch system. This system automatically routes taxis to bays, thus enhancing the productivity of taxi coordinators.

CAG also rolled out a new Video-based Parking Guidance System (VPGS) in Changi Airport's car parks, enabling the airport's car park operator to monitor the status of the car parks in real-time. Operationally, the VPGS has transformed car park management at Changi Airport, creating greater productivity and efficiency. Instead of conducting laborious patrols around the car parks, officers now receive alerts on errant practices by drivers, such as illegal parking and abuse of pick-up spaces via the system, enabling a targeted and expeditious response. VPGS also helps create a stress-free parking experience for visitors, as it enables CEA to help them locate their vehicles via a simple app-based licence plate search if required.

BUILDING A ONE CHANGI COMMUNITY

CAG firmly believes that providing the best service possible to passengers requires the dedicated effort of all organisations within

Changi Airport. To help build this sense of common purpose, CAG has held the Annual Airport Celebration (AAC) since 1994, to honour outstanding individuals in the airport community who have exemplified service excellence by going beyond their call of duty. To mark the AAC's silver jubilee in February 2018, CAG introduced three new awards at the ceremony – the Changi Hero Award to recognise staff who had stepped forward in a life threatening situation to take charge and aid passengers; the Changi Service Star which recognises the remarkable achievement of staff who have won top service awards multiple times; and the Special Commendation Award to commend an airport partner who had consistently been a supportive employer to airport staff over the years.

To further build this sense of common purpose, CAG launched the ONE Changi mobile application at the AAC. Through the application, members of the airport community are now able to connect and discuss learnings from their courses and training with one another easily, read up on the latest airport news and happenings, and pick up service tips while on-the-go.



▶ In recognition of Changi's service heroes, 30 awards were given out at the Annual Airport Celebration 2018 which was graced by Coordinating Minister for Infrastructure and Minister for Transport, Mr Khaw Boon Wan.

REDEFINING Travel Retail

Changi Airport scaled new heights with record-breaking concession sales of over S\$2.5 billion in FY2017/18, registering a 10% growth year-on-year. The phenomenal success was propelled by strong passenger growth, the new T4, a diverse retail mix and pioneering shopping concepts relevant to passengers' needs and aspirations.

With over 90,000 sqm of retail space, 400 retail and services outlets and 140 dining outlets, Changi Airport prides itself in designing exceptional shopping and dining experiences for passengers and visitors at every touchpoint of their journey through the airport.

As the airport welcomes more passengers, Changi's strategic retail partnerships and never-ending pursuit of innovation will continue to shape its retail strategy and fuel many new ideas and developments to reinforce Changi Airport as one

of the world's best airports to shop and dine at.

Besides driving footfall and spending, airport-wide events continue to make Changi Airport an exciting, rewarding and vibrant shopping and dining destination.

The 'Be a Changi Millionaire' flagship shopping promotion has attracted more than 1.5 million participating entries from 221 nationalities in FY2017/18. To date, it has crowned eight millionaires and rewarded millions of passengers who shop and dine at Changi Airport. The 2017 edition took this perennial favourite to the next level with the addition of a new car prize. For the first time in the history of 'Be a Changi Millionaire', finalists paired up and raced through four rounds of games at the Grand Draw, before Indonesian Oddie Rehatta emerged as the ultimate recipient of the Millionaire Grand Prize. Chinese Zhang Xuchao

became the first car prize winner and walked away with an all-new Volvo S90 luxury sedan.

OFFLINE RETAIL OF TOMORROW

Beyond an exciting retail mix, delightful retail spaces, novel activations and personalised services, Changi Airport creates a dynamic, multi-faceted retail environment that keeps up to speed with evolving consumer trends and spending habits.

One of the ways Changi Airport maintains a refreshing retail mix is by introducing variety and new brands across the airport's retail and food and beverage offerings. At the Departure Transit Hall, 14 new brands such as *Irvins*, *Superga*, *Tanuki Raw* and *Ted Baker*, were introduced in FY2017/18. At the public areas, 30 new brands made their appearance at Changi Airport, including *American Tourister*, *Dragon Brand Bird's Nest* and *Hokkaido Baked Cheese Tart*.

A note-worthy retail highlight in FY2017/18 was the highly-anticipated opening of the *Louis Vuitton* duplex store and the revamped T3 Central Piazza. The world's first *Louis Vuitton* airport duplex features a bespoke product mix for the cosmopolitan traveller, and joins the ranks of the Wines & Spirits and Cosmetics & Perfumes duplexes to offer passengers a refined and personalised retail experience. A linkway at the mezzanine level connects all three duplex stores and allows passengers to browse seamlessly across the three retail spaces. A stunning centre-piece at the refurbished Central Piazza is Changi Airport's seventh feature garden, the Crystal Garden. Specially conceptualised for the area, the Crystal Garden is a blend of soothing nature and delicate glass sculptures. The Central Piazza was also built with a new lounge area with plush seating, soft lightings and dedicated work spaces, all designed to uplift the T3 experience for all passengers.



▶ Moments right after the winners were crowned at the 'Be a Changi Millionaire' grand draw.



▶ An enchanting experience amid a garden of lights awaits passengers at the Crystal Garden.

On top of enriching its retail offerings, Changi Airport collaborates closely with its retailers and brands to excite passengers with exclusive product launches and engaging retail activations. This way, passengers can always look forward to new experiential elements and activities when they fly through the airport. Some in-store activations included saxophone performances at *The Fashion Place* at T4, an atelier craftsman event at *Braun Buffel* in celebration of its 130th anniversary, and product personalisation services at *Pandora* for Christmas.

In FY2017/18, a record number of 11 brands chose to launch their new products or interactive outpost concepts as a first at Changi Airport. In August 2017, Changi welcomed the *Miss Dior* pop-up with a pink Jaguar car that was seen in the fragrance commercial with Hollywood actress Natalie Portman. In March 2018, Changi unveiled the first food and beverage outpost featuring *Hudsons Coffee* and *The Kitchen by Wolfgang Puck*. There were also five first-in-the-world product launches that made their debut at Changi Airport, including *Chanel Gabrielle*, *Hennessy XXO*, *Jo Malone Blossom*

Girls, *Louis Vuitton* fragrance travel set, and *SKII Magnetic Booster*.

Another initiative that was launched to elevate the offline shopping experience was the LoveSG campaign. It celebrated Singapore along with its history, culture and pride, and told the Singapore story to both locals and foreign passengers. For National Day, a total of 38 tenants including home-grown brands *Bee Cheng Hiang* and *TWG Tea* offered Changi exclusive products, sure-win lucky dips and souvenirs. Passengers were delighted with the opportunity to encapsulate their wonderful memories of Singapore and Changi with special souvenirs to bring home to share with their loved ones.

To reward loyal shoppers and diners of Changi Airport, Changi Rewards members were treated to a series of exclusive events such as insider tours to the SATS Inflight Catering Kitchen and *Shilla Beauty Loft*. Key member promotions such as the '7%+7% GST Savings' sale and the 'Members' Weekend 10X Points' promotion saw the participation of more than 10,000 members and an average increase of 30% in sales year-on-year. At the end of the financial year, the membership

base of Changi Rewards grew to over half a million.

TANTALISING TREATS FOR ALL

To step up its food and beverage offerings and attract more diners to Changi Airport, two new-to-Singapore food and beverage concepts were launched in FY2017/18, including the airport's largest restaurant *SORA*, housing six Japanese brands in a single space. The airport was even awarded the global winner for best New Food & Beverage Concept of the Year for its *Hello Kitty Orchid Garden* at the FAB (Food and Beverage) Awards 2017.

Besides satisfying the taste buds of the 63 million passengers that fly through the airport annually, Changi Airport also constantly reviews its existing food and beverage offerings to accommodate new demands. To better cater to the needs of a growing group of health-conscious passengers, Changi Airport has expanded its range of healthier food choices. Selected cafés like *The Coffee Bean & Tea Leaf* display calorie count on their menus, while some restaurants like *The Kitchen by Wolfgang Puck* and *Crystal Jade* even provide low salt or gluten-free options. The number



▶ ANA's very first Japan Gourmet Hall opens outside of Japan at T2.

of halal-certified dining operators has also increased in FY2017/18. As Changi Airport welcomes more passengers, CAG worked together with its food and beverage partners to leverage technology for higher efficiency and enhanced customer experience. About 43 outlets across the airport have either implemented electronic menus or self-service ordering and payment kiosks. A centralised dishwashing facility has also been built at T3. It currently houses four dishwashing machines which can handle about 12,000 dishes per hour, and serves all landside food courts as well as a café operator. More food

and beverage tenants have been encouraged to come onboard since its operations in September 2017 and the facilities will be ramped up to accommodate more operators when Jewel opens in the first half of 2019.

FORGING STRATEGIC PARTNERSHIPS

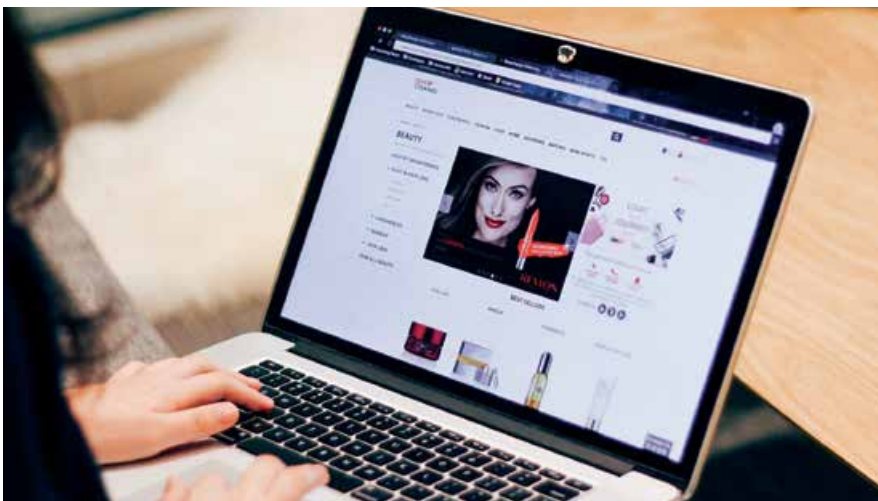
To grow its commercial revenue, boost Changi's existing marketing efforts and bring more value-add to passengers and airport visitors, CAG has embarked on a number of new partnerships.

Working with Wearnes Automotive, a new car prize in the form of

the brand-new Volvo S90 luxury sedan injected new hype and excitement to the 2017 edition of 'Be a Changi Millionaire' shopping promotion. At the year-end festive promotion, Changi linked up with JCB as the official payment partner and tapped on their marketing platforms to reach a wider audience. Changi also partnered Mastercard and Chope in a year-long collaboration. With Mastercard, Changi could ride on their extensive global network of banks and merchant partners for cross-promotions while airport visitors enjoyed more privileges at retail and dining outlets as well as anchor landside campaigns. The partnership with Chope, on the other hand, introduced mobile reservations in Changi Airport through the website and iChangi mobile app, increasing convenience and rewarding diners with additional Chope dollars and Changi Rewards points in tactical promotions.

Changi Airport inked its first sports partnership with International Championship Cup and Lagardere Sports Asia, gaining access to their marketing platforms and provided marketing support for four key international tournaments such as WTA Women's Tennis. Changi Airport also partnered the National Gallery Singapore and became a major sponsor for two highly acclaimed and successful exhibitions such as - *Life is the Heart of a Rainbow*, by Yayoi Kusama.

These partnerships also included in-country marketing programmes to key markets such as China and Indonesia. With partner payment solution partners like Alipay, Unionpay and WeChat pay, as well as airline partners like Xiamen Airlines, Changi strengthened its outreach to the Chinese travellers and captured a larger share of the wallet. For Indonesia, Changi partnered with Bank Central Asia and Garuda Indonesia on exclusive promotions with a



▶ iShopChangi now offers more than 14,000 items from over 600 brands.

Lebaran Shopping campaign which helped to grow sales.

RISING E-COMMERCE

As one of the innovators in the industry, Changi Airport is among the first few to have its own e-commerce business. From 1,800 items across five product categories in 2013, iShopChangi now offers a mind-boggling range of items from over 600 brands. On top of widening its selection and ensuring an attractive mix, iShopChangi stays ahead of the game by offering value-added services to its customers.

Complimentary delivery service has been made available to Singapore residents since November 2017, with key tenants *Shilla Duty Free* and *Sprint-Cass* coming on board. Customers have also been enjoying seamless checkouts with seven different payment options available on the e-commerce site, four of which were introduced recently. Retailers on iShopChangi now enjoy greater business opportunities, not limited by the passenger traffic within a particular terminal. This means that T4 tenants can sell to passengers travelling out of T1, T2 and T3 while

passengers have access to a wider product catalogue.

This has contributed to the healthy growth of the e-commerce portal, which achieved a 60% increase in online sales in FY2017/18.

OPTIMISING SPACE FOR COMMERCIAL GROWTH

CAG manages the leases and operations of over 1,600 rentable premises within Changi Airport, both in the passenger terminal buildings and the Changi Airfreight Centre (CAC), as well as more than 60 long-term land leases. This includes the new T4 where CAG allocated and leased new rentable premises such as office spaces, lounges and other facilities. One of the highlights was the opening of the Cathay Pacific Lounge on T4's first day of operations. Spanning 845 sqm, this was the airline's first dedicated lounge in Singapore and one of its biggest lounges outside of Hong Kong, with room for over 200 guests. The airline lounge even houses a signature noodle bar which serves a selection of freshly prepared noodle dishes.

As part of CAG's effort to enhance the overall travel experience for

its passengers by rejuvenating its existing lounge offerings at Changi Airport, CAG supported the revamp of the Emirates lounge at T1 and the expansion of the SATS Premium Lounge at T2. The newly renovated Emirates Lounge is now able to accommodate more passengers and have several new features including a prayer room. The SATS Premium Lounge expansion led to increased floor area from 550 sqm to 680 sqm, as well as an increase in seating capacity from 127 to 162.

The Cargo Agent Buildings (CAB) at Changi has also undergone improvements as part of CAG's asset enhancement initiatives at CAC. The lift lobbies at CAB D, CAB E and Megaplex 1 were given a sophisticated new look. A vending cluster was created at CAB D with vending machines selling ready-to-eat meals, snacks, ice-cream, drinks and necessities such as over-the-counter medicines, plasters and chargers for better food options and more convenience for staff working at CAC. The area was also spruced up to include comfortable seating areas where the cargo community can take a break from work.



▶ Passengers can savour a menu of comforting noodle dishes at Cathay Pacific Lounge in T4.

ENHANCING Operational Readiness

Amid the flurry of activities across Changi Airport's terminals, a different kind of buzz takes place behind the scenes. The airport's airside community works tirelessly to ensure that in-flight meals, luggage and cargo get loaded onto the aircraft on time, and that these planes are cleaned, refuelled and inspected before taking off from Changi. To keep pace with the growth in passenger traffic, engineers and technical staff ensure that systems and facilities in and around Changi Airport are kept in tip-top condition for safe, smooth and seamless airport operations.

For its immaculate safety record, Changi Airport received a deficiency-free rating from the International Federation of Air Line Pilots' Associations (IFALPA) for the 36th consecutive year since commencing operations in 1981.

OPTIMISING AIRFIELD EFFICIENCIES

Since the roll-out of the Airport Collaborative Decision Making (ACDM) in October 2016, average taxi time for departing flights during the morning peak period was further reduced by 30 seconds in its second year of implementation. This translates to an overall reduction of two minutes for every flight, as compared to pre-ACDM timings.

PROVIDING BRIGHTER WORKING ENVIRONMENT

The current conventional floodlights used to illuminate the apron areas were replaced with LED floodlights to provide a brighter working environment for airside workers. As the lights were fitted onto aircraft stands, replacement works were

carefully coordinated to minimise disruptions and sufficient stands were available for flight operations. Since the replacement started in August 2016, 30% of the floodlights across Changi's apron areas have been replaced. The project is expected to be completed by 2023.

MINIMISING RISKS OF LIGHTNING STRIKES

Against the backdrop of increasing unpredictable weather that could adversely hamper the efficiency of aircraft ground handling operations (e.g. delay in the presentation of baggage for arriving passengers or processing of transfer baggage due to temporary stop work as a precaution against lightning hazard), CAG initiated a joint research with the Singapore University of Technology and Design (SUTD) to explore potential solutions that will offer greater safety assurance for airside workers. The collaboration aimed to develop technical concepts that can feasibly be deployed at the airport apron

areas to reduce lightning hazard while minimising any hindrance to ground handling activities. The outcome of the study was exhibited at the SUTD Capstone Project public sharing. CAG is following up with more detailed analysis towards realising a prototype for site testing.

CAG also mandated the use of three-point aircraft grounding. This new safety measure provides enhanced lightning protection for workers. When lightning strikes an aircraft parked at the aircraft stand, three-point aircraft grounding would provide pathways for these high surge charges to be dissipated to the ground safely. As Singapore experiences an average of 168 thunderstorm days per year, this new safety measure works to mitigate the risk of lightning related incidents.

MITIGATING FLOODS

CAG undertook the construction of a central median drain along Airport Boulevard, the main road to and out of Changi Airport, to mitigate heavy and flash floods at the airport. Despite the challenge of managing disruptions to operational roadways during the construction period, works progressed smoothly with minimal impact to road traffic due to the careful planning of works during off-peak hours. The drain was also precast off-site before its assembly at the work site to cut down on the total construction period required.



▶ The central median drain along Airport Boulevard was precast off-site to cut down on the total construction period, minimising impact to road traffic.



▶ A screen grab of the video production 'Watch Out, Help Out, and Move Out' to educate the airport community on what to do in a crisis situation within the terminal.

As the excavation location was adjacent to a row of raintrees along Airport Boulevard, CAG's project and horticulture teams monitored the trees closely during the construction period to ensure they were unaffected.

PREPARING FOR EMERGENCIES

CAG continued to enhance its emergency preparedness and rescue capabilities through two full-scale aircraft emergency exercise drills at Changi and Seletar Airports – aircraft crash at sea and on land, respectively. More than 350 operational personnel, including senior management from CAG, the Civil Aviation Authority of Singapore (CAAS), Ministry of Transport (MOT), Republic of Singapore Air Force (RSAF) and airport partners participated in both exercises.

In a time where global acts of terrorism pose serious threats, CAG took steps to strengthen its readiness and community resilience through its participation in Exercise Northstar - a counter-terrorism exercise, conducted by the Singapore Police Force (SPF) at T3 on 17 October 2017. Observed by Singapore's Prime Minister Lee Hsien Loong and several Cabinet Ministers, this was the first time the multi-agency anti-terror exercise was held at Changi Airport. During the drill, simulations included a shooting rampage by gunmen and a suicide

bombing. In line with SGSecure's 'Run, Hide and Tell', an advisory message, 'Watch Out, Help Out, and Move Out' was communicated to the airport community through various platforms. CAG also took the opportunity to practice crisis communications for passengers and the airport community during the exercise, further raising the level of awareness and preparedness among airport partners.

MANAGING CRISIS

The year saw CAG and the airport community's resilience in managing a crisis at Changi Airport. A fire broke out in T2 on 16 May 2017 and was eventually traced to a source in the Air Handling Station (AHS) room. While the fire was quickly extinguished, the smoke had

permeated the air-condition system and spread throughout the terminal.

CAG promptly executed emergency plans and focused on fire-fighting and evacuation in the initial phase, followed by the full diversion of T2's operations to T3, before re-opening T2 after the terminal was cleared of smoke and ready to resume operations. Despite the many challenges to be tackled, T2 was back in operations some nine hours after. Evacuation was carried out safely in accordance with fire evacuation procedures, and there were no casualties from the incident. Neither was there a need for the diversion of arrival flights to neighbouring airports. Through the incident, many lessons were drawn and a review was carried out to refine the emergency preparedness plans of Changi Airport.

ADDING EQUIPMENT FOR FIRE SAFETY

To enhance operational readiness at Changi Airport, the Airport Emergency Service (AES) procured new firefighting equipment during the year. These included replacements to renew existing vehicles, and a new fleet to prepare for the fire protection of upcoming

▶ Newly procured firefighting vehicle to enhance rescue and firefighting operations.





▶ The Annual Airport Safety Awards recognises outstanding safety acts and projects undertaken by staff in both Changi and Seletar Airports.

new facilities, such as Runway 3. A total of 10 foam tenders, two emergency airstairs, two command vehicles and a foam pod were procured. These have been scheduled for delivery progressively till 2020.

The advanced capabilities of these new equipment would enable AES to focus manpower on more time-critical tasks in rescue and firefighting operations. For example, the emergency airstairs have been enabled with smart docking technology for automated stairs deployment. The foam pod would enhance the on-site replenishment of foam during firefighting operations and facilitate continuous firefighting till support from mutual aid agencies arrive.

AIRPORT SECURITY

In preparation for operations in T4, a trial was conducted in selected common gatehold rooms in T1, T2 and T3 to evaluate the most appropriate mode of security screening in T4, with six body scanners introduced for this purpose. Body scanners have the ability to detect non-metallic prohibited items, thus enhancing the level of security competency to keep pace with the changing security environment. In addition, Computed Tomography (CT) using 3D technology to screen hand carry luggage was also put on trial at T3, which proved that detection level

could be maintained while allowing passengers to keep laptops or large electronics in their cabin bag.

Based on the trial results, CAG implemented a mixed-mode person screening model at T4, which comprised a combination of walkthrough metal detectors and body scanners. With the aid of body scanners, staff at T4 will only need to pat-down areas which require additional checks, enabling a less intrusive security screening process for the passengers. For screening of hand baggage, T4 became Changi's first terminal to deploy 100% CT-based screening at all the security lanes.

INCULCATING STRONGER SAFETY CULTURE

CAG recognised outstanding safety acts and projects undertaken by staff in both Changi and Seletar Airports, and these staff were honoured at the Airport Safety Awards (ASA) held on 11 August 2017. The annual event also showcased innovative projects and ideas from CAG, dnata Singapore, SATS and SIA Engineering Company, to enhance airport safety.

CAG also held its second annual Safe Airside Driving competition in 2018, with an expanded scope to include aircraft pushback – where the plane is pushed back from the aerobridge to taxiing position. As traffic volume continues to increase

at Changi and peak periods get extended, safe driving and aircraft pushback operations become of critical importance. More than 600 tractor drivers signed up for this event, almost four times more than the first run. Participants navigated a carefully designed circuit which assessed their safety awareness, checking of blind spots and driving skills.

To encourage active and easy hazard reporting by the airport community, a specialised mobile application SWEETmini, was introduced for airside staff. Immediate follow-up actions can be taken by the Aerodrome Safety Unit for reports submitted via the app. Enabling such proactive hazard reporting by the community allows for safety hazards to be addressed promptly.

ENHANCING AIRSIDE STAFF WELFARE

As CAG strives to continuously enhance the Changi Experience for passengers, it took concurrent steps to ensure an attractive and vibrant airside work environment. To increase the supply of food options in the airside, CAG engaged a roving food truck operator (Foody Truck) to sell food at various locations within the airside. Foody Truck supplemented the only food outlet in the airside – *Delta Café*, to provide staff with access to more food options, without having to make their way to the landside.

A New Era

GLEAMS

JEWEL CHANGI AIRPORT (JEWEL)

Construction of Changi Airport's new development, Jewel, is fast taking shape for its opening in the first half of 2019. Situated at the heart of Changi Airport, Jewel is a mixed-use development comprising a range of offerings including gardens and attractions, retail outlets, a hotel, and facilities for airport operations. It is envisaged to strengthen the Changi air hub and capture passenger mindshare, to boost Singapore's appeal as a stopover point for passengers.

Façade works, which commenced in late 2016, have been completed. Jewel's overall façade is intricately made up of more than 9,000 pieces of specially manufactured glass, close to 18,000 pieces of steel element and over 6,000 steel nodes.

Structural works for two passenger linkbridges connecting Jewel to T2

and T3 are progressing well. Jewel will also be integrated with Level 1 of T1, and arriving passengers will be able to walk seamlessly into the development.

In June 2017, the design of the topmost level of Jewel, featuring a line-up of unique lifestyle offerings, was unveiled. Occupying 14,000 sqm, Canopy Park will feature offerings such as play attractions, gardens, walking trails, and dining outlets. Half of the total landscape and greenery in Jewel – over 1,400 trees and palms – will be housed in Canopy Park. Designed to be a world-class, lifestyle leisure attraction, Canopy Park promises a gamut of experiences for visitors to Jewel and passengers at Changi Airport.

T1 Expansion

In conjunction with the development of Jewel, T1 is undergoing expansion works to

increase its handling capacity from 21 million passengers per annum (mppa) to 24 mppa.

At T1's Departure Check-in Hall, 70% of upgrading works have been completed. These include the replacement of check-in counters, implementation of a central FAST zone, and installation of new baggage conveyors and other design finishes.

The Baggage Claim Hall is undergoing expansion, with four baggage claim belts having been upgraded, while the interior design of the hall is being refreshed. The Baggage Handling System is also being upgraded to a fully automated system with a new baggage security screening system, and automated storage for early check-in baggage. The Baggage Handling Area has been revamped to provide a better working environment for ground handling staff with enhanced lighting, ventilation and signage.

T1's Arrival Hall will also receive a facelift and see a 35% expansion in floor area to 8,500 sqm. As part of this revamp, the new taxi stand at Basement 1 of T1 was operational in December 2017, with the new interim Arrival Pick-Up area relocated in February 2018.



Each glass panel of the Jewel roof is carefully lifted 45m above the ground for installation.



Close to 18,000 pieces of steel element and over 6,000 steel nodes were used in the construction of the Jewel façade.



▶ Seletar Airport's new passenger terminal building is designed to handle 700,000 passenger movements annually.

CAG took great effort to minimise disruption to airport operations. Over the past year, a total of six ramps connecting Jewel's basement levels with existing roads, as well as linkbridges to T2 and T3 that crossed existing roads and departure ramps, were constructed. These construction works required more than 180 nights of lane closures and road diversions, all of which were carefully coordinated to ensure minimal impact to ongoing airport operations.

SELETAR AIRPORT

As part of the wider Seletar Aerospace Park development and to enhance the area as a private business aviation gateway to Singapore, Seletar Airport has been upgraded with a new passenger terminal. Spanning a gross floor area of 10,000 sqm, the new terminal is designed to handle about 700,000 passenger movements a year and will have three new aircraft stands directly in front of the terminal building to allow passengers quick and efficient aircraft access.

The building structure has been completed, and has received its Temporary Occupation Permit. Awarded the Green Mark Platinum Award for Non-Residential Buildings, Singapore's highest award for environmental sustainability for



▶ Work continued apace on the Changi East development site in FY2017/18, including the construction of canals to drain water from the site.

buildings, by the Building and Construction Authority of Singapore, the terminal building features a design optimised for efficient energy, water and resource utilisation. A low-energy-consumption design puts the building in good stead to enjoy long-term operational cost savings and minimises its carbon footprint on the environment.

The next phase of development includes the testing and commissioning of key systems such as baggage belt and security screening equipment, as well as interior furnishings and fitting out. The terminal is expected to commence operations at the end

of 2018, and will eventually replace the current passenger building which has been in operation since 1982. To better support traffic growth at Changi Airport, Seletar Airport will also handle turboprop aircraft operations currently operating at Changi Airport.

CHANGI EAST

Work continued apace on the Changi East development in FY2017/18. Changi East, which spans 1,080 hectares, consists of the development of a three-runway system for Changi Airport; tunnel systems and other related infrastructure and transport links; and a new T5.

Building a three-runway system

Much progress was made on converting an existing military runway into a third runway for Changi Airport that can be used by civilian aircraft. The runway was successfully extended and strengthened. Taxiways were constructed to prepare the runway for connection with the rest of Changi Airport, and a new drainage network was also constructed. Flight checks on the runway were also completed in order to prepare it for handover to the Republic of Singapore Air Force (RSAF) in mid-2018.

With the third runway then undergoing the final phase of development, work had to be done to facilitate the towing of aircraft from Changi Airport to the location of Singapore Airshow 2018. The three-runway system team had to strengthen an existing bridge so that it could support the weight of the largest civilian aircraft on exhibition at the airshow. Other works, such as installation of tow way lights and grading of Aviation Park Road, ensured that all aircraft was towed safely and efficiently.

Amid the ongoing construction work, Changi East also maintained a clean safety record, with zero aerodrome incidents in FY2017/18. This was accomplished through innovative ground control measures, such as an Automated Height Infringement Detection System, which used GPS sensors to detect incidences of height infringement among worksite machinery and equipment, and an Online Work Declaration System, which provided an electronic platform to enable contractors to make work declarations at any time of day.

Tunneling ahead

More than half of the design work for the tunnels on the Changi East site has been completed, in preparation for the commencement of construction. These tunnels will house roads for airside vehicles, as well as vital infrastructure like electrical wiring and water pipes; connect the T5 headhouse with its satellite terminals; and link T5 with the other terminals in Changi Airport.

Designing the future of T5

Several concept of operations studies, spanning areas such

as arrival and departure flows, security, staff, and logistics flows have been completed for T5. These studies have enabled the T5 team to develop the overall concept for the terminal and identify its functional and spatial requirements. The appointment of the T5 Master Building and Master Civil Consultants in April 2018 will enable the team to move ahead with the design work on Changi Airport's next terminal.

Relocating to a new home

CAG's entire Changi East team moved into the new Changi East Project Office in September 2017, enabling them to work together under one roof just beside the worksite. The Changi East Project Office features, among other facilities, a halal cafeteria serving a mixture of Asian and Western dishes, a small gymnasium and a training room. Working under one roof facilitates greater collaboration within the Changi East team and at the same time, builds intangible bonds among team members, which will be invaluable in the long journey ahead for the Changi East development.



▶ The new Changi East Project Office – home to CAG's Changi East team.

DRIVING Digital Innovation

As traffic at Changi Airport continues to grow, the quest to connect with our passengers and create the best experience remains. The ability to leverage technology seamlessly in a practical way, to serve increasingly tech-savvy passengers and to empower staff is key. This also involved closer inter-division collaboration within CAG to transform passenger experience and lay the foundation for Changi Airport to be a Smart Airport of the future.

KNOWING CUSTOMERS BETTER

Over the years, Changi Airport has developed various customer engagement programmes such as iShopChangi, Changi Rewards and Changi Millionaire, each designed

to meet the needs of the many different profiles of customers at Changi Airport. With each platform housing a rich amount of data, a centralised customer information database was built to gather trends and insights for deeper and more holistic engagement with Changi's customers.

CAG embarked on a strategic project to design and build a centralised customer repository in August 2016. The Customer Discovery Insights (CDI) project allows a 360-degree view of passengers to understand their user journey through the various touchpoints in the airport such as check-in, immigration and boarding. As part of the project, 12 data sources including

spending patterns, point-of-sale transactions, flight data and more were integrated. The CDI project was completed in September 2017 and resulted in enhanced data analytics and digital marketing capabilities to better engage with customers. With actionable customer insights, CAG is able to deliver relevant and timely content to customers according to their profiles, interests and preferences, delivering a personalised Changi Experience at different touchpoints.

TRANSFORMING THROUGH TECHNOLOGY

In today's digital era, Changi Airport needs to constantly transform to stay ahead of competition. Leveraging the smart use of digital technologies allows CAG to be aware of the airport's operating environment, and deploy resources effectively through analytics and real-time feedback. Working together with airport partners, CAG has successfully integrated advanced information technology systems at T4, the first terminal in Changi Airport to integrate facial recognition technology with end-to-end self-service options.



▶ For the successful initiatives in digitally transforming Changi Airport's operations and service processes, CAG was named IDC's 'Digital Transformer of the year' at the country, regional and international levels.

EXPLORING NEW APPROACHES OF WORKING WITH TECHNOLOGY PARTNERS

To embody Changi's spirit of innovation and stay ahead of the pack as an organisation in the coming years, CAG aims to push forward and transform operations with new technologies, partnerships and business models; grow new lines of business; and deliver a lean cost base even as Changi Airport doubles in size. To do so, CAG is adopting new modes of working with technology partners, beyond regular procurement and tenders.

In August 2017, CAG ran an Intelligent Video Analytics (IVA) challenge where companies were invited to demonstrate their capabilities for airport operations use cases, including passenger flow management at the gatehold rooms, through the analysis of existing CCTV footage. Through such challenges, CAG was able to adopt a quicker and leaner way of working with partners for new technology solutions which are not off the shelf.

As an example, for the IVA challenge, CAG shared specific use cases and limitations, allowing



▶ Through CDI, CAG will be able to deliver a personalised and positively surprising Changi Experience to customers based on their preferences and user journey at Changi Airport.

participating companies to better understand the context and need before co-creating solutions with CAG. Companies were provided with actual CCTV footage to analyse and train their model. With that, they demonstrated their ability to detect queues and crowd conditions at the gatehold rooms.

This was not an easy challenge, as the solution would need to

differentiate between passengers in the queue, passers-by and passengers already inside the gatehold rooms. Of the 12 companies who participated in the challenge, Xjera Labs and NCS outperformed and were selected to build a prototype system for three gatehold rooms.

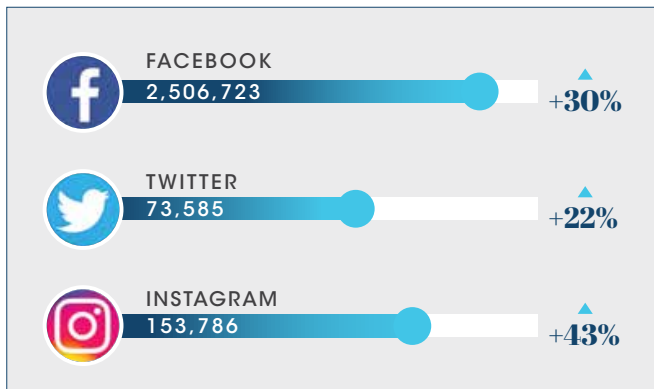


▶ With the IVA, CAG and Certis CISCO will be able to better monitor crowd conditions at gatehold rooms.

STRENGTHENING Bonds On Social

Changi Airport’s social media efforts continued to show outstanding performance as engagement with passengers strengthened over the year. CAG continued to build firm bonds and brand affinity with its online community by generating greater awareness of the airport’s facilities and commercial activities through its social media platforms such as Facebook, Instagram, LinkedIn, Twitter, Weibo and YouTube.

SOCIAL MEDIA CHANNEL STATISTICS



Changi Airport’s Facebook page crossed the two million page likes milestone, while its Instagram channel grew beyond 150,000 followers. Changi’s social media team also succeeded in clinching four awards for its campaigns and engagement efforts.

INDUSTRY AWARDS

- Hall of Fame 2017**
SOCIAL CAMPAIGN OF THE YEAR (Gold Awards)
- Markies 2017**
BEST IDEA - SOCIAL (Gold Awards)
- Markies 2017**
BEST IDEA - VIRAL (Silver Awards)
- Markies 2017**
BEST USE OF APPS/MOBILE (Bronze Awards)

OPENING A NEW TERMINAL ON SOCIAL MEDIA

For the first time in Changi’s history, CAG was able to leverage social media to drive interest about the T4 Open House, awareness of the new terminal and its exciting offerings. Changi developed exclusive content to introduce the terminal, teased audiences about the Open House and generated buzz around the terminal’s key development milestones. A Facebook event page was created to encourage registrations for the Open House that led to more than 13,000 sign-ups through the event page. The team also successfully organised a preview for 100 social media advocates and influencers to share their personal preview experience and help drum up excitement and generate interest in the terminal. Overall, more than 8,000 pieces of user-generated content were shared on social media platforms within two weeks.



To excite and tease audiences, T4 was introduced to global audiences on Facebook through a slew of social activities.

To cap it off, a video celebrating T4’s first operational day was produced. The video garnered 2.4 million views and reached 5.2 million people around the world, cementing the T4 launch campaign as the most successful campaign of the year.



The video of the T4 opening was viewed by 5.2 million people around the world.

NEW WAYS OF ENGAGING OUR FOLLOWERS

On top of the beautifully curated mix of airport, aircraft and destination imagery, CAG rode on new social media trends and development to deepen engagement with its audiences. With video being the most consumed type of content on social media, Changi tapped on the live streaming capabilities of Facebook and 15-second video highlights on Instagram, also known as *Instagram Stories*. Polls and raw content on Instagram Stories allowed Changi to engage followers by presenting behind-the-scenes content and live events at a more personal level. Changi also used the interactive 360-degree image technology on Facebook to display T4's numbers and figures.



Fans were given the opportunity to catch CAG's annual event, Changi Millionaire, live on Facebook.

On the LinkedIn platform, CAG engaged the professional community with thought leadership articles contributed by CAG's senior management on various topics. This allowed CAG to position itself as a leader and voice of the aviation industry. Through this channel, CAG was able to share information on Changi Airport and create awareness on its work culture and job opportunities, and present itself as an employer of choice.

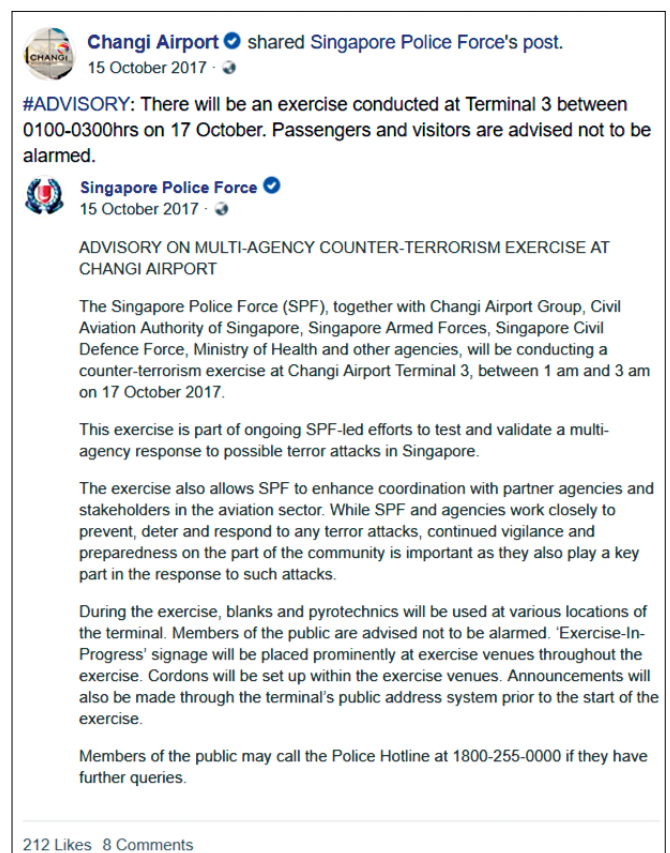
In building its social channels, CAG continued to establish greater content synergies by leveraging articles created for its other communication platforms such as its online blog, Now Boarding, and e-newsletter, Changi Journeys, which feature interesting travel stories and lesser known facts about Changi.

AN ESSENTIAL TOOL FOR CRISIS COMMUNICATIONS

With increasing public reliance on social media as a source of news and information, Changi tapped on its



Through CAG's social media channels, the public was given firsthand updates on the T50 incident in February 2018.



Timely updates were shared on Facebook to ensure that Changi cements its position as a reliable airport.

social media reach to provide updates on incidents which disrupted air travel. They include timely updates on the airport's operational status when the T2 fire occurred in May 2017, and subsequently when Runway 1 had to be closed in February 2018 due to an aircraft incident.

As Changi continues to be a reliable and popular airport to millions of passengers worldwide, social media will continue to be a key channel to maintain a direct contact and relationship with passengers, regardless of geographical location.

BUILDING

International Presence

Changai Airports International (CAI), a fully-owned subsidiary of Changi Airport Group, continues to develop its investments and share its expertise with airports around the world. Its portfolio includes assets in Brazil, India and Russia, and consultancy projects in China, the Middle East and Southeast Asia.

BRAZIL

Tom Jobim International Airport in Rio de Janeiro, Brazil, continues to deliver robust operational and financial performance in FY2017/18. Passenger traffic at Tom Jobim International remained strong despite Brazil's weak economic situation. The airport welcomed 4.3 million international passengers during the year when it was host airport to the 2016 Summer Olympics in Rio de Janeiro.

Non-aeronautical revenue grew 13% over the previous year as

passengers enjoyed new facilities like airline lounges, and a wider selection of novel dining and retail outlets.

In 2017, Tom Jobim International became the first airport in South America to achieve the International Air Transport Association Centre of Excellence for Independent Validators Certification for Pharmaceutical Handling (IATA CEIV Pharma) for its cargo operations. This positions the airport as an important logistics partner in the pharmaceutical chain, and a main port of entry for pharmaceutical products in Latin America.

The improvements at the airport were widely recognised. Tom Jobim International was named the Best Airport for Operational Efficiency in Latin America 2017, and Most Punctual Airport in Latin America 2017 (10-20 million passengers per

annum or mppa category) by OAG Aviation Worldwide. The airport was also voted to have the Best Airport Staff Service in Brazil, and sixth in Latin America in 2017 by Skytrax. The airport's operational excellence also achieved top scores in a year-long operational and passenger service survey mandated by the regulator, National Civil Aviation Agency of Brazil.

During the year, the airport concession company underwent restructuring. The long-term loan from the Brazilian Development Bank to finance the expansion of the airport for the Olympic Games was approved. The concession company successfully restructured its concession fee payment, to allow the airport to grow and recover from the recent economic downturn. Following discussions with Odebrecht Transport and various government agencies, CAI assumed majority control of Tom Jobim International Airport with a 51% shareholding in the concessionaire, while government agency, Infraero, maintained its 49% share. With these changes, the airport is poised to benefit from, and ride on Brazil's economic recovery.

INDIA

Durgapur Aerotropolis is India's first private operational greenfield airport city.

Indian national carrier Air India recently launched a four weekly Delhi-Durgapur service from the city's Kazi Nazrul Islam Airport.

Township development is making steady progress. Mahindra Automobile Service Centre by Joshnika Developers, and a food processing plant by Keventer Agro, started operations during the year. Durgapur Multi-Speciality Hospital commenced construction works for a health care facility, while Narayana School, an operating school within the township, commenced works to expand student hostel facilities.



▶ Air India launched a four weekly Delhi-Durgapur service from Kazi Nazrul Islam Airport.



▶ Anapa Airport welcomed visitors with its new terminal complex in 2017.

During the year, the Government of West Bengal raised their stake in the aerotropolis from 11% to 26%, as a mark of its confidence in the project. Located in West Bengal, the aerotropolis is developed by Bengal Aerotropolis Projects Limited, in which CAI has a 30.2% stake.

RUSSIA

In 2012, when CAI first invested in the four airports in Russia's Krasnodar region - Anapa, Gelendzhik, Krasnodar and Sochi - passenger traffic was 5.5 million passengers. Since then, passenger traffic has doubled with traffic development initiatives that attracted new airlines, destinations, and increased flight frequencies.

Passenger traffic in FY2017/18 increased by almost 10% compared to FY2016/17, crossing the 11-million milestone for the first time. Krasnodar International Airport and Sochi International Airport, in particular, saw significant growth in the international segment, driven by key markets such as Istanbul, Tbilisi, Tel-Aviv and Vienna. The airports serve 9% of the total passenger traffic, and 3.5% of the total cargo flow in Russia.

Enhancing passenger experience continues to be the top priority for all four airports. In addition to operational improvements that

included self-service features at check-in and boarding, the airports implemented a host of initiatives - accessible infrastructure, service improvement workshops, and skills training - to offer passengers best-in-class service. More retail and dining options were also introduced, along with revamped business lounges, to enhance customer choice and comfort.

In July last year, Anapa International Airport opened a new 11,800 sqm passenger complex. Together with the current terminal, the airport tripled its capacity to accommodate up to 1,100 passengers per hour.

The airports once again clinched top spots on international and national platforms. Sochi International Airport beat strong competition to be voted Best Airport by Size and Region, Europe (5-15 mppa), after having won the same award in the 2-5 mppa category, in the last two years, at the Airports Council International (ACI) Airport Service Quality (ASQ) Awards 2017. For the third year running, Sochi International was named Best Airport by Region, Europe (over 2 mppa). On the national level, Sochi and Anapa Airports maintained their Best Airport titles in their respective traffic categories at Russia's National Aviation Infrastructure Show 2018.

CAI has a 30% stake in the joint venture which owns the four airports and their management company, Basel Aero.

Vladivostok International Airport in Russia's Far East reaped strong traffic growth of 19% year-on-year to reach 2.3 million passengers in FY2017/18. Working closely with the city's tourism authorities, and with targeted airline marketing programmes and familiarisation trips, the airport increased flight frequencies and launched new flights within Russia and to



▶ Vladivostok International won the Routes Asia 2018 Marketing Award (under 4 mppa).



▶ Chongqing Airport's new Terminal 3A features unique shopfronts and products that promote the city's unique heritage.

international destinations such as China, South Korea and Thailand.

To uplift service levels and improve passenger experience, the airport is implementing operational and service enhancements as well as revamping its commercial selection. Plans for a new inter-terminal comfort lounge with nap rooms are also on track.

In recognition of its efforts to build partners and grow its network, Vladivostok International won the Routes Asia 2018 Marketing Award (under 4 mppa). It also bagged second place for Best International Airport (up to 4 mppa) at Russia's National Aviation Infrastructure Show 2018.

CAI holds a one-third stake in the joint venture that owns and manages the airport.

CHINA

CAI and Chongqing Airport Group signed a commercial joint venture agreement in 2017 to strengthen Chongqing Jiangbei International Airport's non-aeronautical business. The collaboration focused on introducing more innovative elements, experiential concepts and top-class retail tenants to

enhance the airport's commercial landscape.

Chongqing Airport's new Terminal 3A successfully opened in August 2017 with unique shopfronts and products that promoted the city's rich identity, and created a strong sense of place. Passengers were spoilt for choice with an extensive selection of top international labels and popular heritage brands.

Chongqing Airport was recently named Best Airport in Asia Pacific (25-40 mppa) at the ACI ASQ Awards 2017. The Creative Corridor by JCDecaux China, in Terminal 3A, also won The Moodie Davitt Report's Most Impactful Individual Advertising Execution Award.

SAUDI ARABIA

CAI continues its multi-year partnership with the General Authority of Civil Aviation in Saudi Arabia to enhance the performance of King Fahd International Airport in Dammam.

During the year, four new airlines and five city links were added, significantly improving the airport's connectivity and paving the way for an upswing in traffic.

Passenger experience was enhanced with new passenger loading bridges, additional aircraft parking stands and a new arrival bus bay. A premium meet-and-assist service with a dedicated lounge was introduced at the airport. Work has also commenced to update the baggage handling systems and baggage belts, expand the check-in facilities, and increase the number of city terminals.

On the commercial front, a new retail experience featuring an exclusive walk through duty free area spanning over 1,300 sqm was launched in July 2017. Training continues to be a key feature in transforming the airport's service levels.

The airport was successfully corporatised as Dammam Airports Company on 1 July 2017 and has since developed new long-term strategies which include the expansion and optimisation of terminal space, and improvements to key infrastructure.

WINNING

Hearts at the Workplace

On 2 March 2018, CAG was crowned the winner for Best Workplace Culture and Engagement at the HRM Awards 2018, a testament to CAG's efforts in building a strong employer brand. The award recognised the organisation's efforts in staying true to its values and beliefs, and helped shaped strong employee engagement within CAG. At the award ceremony, Mr Lee Seow Hiang, CEO of CAG also received the Best C-Suite Leader award. He was recognised for his commitment in driving Human Resource (HR) strategies across CAG and the industry.

At the Randstad Awards 2017, CAG was ranked the second most attractive employer in Singapore. This is the fourth consecutive year that CAG was ranked in the top three. The ranking is determined based on a survey on employer

branding, and focuses on three main areas: overall brand awareness, absolute attractiveness and relative attractiveness. Having a strong employer brand plays an important role in CAG's efforts to attract new talent and to retain its people. As part of its employer branding efforts, CAG shares real stories about its culture, people, and their exciting experiences of working in an airport on digital spaces and at career fairs. This award is an affirmation of CAG's efforts in attracting the best talent, and is a particularly meaningful one in the journey of building and growing its people.

IMPROVING EASE OF EMPLOYEE TRANSACTIONS

Following the physical transformation of the workplace where employees moved into a refreshed work environment of new work spaces, a new suite of

People Tools was rolled out in April 2017. The tools aim to transform the way employees work in CAG and to provide them with greater flexibility to work 'anytime, anywhere'. Employee services such as leave and claim submissions, performance and development planning can now be done through the cloud-based People Tools system, which has brought greater ease and convenience for employees. Following the roll-out in April 2017, a survey was conducted among employees with positive outcomes. 87% of employees surveyed had a positive experience in using the new suite of People Tools, and more than 80% saw significant improvements in the claim submission process.

STRUCTURING FOR SUCCESS

FY2017/18 saw several changes in CAG's organisation structure and business models, to better align people structures, roles and processes. In September 2017, a new Enterprise Performance & Development cluster was formed to give a sharper focus on the transformation of CAG's current operations with new technologies, partnerships and business models, as well as to drive innovation and grow new businesses. The new cluster was formed by integrating several divisions - Finance, Corporate Strategy & Business Development, Innovation Lab, and Enterprise Risk Management. In addition, to champion and continue CAG's environmental sustainability efforts, a dedicated Environmental Sustainability team was also established within the new cluster.

In CAG's efforts to enhance productivity and streamline work processes among operational teams in the new T4, a new operation model for Integrated Facilities Management was developed. This involved the integration of functions from Airport Operations Management, Commercial and Engineering and Development Group.



CAG's People Team and CEO, receiving the Best Workplace Culture and Engagement award and the Best C-Suite Leader award respectively.



▶ CAG employees sharing stories and lessons learnt from their innovation experiences.

ENHANCING TERMINAL 'H'

Terminal 'H' (Heartware) remained at the core of CAG's people strategy to build a deep engagement with its employees. Active employee engagement and investing in its people's personal and professional growth is important in making CAG a great company to work in. An example of active employee engagement is Fun Fridays, a bi-monthly themed event to encourage employees to take some time off to enjoy each other's company over games, food and drinks.

Another example in building engagement among staff is the Learning Festival (LearnFest), which aims to foster and sustain a culture of innovation in CAG. Held in November 2017, the week-long Learnfest, branded with the tagline #StartSomethingToday, created the time and space for employees to learn techniques to generate and

test ideas. Storytelling continued to be the mainstay of LearnFest, as employees got to hear personal anecdotes from their peers on their innovation experience at CAG, as well as insights from external speakers from Airbnb, DBS and Grab among others, all of whom had successful stories about their organisation's journey in innovation.

To create an immersive experience for employees, LearnFest 2017 was brought into CAG's office spaces for the first time, with interactive pop-up sessions around the office. The event saw close to 450 employee participations, a 35% increase as compared to its last run in 2015.

STAYING IN TOUCH

Another aspect of CAG's employee engagement efforts was the continued use of In.Touch, an internal social media platform designed to foster a greater sense of community among employees, and to also ensure that they are kept informed of CAG's news and announcements.

Managed by CAG's internal communications team, the latest news and developments within CAG are shared on the platform, together with stories about the airport community and regular giveaways tied to airport events - with the aim of encouraging employee engagement. In.Touch roadshows were rolled out with the aim to increase adoption of the application, and also to build stronger connection with divisions based out of Changi Airport.

CAG's senior management uses In.Touch to engage with employees by sharing their ideas, opinions, work, and office life with them. In.Touch is also the platform that employees can go to, for information during crisis situations. Enhancements to the app were carried out during the year to ensure that it is able to reach out to as many employees as possible. As of March 2018, over 90% of employees have In.Touch on their phones, and the app sees more than 400 staff logging in every day.



Reaching out to the Community

FOR A BETTER TOMORROW

Changi Foundation, the philanthropic arm of CAG, works to enhance lives through community efforts. With its belief in the potential of people, Changi Foundation seeks to reach out and support disadvantaged youths, by funding programmes that offer opportunities and tools to equip them to lead independent and meaningful lives.

NorthLight School (NLS) has been Changi Foundation's main beneficiary since 2014. CAG and its participating airport partners have been contributing meaningfully through imparting career tips and guidance, to better prepare the youths to enter society. With the belief in the value of a long-term and meaningful engagement, the partnership with NLS was renewed in 2018 for another three years.

Changi Foundation ran eight wide-ranging programmes in multiple runs for NLS during the year, leveraging on the skills of Changi's staff to guide the students, including how to ace their interviews and improve their numeracy.

About 70 NLS students took part in the Job Attachment Programme, where CAG and various airport partners offered job attachments in the hospitality, retail, engineering and facilities management sectors. They were guided through tasks, developing work-related skills through the programme, and gained valuable working experience. With the support and commitment of the airport partners, the youths were able to

have a multi-faceted experience with Changi Airport. Some of the airport partners even went beyond the requested areas of support, to initiate new job experiences and offer two-month industrial experiential placements or part-time employment for the students.

Besides supporting NLS, Changi Foundation adopted Metta School in 2018 – a school that enrolls students with Mild Intellectual Disability and Autism Spectrum Disorder. Changi Foundation first engaged Metta School to understand their requirements, so that these could be better matched against the areas that Changi Foundation could contribute in. CAG has offered support for Metta School in two programmes – the Social Competence Programme (SCP) and the Employment Pathway Programme (EPP), which will be introduced in FY2018/19.

Changi Foundation also offers support to programmes run by Voluntary Welfare Organisations, for disadvantaged youths. This includes funding developmental programmes, and offering education awards to students. Since 2012, the *CAG-Howe Yoon Chong Book Prize* and *Changi Foundation Education Award* have benefitted an average of 300 students annually, and was extended to students from Spectra Secondary School and Crest Secondary School starting from January 2018.

Through the M.A.D (Making A Difference) programme, CAG continues to provide platforms for staff to contribute to causes close to their hearts. Besides being entitled to five days of volunteerism leave, a new Christmas Giving Campaign was introduced this year, with a dollar-to-dollar match by Changi Foundation. Staff were encouraged to make monetary donations to charities or causes of their choice. In all, staff donated S\$7,140 to the charities of their choice and matching contributions from Changi Foundation was donated to the Community Chest in support of disadvantaged youth programmes.

To promote and showcase the special talents of people with autism from *The Art Faculty*, an e-commerce



▶ CAG volunteer helping a Metta School student during the Social Competency Programme.



▶ Lee Seow Hiang receiving the ACA Level 3 on behalf of CAG.



▶ Meaningful sustainability issues and best practices were shared through the Changi Airport Community Environmental Forum.

platform that celebrates and showcases the abilities of people with autism and related challenges, Changi Airport’s online shopping portal, iShopChangi, launched a ‘Shop for Good’ space. Artworks and products designed by the artists are now available for passengers to purchase online, providing a platform for these home-grown artists with special needs to carry their products.

For its year-long effort, CAG was recognised as a Champion of Good by the National Volunteer & Philanthropy Centre (NVPC). CAG remains committed to influencing and multiplying corporate giving in Singapore.

ROAD TO SUSTAINABILITY

In FY2017/18, Changi Airport received the Airport Carbon Accreditation (ACA) Level 3, administered by the Airports Council International (ACI) to encourage and enable airports to track and reduce their carbon emissions. This was a result of the efforts made in the mapping of Changi Airport’s carbon footprint to reduce emissions and in developing a structured stakeholder engagement plan to reach out to the airport community on sustainability initiatives.

The accreditation is also a commitment by Changi Airport to reduce direct, controllable emissions every year, and to actively work with airport stakeholders to reduce their direct emissions. ACA represents Changi Airport’s commitment to improve the airport environment, and to work in tandem with the community to reduce Greenhouse Gas (GHG) emissions.

To reduce the airport’s GHG emissions and carbon footprint, CAG introduced a fleet of electric baggage handling tractors, which is now implemented at the new T4. Prior to the roll-out, CAG engaged ground-handling partners and communicated the benefits of doing so – going beyond operational benefits, and promoting the use of such electric vehicles through the lens of global sustainability. With the buy-in from the airport partners, CAG’s efforts paid off and a common pool of electric chargers was installed in the baggage handling areas to facilitate the charging of the tractors.

To complement CAG’s sustainability efforts, CAG organised the inaugural Changi Airport Community Environmental Forum in October

2017 – a platform that brought together the organisation and airport partners across the private and public sector, including airlines (SIA Group), ground handling agents (Dnata, SATS, SIA Engineering Company), government agencies (Civil Aviation Authority of Singapore, Energy Market Authority, National Climate Change Secretariat, National Environment Agency), research institutes (NUS Solar Energy Research Institute of Singapore) and clean technology solution providers.

Over 100 participants attended the inaugural forum, which discussed the impact of sustainability issues in the airport environment over a series of keynote presentations and Q&A sessions. This resulted in partnerships formed to assess in detail the use of sustainable alternative fuels for airlines and waste management solutions, which can be applied throughout Changi’s passenger terminals.

The forum will be held on an annual basis, as a dedicated industry forum to share sustainability best practices and to engage both private and public-sector stakeholders.