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# BUILDING A SMARTER BOEING

Boeing Commercial Airplane president and CEO, Kevin McAllister, says everyone from the shop floor to the boardroom is making Boeing a better business

Orient aviation 24 YEARS

THAI announces president after 18 month leadership vacuum

Asia's carriers take extra hit from rising fuel prices

Technology part of the congestion cure

INDUSTRY INSIGHT SPECIAL REPORT

New ATM challenge: the Drone boom

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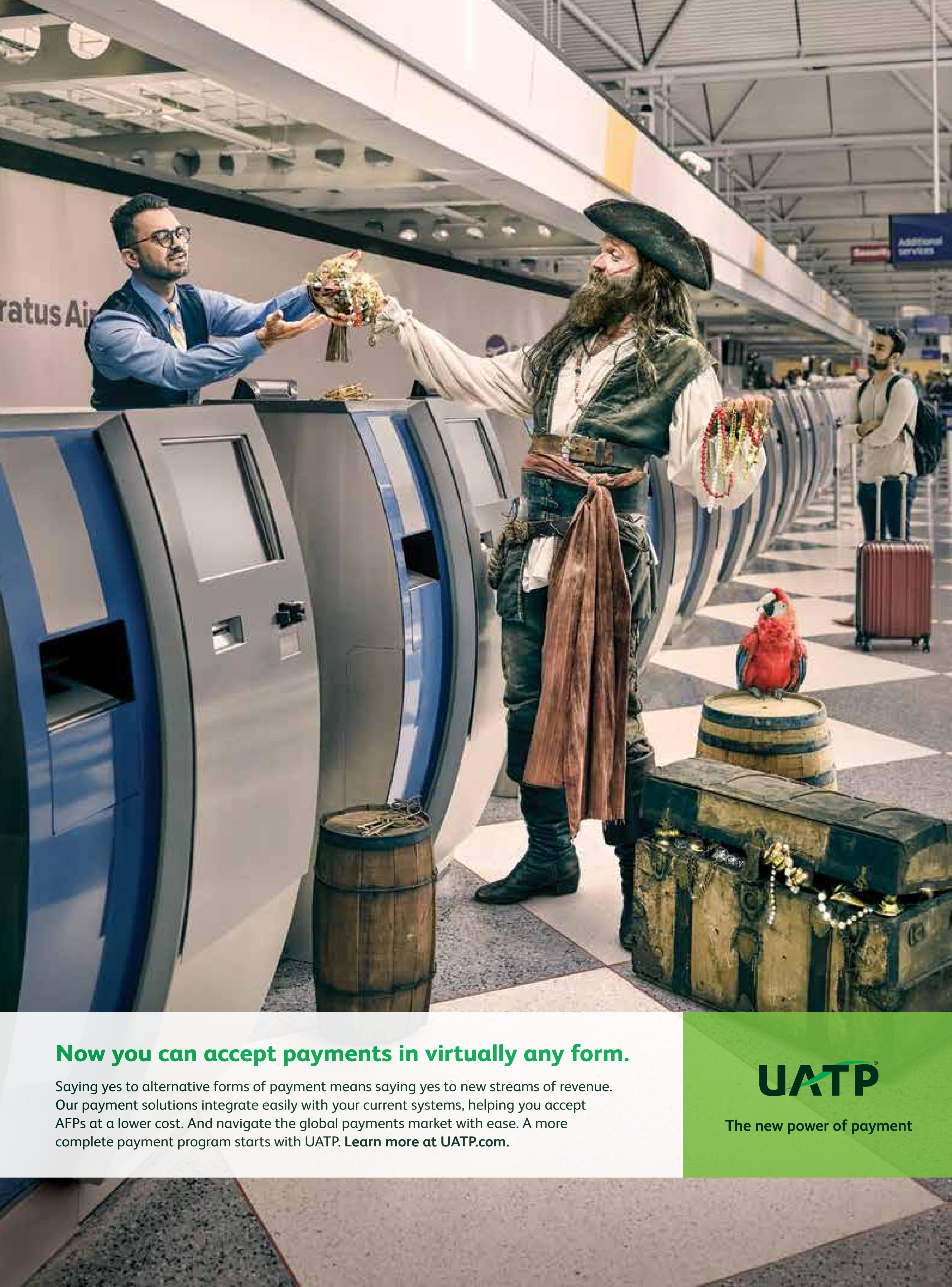
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# Technology can ease airport congestion

Airport infrastructure, or the lack of it, will be part of the discussion at the International Air Transport Association (IATA) Annual General Meeting and World Air Transport Summit in Sydney this month.

The problem has been discussed and dissected for so long that it can induce fatigue in even the most dedicated delegate, which is why IATA's argument for using applied technology to process passengers more quickly is a very positive contribution to the discussion.

For many years the accepted wisdom has been that more and bigger physical infrastructure is the only answer to coping with the three billion passengers a year that will be passing through Asia-Pacific airports in 2036.

IATA has pointed out in our lead story, Technology Part of the Congestion Cure, that it is not possible to build enough airports in time to accommodate the coming tsunami of the region's air passengers.

To help cope with the crisis, IATA is suggesting that while new airports are being built, the industry should focus on applying new technology to improve operations at existing airports.

"Today, if it takes 30 minutes to process a passenger from kerb side to boarding, new biometric processes could do the same procedure in 10 minutes and you have tripled your capacity," said Vinoop Goel from IATA's Singapore office.

"A number of airports realize this is a faster method of adding capacity than building a new terminal. You may need a new terminal in the longer term, but in the short to medium term some of these new technologies can help."

On the other hand, increasing the flow of passengers through airports does not achieve anything if there are lengthy delays at gates.

More airports are being built or expanded, even in traditional trouble spots in Indonesia and Japan. China's massive investment is well recognized. Recently, Jakarta and Narita have announced long delayed expansion and committed billions of dollars to the projects.

The pessimists, or the merely fatigued, will say it is too little too late. IATA has demonstrated new thinking that embraces the benefits of new technology in improving the airport experience of both passengers and staff. It is a good idea. ■

**TOM BALLANTYNE**
*Chief Correspondent*
Orient Aviation Media Group

## Japan Airlines new LCC too late for Olympics

Japan's low-cost carrier industry took another step forward last month with the Japan Airlines (JAL) decision to establish a medium to long haul budget subsidiary by 2020. The LCC, which is yet to be named, will be based at Greater Tokyo's Narita airport and will start operations with 200 staff, mainly cockpit and cabin crew. Destinations will take in Europe, The Americas and Asia.

Japan Airlines' new president, Yuji Akasaska, said more details about the LCC would be announced next month, including funding of 10 to 20 billion yen as well as profit targets. Akasaka said the airline would have a B787 fleet with two of the type earmarked to launch the budget carrier. The fleet will be 10 B787s after five years.

JAL's LCC strategy to date has been to manage its 33.3% investment in the Qantas Group's six-year-old Jetstar Japan. Its decision to go it alone with an international budget carrier is the flag carrier's response to Peach Aviation, largely owned by All Nippon Airways and AirAsia Group's AirAsia Japan.

When Peach and later Vanilla Air were launched, JAL was in bankruptcy protection and banned from establishing routes or investing in related projects. With all restrictions lifted in March last year, JAL is free to grow.The LCC will be a consolidated subsidiary but Akasaka has told media he "wants to introduce new know-how" to JAL.

The LCC will carry cargo. It will sell its belly space to JAL's cargo division who will market the LCC's freight business. Maintenance will be sub-contracted to JAL Engineering Company Ltd and the new airline will develop a customer built reservation system.

"It's good news that JAL is planning to establish a mid-and long range LCC brand by 2020," Japan Aviation Management Research (JAMR) analyst, Haruo Ushiba, said. "Until now JAL has not had a definite LCC strategy and has concentrated its operations as a full service carrier (FSC)."

JAL's arch rival, All Nippon Airways, is strengthening its LCC position by merging its two subsidiary LCCs, Peach Aviation and Vanilla Air, into a single entity that will operate under the Peach brand and expand onto long haul routes. The new JAL carrier will not compete with Jetstar Japan, which will stay a short haul operator that will feed traffic to its sister subsidiary.

"LCC 101 used to claim that budget carriers only could survive by flying a single aisle airplane for flights of up to four hours. That view is changing, not only in Asia, but in Europe where Norwegian Air has surprised many with its success," Ushiba said.

"These are compelling reasons for JAL to further penetrate the expanding LCC market and indeed it looks as if the company is late in getting on board. JAL wants its share of the rapidly growing inbound business to Japan and the new airline can provide the seats at the right price. They must hurry up to be in time for the 40,000 new slot allocations at Tokyo's Haneda Airport scheduled by 2020. For JAL, this is a step they have to take."

Analysts have pointed out JAL's decision to delay the first flights of the LCC until July 2020 means the airline will largely will miss out on the air passenger bonanza expected to flow from international visitors travelling to Japan for the Summer Olympics from Juy 24 to August 9 of that year. ***By Geoffrey Tudor in Tokyo.*** ■


## Australia and Netherlands say Russia liable for MH17 attack

Australian foreign minister, Julie Bishop, and Dutch foreign minister, Stef Blok, have jointly announced that "on the basis of conclusions of a Dutch investigation into the downing of Malaysia Airlines MH17, that their governments are now convinced Russia was responsible for the deployment of a Buk installation" that blew the aircraft and its 298 passengers and crew out of the sky on July 14, 2014.

"The government is now taking the next step by formally holding Russia accountable," Blok said. "We call on Russia to accept its responsibility and cooperate fully with the process to establish the truth and achieve justice for the victims of flight MH17 and their next of kin."

At press time, Dutch investigators announced they had concluded MH17 was struck by a Buk missile that exploded close to the airplane's nose and punctured the hull of the aircraft.

The investigation team also confirmed the missile was supplied by Russia's 53rd anti-aircraft rocket brigade in Kursk. To date, Russia has insisted it was not involved in the accident. At one stage it attempted to blame a now deceased "rogue" Ukranian military pilot, Vladyslav Voloshy. Russia also argued the Buk missile did not belong to Russia but to Ukraine rebel fighters.

After it was hit by the missile, the stricken jet crashed in rebel held territory near Donesk, close to the Russian-Ukraine border. The scheduled flight was bound for Kuala Lumpur from Amsterdam. Onboard were 143 Dutch nationals, 43 Malaysians, 27 Australians and several victims from Belgium, Britain, Germany, Indonesia and the Philippines. ■

## Al Baker "disappointed" with ICAO response to Qatar blockade

**Qatar Airways Group Chief Executive Akbar Al Baker** has criticized the International Civil Aviation Organization (ICAO) for a "timid and disappointing" response to the blockade imposed on his country and airline by neighbouring Arab states, including Saudi Arabia, the United Arab Emirates and Egypt. He called on the world to condemn such "reckless political manoeuvres that violate fundamental norms of international aviation".

In an impassioned speech, the first by an airline chief outside of the European Union to the European Parliament's Committee on Transport and Tourism (TRAN), Al Baker gave behind the scenes details of the shock blockade imposed on Qatar in June last year. The blockade barred Qatar Airways from using the airspace of the countries involved, an action that has caused the carrier to descend into loss.

Explaining that he was at the IATA (International Air Transport Association) AGM in Cancun, Mexico, when the events unfolded, he said he made a 22-hour journey home to "guide his airline in response to this unprecedented act of war. The extreme violations were carried out without provocation and without a mandate from the UN Security Council or any other international body", he said.

Al Baker said 2017 was a turning point for the State of Qatar, as the country became subject to "a ruthless campaign of isolation". The clear intention of the blockading states was to endanger the economy of Qatar by threatening the livelihood of residents, he said.

"With 18 air corridors immediately reduced to two corridors elaborate measures

were necessary to assure safe operations in and out of Qatar. In the middle of the holy month of Ramadan, the normal flow of goods and basic supplies such as medicine, food and water, was dangerously interrupted. Qatar Airways offices were closed by force and without prior notice by local authorities in the blockade states. These actions, perpetrated without warning and justification, imposed significant human hardship on the families separated as a result," Al Baker said.

He went as far as contrasting the sense of isolation felt by Qatar residents from the blockade to dark moments in history like the erection of the Berlin Wall during the Cold War.

Al Baker flew into Brussels last month after welcoming the first Air Italy aircraft - a B737 MAX - in its new livery to its home country, direct from the Boeing Everett Delivery Centre in Seattle. The inaugural aircraft is the first of nearly 50 new aircraft that will be added to the Air Italy fleet by 2022.

Qatar Airways acquired 49% of AQA Holding, the new parent company of Air Italy, last year. The previous sole shareholder, Alisarda, has retained 51% of the carrier. Al Baker vowed to see Air Italy overtake bankrupt Alitalia as Italy's flag carrier. ■

## SIA to absorb full service SilkAir after upgrade

Four will become three. That's the surprise news from Singapore Airlines which has announced Singapore Airlines (SIA) group subsidiary, SilkAir, will be absorbed into the flagship carrier's operations after a $100 million upgrade. After the amalgamation, the group's multi-brand strategy will be reduced to budget carrier, Tigerair, long-haul LCC Scoot and SIA itself.

While the news was unexpected it made sense. SIA has reported an impressive net profit of $665.2 million for the 2017-18 financial year, an increase of $397 million, or 148.1%, over the same period last year.

It also is undergoing an across the board transformation after a series of disappointing results in recent years. Merging SilkAir into SIA will bring significant efficiencies to the group and simplify the full-service end of its offerings.

The merger will take time. Upgrading the wholly owned subsidiary's cabins with new lie-flat seats in Business Class and the installation of seat-back in-flight entertainment systems in both Business and Economy will not start until 2020 because of lead times in obtaining new seats and completing certification.

"Singapore Airlines is one year into our three-year Transformation Program and today's announcement is a significant development that will provide more growth opportunities and prepare the group for an even stronger future," said chief executive Goh Choon Phong.

"Importantly, it will be positive for our customers. It is another example of the major investment we are making to ensure our products and services continue to lead the industry across short, medium and long-haul routes."

SilkAir operates 11 A320-family aircraft, 22 B737-800s and B737 MAX 8s. It is transitioning to an all-B737 fleet and flies to 49 destinations in 16 countries.

SIA's strong financial results provides ample evidence its transformation is having an impact.

The parent airline's operating profit improved from 2017 to $523.7 million in 2017-2018. Scoot's operating income rose from $49.9 million to $57.4 million, SIA Cargo from $2.2 million to $110.2 million and SIA Engineering from $53.6 million to $56.6 million.

Only SilkAir reported a decline in operating profit, from $75.2 million to $32 million. SIA's performance was boosted by the implementation of a revenue management system, a new airfare pricing structure and the establishment of a centralized pricing unit that increase revenues.

Costs were cut by more efficient operations that saved fuel and reduced waste, the carrier said.

A dedicated Customer Experience Division has been formed to sharpen the focus on the customer journey and delivery of more personalized services, SIA Group said.

***By chief correspondent, Tom Ballantyne.*** ■

# Asia's carriers take extra hit as fuel costs climb

**Asia-Pacific passenger and cargo traffic has surged but so has jet fuel at the region's carriers, especially as seasonal refinery maintenance has reduced supply.**

***By chief correspondent, Tom Ballantyne***

To date this year, the average global jet fuel was US$83.40 a barrel, a sum that has added $39.3 billion to the industry's collective operating costs. But Asia-Pacific oil is costing airlines even more than their peers elsewhere because of seasonal maintenance at regional refineries.

In its most recent fuel monitor, the International Air Transport Association (IATA) said airlines are paying $92.10 a barrel for jet fuel, hedging aside, which was a 54.2% increase over the same period last year. Jet fuel producers are reporting their best profits in years by converting Brent crude, selling at around $78 a barrel at press time, to jet fuel, it said.

In May, Thomson Reuters Eikon said, Asian jet fuel buyers are paying the highest premiums for this time of year in a decade.

The major cause of Asia's higher jet fuel prices is the region's seasonal oil refinery maintenance schedule. Resource consultancy, Energy Aspects, said 2.46 million barrels per day (bpd) of Asian oil refining capacity had to undergo maintenance in May, which is close to total demand for crude oil in South Korea.

The refinery maintenance cycle is coinciding with double digit travel demand in countries such as China and India that

continues to hit new peaks. China's domestic air traffic climbed 15% in March from a year earlier, said IATA, the strongest growth for five months.

In India, March domestic traffic rose by 28%, which was the 43rd consecutive month of double digit growth in a nation where the government is pursuing an ambitious transport infrastructure program.

There also was strong growth across Southeast Asia. Singapore's DBS Bank forecast air passenger expansion for the Association of Southeast Asian Nations (ASEAN), home to more than 600 million people in 10 countries, to be around 6% this year.

Asia's jet fuel profit margin (crack) is $15.75 per barrel above benchmark Dubai crude, which also is 50% higher than a year ago. The crack peaked at $18.03 in February. Director of energy consultancy Trifecta, Sukrit Vijayakar, has predicted an average jet fuel crack of $16.50 per barrel for the year.

The global economy saw broadly based growth in advanced and emerging markets, boosting both business and leisure travel demand. Air cargo markets were lifted by accelerated global trade activity. At the same time, moderate capacity expansion lent support to airline yields, said the airline association.

Asia-Pacific airlines achieved 6.7% growth in combined operating revenue, to $176.6 billion, in 2017. Passenger revenue increased by 6%, to $135.6 billion, although intense competition led to a marginal 1.0% decline in passenger yields, to 7.9 US cents per RPK.

Cargo revenue increased by 14.6%, to $18.6 billion for the year. Following several years of contraction, freight yields rebounded by 6%, to 25 US cents per FTK.

Combined operating expenses climbed 8.7%, to $165 billion for the 12 months. Fuel costs rose by 19.6% to $40.6 billion. Global jet fuel prices increased 24.5% to an average of $65.4 per barrel. The share of fuel expenditure as a percentage of total operating expenses rose by 2.2 percentage points to 24.6%.

As usual, where the cost of jet fuel is heading is largely a matter of conjecture. As one airline president, Garuda Indonesia's Pahala Mansury, put it: "We are on track to post a profit in 2018, but (this) will depend on the fuel price going ahead." AAPA director general. Andrew Herdman, also was cautious.

"The region's airlines continued to face stiff competition and increased cost pressures from markedly higher fuel prices and rising labour costs," he said.

But Herdman remained confident the expanding global economy bodes well for Asian airlines. "Business activity is expected to remain relatively robust. Increased consumer spending should underpin growth in passenger travel and support air cargo demand in the coming months," he said. ■


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# Profits plummet in India as fuel prices rise

***By Tim Walker in Delhi***

Profits at India's commercial carriers are falling through the floor as oil prices rally. All airlines face increased pressure on revenue when oil goes on an upward trajectory, but India's airlines suffer more than most carriers in the Asia-Pacific because of the Indian government's taxes on fuel. As a rule of thumb, fuel accounts for 35%-40% of airline costs even in a period of low oil pricing.

At press time, Brent crude was trading at US$75.35 per barrel, down from $79.54 a barrel on 17 May but still $22.35 per barrel higher than three weeks ago. The oil price recovery has led to a corresponding increase in India's domestic aviation turbine fuel (ATF) prices, to Rupees 65,340 per kiloliter from Rupees 50,700 per kilometer. USD$100 million equals Rs 670 crore.

Indian airlines always struggle to get the customer to pay for additional operating expenses because of the fiercely competitive nature of Indian commercial aviation. A reminder of this harsh reality is Kingfisher Airlines. The final nail in its coffin was fuel it could not afford. It went bankrupt and closed in 2012.

Signs of this strain are visible at India's airlines. IndiGo is the country's largest airline with a fleet of 160 and orders for almost 400 more. In the quarter to March 31 this year, the LCC reported a profit decline of 74% and a yield fall of 5.6%.

"We believe current low yields are unsustainable. Yield improvement in an environment where fuel costs are high remains a key monitorable," HDFC Securities's Madhukar Ladha, said in a May report. He added IndiGo's earnings were a disappointment.

To reduce fuel expenditure, Gurgaon headquartered IndiGo has been inducting A320neos into its fleet, despite several engine glitches, to reduce its fuel bill. The airline has accepted 32 of the type, but the induction process was slowed in March when the Directorate General of Civil Aviation (DGCA) instructed the low-cost carrier to ground almost a dozen planes because of reports of multiple engine failures.

IndiGo is receiving undisclosed compensation from engine manufacturer, Pratt & Whitney, for the geared turbo fan engine problems, but the funds are not sufficient to restore profits at a carrier with a very large high frequency network that operates a model of fast aircraft turnaround and maximum daily usage of its fleet.

Taking planes out of service at short notice also has had an impact on IndiGo's revenue management model. It is understood it has had to accommodate passengers from grounded A320neo flights on its existing flights which has limited its ability to sell its last minute, and most expensive, tickets.

Budget carrier rival, SpiceJet, which flies 37 B737NGs and 22 Bombardier Q-400s, has proved more adept at handling the fuel price increase. It has reported a 5% yield improvement despite the rising oil price.

"The divergence in yield can be attributed to IndiGo's endeavor to maintain high load factors against a backdrop of significant capacity addition," JM Financial Institutional Securities Ltd said in a note last month. Both SpiceJet and IndiGo results could have been worse had it not been for "other incomes" that typically mean credits, interest from financial deposits and mutual funds, it said.

AirAsia India's operating loss has more than doubled recently, from 40.49 crore to Rs 97 crore, a result the carrier said was "largely due to the increase in aircraft fuel expenses and aircraft maintenance" costs. AirAsia operates an all Airbus fleet of 18 A320s.

Jet Airways, the country's oldest private airline and an operator of 119 airplanes, posted unexpectedly bad results for the first three months of the year. It slipped into a full year loss of Rs 636 crore from a profit of Rs 1499 crore in the previous year. Jet Airways stock was punished by investors and is trading at a 52-week low.

"Financial performance during the quarter was weaker due to the continuing increase in the price of Brent fuel without a corresponding increase in air fares, as well as mark-to-market adjustments from a weaker rupee," Jet Airways CEO, Vinay Dube, said in a results statement.

Air India, Vistara and GoAir have yet to announce their results. ■


# CALC Opens First Aircraft Recycling Plant in Asia

### Another step forward in delivering full-value-chain solutions for global clients

In early June, CALC announced the commencement of its China Aircraft Disassembly Centre (CADC) facility in Harbin China – the world's largest ground-up development of an aircraft recycling and remanufacturing base. With a gross floor area of 300,000 sqm and the capacity to handle up to 20 aircraft annually, CADC is Asia's first aircraft recycling facility. CADC is a member of AFRA and ASA, and has accreditations from the Civil Aviation Maintenance Association of China (CAMAC) – Certificate of Civil Aircraft Parts Distributor and CCAR-145-R3 – making it well positioned to tap into the nascent industry's vast potential.

**Mr. Mike POON, Chief Executive Officer of CALC**, stated, "Once CADC is fully functional, it will provide CALC with tremendous opportunities to enhance our leading position in meeting strong customer demand for quality aircraft materials and services in mainland China and throughout

America, Europe, Asia and the rest of the world. CADC aims to achieve an 80% recycle rate / 95% goal by 2020."

### ARI–CALC's downstream extension

The CADC facility is held under CALC's associate company Aircraft Recycling International Holdings Limited ("ARI"), the first in Asia to provide solutions for mid-to-end of life aftermarket aircraft. In 2017, ARI acquired Universal Asset management, Inc. ("UAM"), a global leader in hi-tech aircraft disassembly and after-market solutions, to strengthen its aviation ecosystem on a global scale. Currently, ARI is made of four aviation platforms:

1. *Aircraft disassembly and MRO platforms (UAM in the US and CADC in China)*
2. *Global part-out and distribution platform*
3. *Aircraft, engine and parts leasing platform*
4. *Specialized investment platform*

In May 2018, CALC and ARI completed the redelivery, export and lease of China's first Airbus A321, originally imported 20 years ago. CALC received the end-of-lease aircraft from Sichuan Airlines, and subsequently leased it to Danish Air Transport through ARI. This made CALC the first Chinese lessor to have accomplished an international second-hand aircraft asset trade, showcasing the synergy between CALC and ARI.

CALC can mitigate aircraft residual value risks for its airline clients while enhancing its fleet flexibility. ARI advances CALC's capabilities in aircraft asset management with its international influence. Both companies have effectively optimized asset allocation, as well as maximized their overall economic benefits.

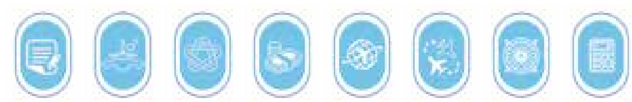
### *Hong Kong Aircraft Leasing and Aviation Finance Association (HKALA)*

*HKALA was established in June 2017 to promote the development of Hong Kong's aircraft leasing and aviation finance industry. The Legislative Council approved a concessionary tax regime in June 2017 reducing the profits tax liability of qualifying aircraft lessors and aircraft leasing managers – reflecting the joint efforts of both the industry and government.*

*As a founding member of HKALA, CALC has, through different channels, been working with the industry since 2011 to relay its needs to the government. Moving forward, CALC will proactively consider extending its leasing platforms to Hong Kong.*

Carrie Lam Cheng Yuet-ngor, the Chief Executive of Hong Kong SAR (2nd from right); Mr Chen Shuang, Chairman of CALC and HKALA (2nd from left); Mr Stanley Hui Hon Chung, President of HKALA (1st from right) and Mr Mike Poon, CEO of CALC and Founding Chief Advisor of HKALA (1st from left)

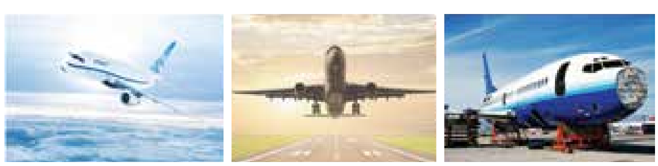
## Full-value-chain Solutions Provider




CALC's unique business model offers services covering an aircraft's full life cycle to meet airlines' fleet management requirements, including services for new aircraft, used aircraft and aircraft coming to the end of their life. It leverages its strong track record in aircraft asset management as well as ARI's fully-fledged business platforms for mid-to-end of life aircraft.

"Our mission is to become a full-value-chain solutions provider for global aviation industry. We are devoted to developing and improving our solutions globally, particularly working on downstream expansion following the successful integration of UAM and ARI. With strong capacity in aircraft placement and financing, together with our close connections with aviation partners throughout the world, we are confident that our comprehensive asset management capabilities will bring CALC a greater success, creating more value for global airlines."

**Mike Poon,** CEO of CALC



New aircraft → Mid-life aircraft → End-of-life aircraft

# TECHNOLOGY CRITICAL TO CONGESTION CURE

*Technology as well as bricks and mortar will ease the region's infrastructure problems, the International Air Transport Association tells Chief correspondent, Tom Ballantyne.*

When the leaders of the world's airlines gather in Sydney this month for the 74th Annual General Meeting of the International Air Transport Association (IATA) a potential infrastructure crisis, particularly in the Asia-Pacific, will once again be an important part of the discussions - and understandably so.

As air passenger numbers set new records in the region every year, airports across the Asia-Pacific are bursting at the seams as saturated hubs have to function well beyond their design capacity.

This situation goes to the heart of the operations of Asia-Pacific carriers whether they are full service airlines, low-cost carriers or hybrids of both. The airlines have ordered thousands of new aircraft to accommodate new passenger demand, but at present it looks like their expanded fleets will not have slots to land at destinations their passengers want to go.

Are there ways to ease this congestion while the necessary physical infrastructure is built at the region's airports?

IATA Asia Pacific's regional director airport, passenger, cargo & security, member & external relations, Vinoop Goel believes so. "Air traffic in the region is forecast to increase from one billion annually today to three billion a year by 2037-38," he said.

"An additional two billion passengers over the next twenty years raises both opportunities and challenges. Airlines have been gearing up for that capacity with aircraft orders of 600 to 700 aircraft per year in the last few years. What is worrying us is that countries cannot build enough airports or expand enough airports to add capacity for two billion more passengers in this time frame.

"If you look at it from a holistic viewpoint, while airports are being built you must maximize the capabilities of the existing infrastructure by implementing new processes and new technology."

Goel said technology will definitely be a critical part of the solution. "The biggest bottlenecks are on the ground. If you look at a number of airports across the region many of them are operating way beyond capacity even today.

"The three biggest bottlenecks are Bangkok, Jakarta and Manila, but there are others. Some airports have started working on plans to add capacity and some, including Changi, Narita and Singapore already have added it.

In the meantime, said IATA, today's buzz word is biometrics where the application of new data provides real time information exchange that speeds passenger processing.

"Today if it takes 30 minutes to process a passenger from kerb side to boarding my new biometric automated process could do the same procedure in 10 minutes and I have tripled my capacity," said Goel.

"There are trials happening in Sydney, Brisbane, Incheon and Bangalore. A number of airports realize this is a faster method of adding capacity than building a new terminal. You may need a new terminal in the longer term, but in the short to medium term some of these new technologies can help."

Industry experts pointed out this was all very well but speeding up passenger processes on the ground does not help on time performance if there are bottlenecks at the gate or on taxiways and runways.

Goel said: "The problem has to be looked at from an end-to-end point of view. You have to look at things like ground-handling, push-back and your gates.

"This is where some of the new technology, such as airport collaborative decision-making (ACDM) is valuable. It is intended to make the aircraft turnaround more efficient, better planned and better served. It has been done in Europe for a while.

"Now we are seeing a number of implementations in this part of the world. Changi has been one of the leaders in this area. ACDM required collaboration between the ground, the airport, air traffic control and the airline.

"All parties involved in the aircraft turnaround have the information so aircraft departures, aircraft arrivals at the gate and the taxi-ing can be planned to optimize your capacity."

Technology measures aside, several governments in the region realize clogged airports and air traffic pathways hold back economic growth. They are becoming less risk averse about investing in multi-billion aviation infrastructure.

Jakarta's Soekarno-Hatta International Airport is one of the region's most seriously congested facilities. Indonesia's state-owned airport operator, PT Angkasa Pura II (AP), is acquiring the land required to build a third runway at country's capital city airport. A third runway would boost the airport's capacity to 100 million passengers by 2025, AP said.

AP II president director, Muhammad Awaluddin, said the US$189 million project was designed to increase the take-off and landing frequency of aircraft into Jakarta from 81 movements an hour to 114.

In Delhi, Airport Authority of India has announced it will invest US$3 billion to 2023 to upgrade the infrastructure of 21 airports across the country. In April, the military junta that runs Thailand said it would spend in excess of $1.2 billion to renovate and expand 29 Thai airports.

Thailand's Airports Department director-general, Darun Sangchai, said officials had held discussions with Thai Airways

## Benefits of government controlled airports

IATA is not overly keen on the privatization of airports because it believed the model resulted in higher costs for airlines. It remains focused on a campaign to convince governments to fast track airport development as a benefit to their national economies.

"When we talk about growth the beneficiaries of all this are the countries in terms of aviation's contribution to GDP and jobs," said Goel. "It is hard economic numbers. We try to provide information to many of the States in the region by saying 'this is what aviation contributes to your economy today, this is what it can potentially contribute over the next twenty years and here are your bottlenecks. There is a good reason why you need to address this to reap the social and economic benefits of aviation'."

> **There are manpower shortages in a number of countries that can be addressed with new technology. With automation you can reduce your manpower requirements or redeploy your existing manpower to provide more value added services. Changi has been a leader by implementing some very advanced biometric functions**
>
> **IATA Asia-Pacific**

International (THAI), Nok Air, Thai Lion Air, Thai AirAsia, THAI Smile and Bangkok Airways about airport expansion.

Neighbouring Malaysia plans to double Kuala Lumpur International Airport's capacity to 150 million in the next 10 to 20 years, Malaysia Airports Holding Berhad chief financial officer, Raja Azmi Raja Nazuddin said.

As recently as March Tokyo Narita's airport, which has long suffered from an infrastructure shortfall, received approval to expand its annual arrival and departure slots from 300,000 to 500,000. Agreement also was reached to extend the Greater Tokyo airport's operating hours to 5 am to 12.30 am, increase its runway length to 3,500 metres and build a third runway.

Elsewhere, new airports have been completed or are close to completion. Pakistan's biggest and first greenfield airport, Islamabad International Airport, commenced business in May after years of delay.

The new facility replaced the creaking Benazir Bhutto International Airport (BBIA) in the twin city of Rawalpindi. Designed to process 15 million passengers a year in its initial phase the airport will accommodate up to 25 million travellers after a second stage of expansion. The BBIA handled 4.7 million passengers last year.

In China, 66 airports will be built in the next five years, which will increase air passenger and cargo facilities to 272. China invested a minimum of $11.7 billion on civil aviation infrastructure last year. The landmark project of the strategy will be Beijing's new international airport, which will commence test operations as early as October next year.

The airport, on the border between southern Daxing district in Beijing and Langfang, a city in Hebei province, will have a terminal complex of 313,000 square metres and four runways to accommodate 620,000 flights a year.

Half of the world's top 20 airports in passenger numbers are in the Asia-Pacific. Beijing Capital is the world's second busiest airport, with 96 million passengers a year, and is forecast to topple Atlanta-Hartsfield-Jackson (104 million) at the top of the league in the near term.

Other Asian hubs on the top 20 list are Tokyo Haneda (85 million), Hong Kong International (73 million), Shanghai Pudong International Airport (70 million), Guangzhou Bai Yun International (66 million), Indira Gandhi International (63.5 million), Soekarno-Hatta International (63 million), Singapore Changi (62.22 million) and Incheon International (62.16 million).

Growth at many big airports has been spurred by the expansion of low-cost carriers and the surge in outbound China travelers. In April, Airports of Thailand (AoT) announced a plan to demolish a disused terminal at Bangkok's original international airport, Don Mueang, and replace it with a facility that could cope with the ever growing numbers of international airlines and passengers using the airport.

International travelers to Thailand, mostly Chinese tour groups, spiked by 14% last year compared with a one per cent increase in domestic travelers in the same 12 months. If the AoT board approves the project, terminal 3 is planned to open in three years.

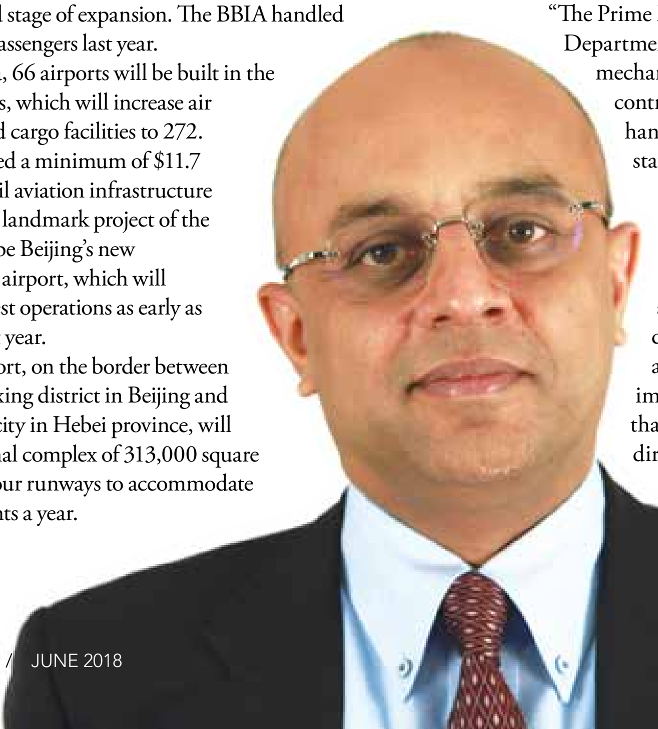
The combination of global Chinese traveler growth and the region's unrelenting demand for budget travel has resulted in new LCC terminals at Japan's Narita and Osaka airports with Nagoya committed to follow their example.

The huge costs of airport development make it difficult for many governments in the region to fit the expenditure into their short to medium term budgets, which is why public/private partnerships are favoured in some quarters.

India has privatized the nation's two biggest aviation hubs, Mumbai and New Delhi, and also Bangalore and Hyderabad. It is considering shifting 15 profitable airports, including Chennai and Ahmedabad, to private management.

"The Prime Minister's Office has directed the Department of Economic Affairs to prepare a model mechanism for taking certain airports out of the control of Airports Authority of India and handing them to private players," a government statement said earlier this year.

Analysts said the latest wave of privatization would drastically improve airport infrastructure in the country. "This is, by far, the best solution to improve airport infrastructure. If the government does come out with a proper model agreement, I am sure it will receive an immense response from many Indian players that have a lot of appetite left," said managing director and chief executive at infrastructure advisory firm Nestor Consulting, Sanhay Sethi. ■



# THAI announces new president after lengthy leadership vacuum

***By Dominic Lalk***

After 18 months without a permanent leader, Thai Airways International (THAI) announced in May that Sumeth Damrongchaitham is the new president and CEO of the airline. He will take up the position in August following the retirement of acting president, Usanee Sangsingkeo.

An aviation novice, 53-year-old Sumeth is the managing director of asset management firm, Dhanarak Asset Development, which is 99.99% owned by Thailand's Ministry of Finance. It invests and manages state holdings, including government complexes in Bangkok.

Like AirAsia co-founder Tony Fernandes, Thai AirAsia CEO Tassapon Biljeveld and former Nok Air CEO, Patee Sarasin, a large part of Sumeth's career has been spent in the music industry. For several years he was CEO of GMM Grammy, the kingdom's largest entertainment company. GMM was founded by Sumeth's uncle, Paiboon Damrongchaitham, in 1983 and the family continues to hold an almost 50% shareholding in the listed company.

Sumeth's new job will be challenging, not least because the state-controlled carrier's board is stacked with civil servants and former members of the air force who are slow to make decisions. But his tasks are clear: return THAI to profit, trim its bloated workforce and simplify the airline's fleet. THAI has been in the red for most of the last decade, including a net loss in 2017.

THAI was due to place a wide body order last December, but the board did not approve the proposal because of the airline's dire financial state. "We are still working on the final list for 17, 18, 19 or 20 mostly wide body aircraft from Airbus or Boeing to replace the B747-400, B777-200 and B737-400 fleets. We must simplify the fleet," THAI VP for commercial strategy and alliances, Krittaphon Chantalitanon, told Orient Aviation last month. He said the board would make a decision by "the middle of the year" and "no later than the third quarter".

THAI operates eleven aircraft types: 15 A330-300s, 12 A350-900s, six A380s, 32 B777s (-200s, -200ERs, -300s and -300ERs), 10 B747-400s, eight B787s (six -8s, two -9s) and one B737-400. Its B787 fleet has been crippled by recurring Rolls-Royce Trent 1000 issues with the carrier forced .to frequently ground its Dreamliners. "We need to take that into consideration when making fleet and order decisions," Krittaphon said. "The issue has been going on for almost two years."

The THAI strategy VP said the airline was "very satisfied" with the performance of its A350-900 and B777-300ER fleets, so new orders for these types would help simplify the fleet. He praised the reliability and passenger acceptance of the A380, but said a top-up order remained "highly unlikely". Krittaphon said the A380 was doing "very well to Northeast Asia, especially in the premium classes" and premium sales on the A380 flagship routes to Frankfurt, Paris and London were "satisfactory", but there was a lot of seasonal fluctuation. "Often it's too much, but sometimes not enough capacity," he said.

At the delivery of the airline's 12th A350-900 in Toulouse last month, THAI A330 & A350 chief technical pilot, Capt. Itt Sirisawat, told Orient Aviation exclusively: "We are retrofitting the A330 fleet with lie-flat seats starting this month [May]. The first three aircraft have entered the shop. Business class will be reduced from 36 to 31. The work is being done at Airbus in Singapore."

THAI and its subsidiaries posted a first quarter net profit of THB2.737 million (US$85.3 million) to March 31. Operating profit was THB3.836 million, a 49.4% increase compared with the same period last year. Load factor decreased slightly to 80.6%, from 82.8%, but the figure was a 10-year average high.

THAI said the rising oil price is the deciding factor now. "We're back at 80 [US$/barrel]. Every cent has an impact on the balance sheet. We need to be very cautious," THAI said.

THAI still cannot return to the U.S. The International Civil Aviation Organisation lifted its red flag against the country last year, but the U.S. Federal Aviation Administration (FAA) did not. THAI hopes Thailand's FAA Category 1 status will be reinstated by October.

A Star Alliance founding member,THAI plans to enroll its Thai Smile subsidiary in the alliance's 'Connecting Partner' model, Krittaphon said. "We've been working on that since day one actually," he said. "It may not be this year but hopefully next. We've recently switched from Navitaire to Amadeus [at Thai Smile] to make the transition easier." Thai Smile operates 20 A320ceo on regional routes, including longer flights to India and China.

Krittaphon added: "We're still coping at Suvarnabhumi. But thankfully expansion is underway, including the Mid Field Terminal, Runway 3 and Terminal 2." The three projects should be completed in the next three to four years. ■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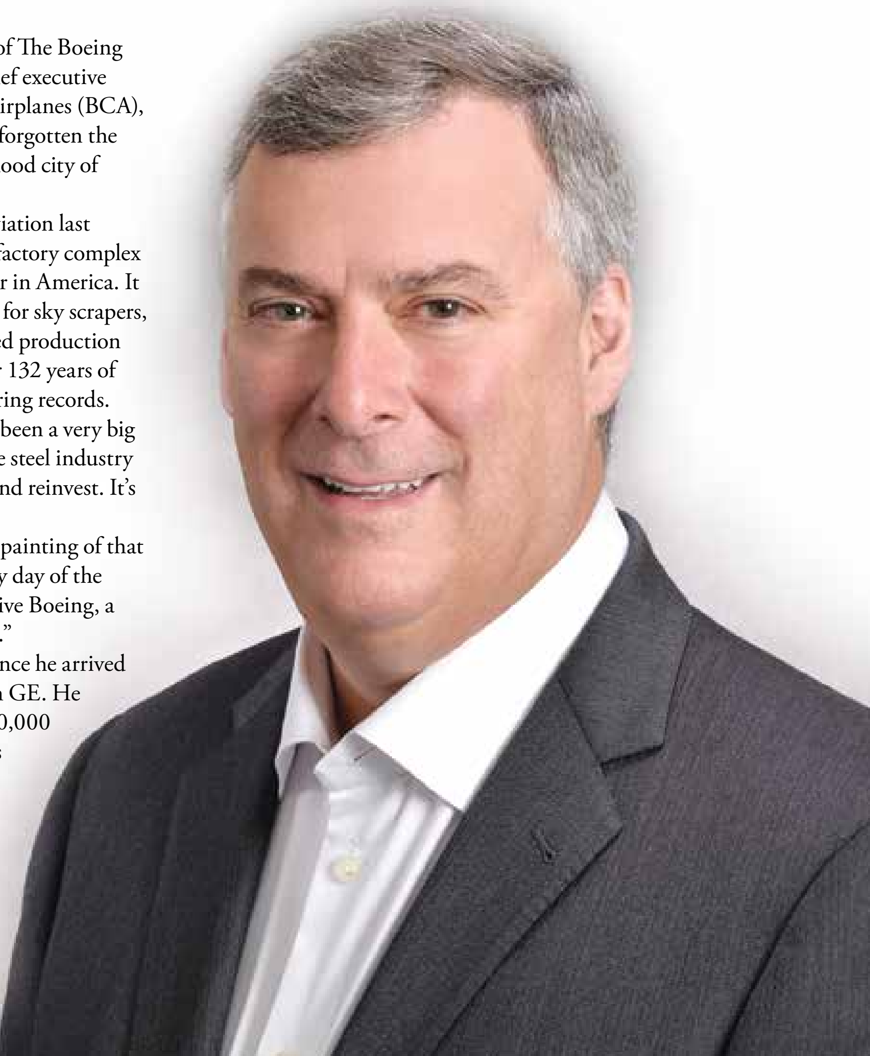
# BUILDING A SMARTER BUSINESS

*May was a testing time for the Boeing Commercial Airplane Company. Within days mid-month, President Trump took the U.S. out of the multi-nation nuclear agreement with Iran – a decision with a direct impact on Boeing's order book – and reversed his planned policy for tariffs on Chinese goods. In an exclusive interview with Orient Aviation, Boeing's Kevin McAllister said the group was following U.S. policy "very thoroughly", but that he was focused on making Boeing a smarter business. Chief correspondent, Tom Ballantyne, reports.*



He is the executive vice president of The Boeing Company and president and chief executive officer of Boeing Commercial Airplanes (BCA), but Kevin McAllister has never forgotten the lessons he learnt from his childhood city of Bethlehem, Pennsylvania.

"I am a steel town boy," he told Orient Aviation last month. McAllister said he grew up close to a factory complex that was once the second largest steel producer in America. It built war ships and revolutionary steel girders for sky scrapers, but today it is no more. Bethlehem Steel ceased production in 1995 and entered bankruptcy in 2001 after 132 years of astonishing engineering feats and manufacturing records.

"For me," McAllister said, "that time has been a very big influence on my life. I saw the tough times the steel industry went through because it did not recapitalize and reinvest. It's something I think about every day.

"In fact, in my office you will see I keep a painting of that steel mill above my desk. It is a reminder every day of the need to continually focus on a more competitive Boeing, a more agile company. That's a big focus for me."

His steel town roots have been on show since he arrived at BCA in November 2016 after 28 years with GE. He has quickly become a familiar face with the 60,000 commercial airplane employees because of his regular visits to the factory floor.

"It is very important for leaders to be out on the floor so they understand what it takes, where the truth is and how to respond to it. They must be great listeners," he said. "The thing I am most proud of in the 18 months [since I have been here] is that our people come to work every day wanting to build the best airplanes in the world," he said.

"The best days I have are with customers or walking the factory floor to find out from our people what we can do to be more competitive, faster and more agile. We have launched "Plane and Simple" to capture prolific ideas from the factory floor and accelerate them into changes. I am incredibly proud of Boeing people on the floor: in engineering, across our operations, across the franchise. Everyone is working together to win."

In McAllister's first full year in charge – 2017 – the business was in a sweet spot that has continued into 2018. For the 12 months to December 31, 2017 the OEM reported operating cash flow of $13.3 billion on revenue of $93.4 billion. It delivered a record of 763 jets to customers worldwide and reported a healthy order backlog 5,864 aircraft valued at $488 billion for the 12 months. The delivery record was driven by high output of the manufacturer's B737 and B787, BCA said.

For the first quarter of this year, BCA earned revenue of $13.7 billion and achieved an operating margin of 11%. It confirmed 221 orders and delivered 184 jets in the three months, including the first B787-10 Dreamliner to Singapore Airlines and the first B737 MAX 9 to Indonesia's Lion Air Group.

"Obviously, if you look at the airline industry today, profitability is very healthy and passenger traffic is outpacing GDP so it's a very good market," said McAllister. "There are a couple of things [in play]. Firstly, there has been very strong discipline in the market on capacity balanced with traffic.

"The growth we see around the world has been reducing some of the historical cyclicality we have seen in the industry. Another factor is the strength of the freight market, which is important for Boeing.

"It's been a good past year, but we are keeping our heads down and focusing on technology to find ways to transform operations and build our competitive edge. We are putting a lot of time into building new capabilities and driving culture across the company."

While all of this reads like the best of times for Boeing, there has been no shortage of issues beyond BCA's gates to exercise McAllister. They range from U.S. tariffs on a range of Chinese goods to U.S. President Trump's withdrawal from the Iran nuclear agreement. The Iran decision could have resulted in a 80-plane order, worth $16 billion at list prices.

Also on the to-do list are Rolls-Royce's problems with its Trent 1000 engines that have effected almost 25% of the global B787 fleet.

McAllister told Orient Aviation: "While Boeing today has 90% of its people in the U.S. we have people around the world in 65 different countries. We keep a very strong global footprint, so it is very important to understand what is happening in local markets.

"As far as our business is concerned, we have to anticipate risks and make sure we have the right play books in place. Obviously, we encourage a good dialogue in countries like China. We are very hopeful of a good outcome." When it comes to Iran, Boeing is clearly in no position to do much about President Trump's decision.

On the Trent engine issue, he "regrets very much" the challenge this has created for Boeing customers. "It has been a significant operational disruption. We have reacted to this by working very closely with Rolls. I have put a very large team in place with Rolls, many of them in Derby, on a fuel field service inspection and management plan to minimize disruption to our customers," he said. "We are working very closely with Rolls to be in compliance with the airworthiness directives."

In the meantime, the drive to bring new models to the market is all about execution. "Ahead for us is the B737 MAX 7, which is in flight test right now and going smoothly. With the MAX 10, we are going to bring an airplane [to the market] with up to 230 seats in a single-class layout. It will have 10 more seats than the MAX-9," he said.

"We finalized the design last year and are very excited about it. It will produce the lowest seat mile costs for our single aisle customers. We also are very busy with the B777X, bringing the variant of the 777X to markets in 2020."

To achieve these goals, the complicated nature of today's jet airplane supply chain, with sections of aircraft manufactured around the world, needs special attention, said McAllister.

"I don't think you can run an industrial operation as big as this without challenges. There are always challenges around the operations of the supply chain. We make sure we have a good forward look on the performance of suppliers. We've had a couple of challenges here and there that we have jumped on very quickly and we've been able to execute on them."

One of those involved a low-pressure disc issue with

## Boeing Embraer discussions "not a response to anything"

Boeing Commercial Airplanes president and CEO, Kevin McAllister, confirmed to Orient Aviation last month that talks are continuing with Brazilian regional jet maker, Embraer.

"From our standpoint, a combination with Embraer would be a win-win. It offers some great growth opportunities for both companies," McAllister said. "There is synergy not only with product lines but the capabilities both of us. I think it's a great strategic fit. It's not a must do for Boeing. Our conversations continue and we are very respectful of those. "We'll see what happens."

McAllister said it would not be appropriate for him to comment on Brazilian concerns about the defence side of Embraer's business, but he firmly denied the move was merely a reaction to Airbus' majority purchase of the Bombardier's C Series regional jet program. "In Boeing we spend an awful lot of time looking downstream and game-boarding. I would simply say we are very confident about our game-board and clearly it has not been a response to anything," he said.



the CFM International high-bypass turbofan LEAP engine for the MAX aircraft. "I bring a unique perspective to this. Coming from the engine business I can tell you that the way CFM reacted, from understanding the issues to taking the steps needed to solve the problem, was so quick. For us, it was very successful. We were able to meet our deliveries for 2017 and to deliver to our customers in 2018," he said.

Asked about the B747-8 Intercontinental, the latest version of the B747 jumbo jet, McAllister said the production line is only producing freighter versions. The passenger model has not attracted an order in recent times. The situation has confirmed Boeing's long-held view that airlines want smaller wide bodies rather than high capacity jets.

Earlier this year, UPS (United Parcel Service) ordered 14 B747-8s. "With the strength of the market there is a lot of demand on the B747-8 but also very, very strong demand for B777 freighters," he said.

What about the all-new B797? "This is still a study and we have not yet named it but we have spent a lot of time looking at the space between the single aisles and the twin aisles. We call it the middle of the market. At this point, we have made no decision to launch the airplane or not," McAllister said.

"We have time. It is an airplane that would enter the market, if we decide to launch it, in late 2024 or 2025. We are embedded with more than 50 customers and are very focused on understanding the airplane's economics and how it would fit into their networks.

"We are encouraged by the discussions and dialogue we have had. They are continuing. We see an airplane with single aisle efficiency and twin aisle comfort for passengers, carrying 220-270 passengers up to 5,000 nautical miles.

"We must bring to the board - Boeing Group chairman, president and CEO, Dennis Muilenburg and the directors - an understanding of the right market, an understanding of the right airplane and also the right business plan if we choose to go ahead."

Not surprisingly, the Asia-Pacific, and particularly China, is very much a part of Boeing's forward planning. Last month, McAllister did a quick scoot around the region to talk to several airline leaders in China and Japan.

"Our long-term projections, to 2036, are that the region will be 40% of global passenger traffic. A major development [in the region] is the dynamic growth being driven by strong liberalization in ASEAN open skies. It will drive more growth within the region beyond national boundaries. We

## Dedicated to delivery

*Boeing Commercial Airplanes president and CEO, Kevin McAllister, (54) may have only been with Boeing for 18 months, but he is no stranger to the aerospace business. A graduate of the University of Pittsburgh, where he earned a bachelor's degree in materials engineering, he told Orient Aviation he has "worked his way through the supply chain".*

*Before he settled in at GE Aviation in 1989, his first industry job was with aviation components supplier, Howmet Corporation. At GE he initially joined as a metallugical engineer and held various materials engineering leadership roles supporting product design, manufacturing, component repair and technology development. McAllister moved to GE Aviation Services in 1998 as a Master Black Belt leading Six Sigma productivity improvements across the global network of Component Repair Operations. Later that year he was selected to lead Six Sigma programs across Services, including Overhaul & Repair Operations, Materials, Engineering and Marketing & Sales.*

*In 2000, he was appointed general manager of the new GE Engines Services Customer Satisfaction Organization and from 2001 to 2005 was general manager of global customer and product support operations worldwide. He then moved to GE Aviation Services to lead worldwide Sales and Marketing for GE Aviation.*

*Before joining Boeing in late 2016, he was president and CEO of GE Aviation Services, a $9-billion plus business that helps operators of the more than 34,000 GE and CFM commercial engines in service to achieve the lowest life cycle cost of ownership for the power plants.*

*At Boeing he is responsible for delivering on a record backlog and overseeing the growth of all commercial airplane programs. Boeing Commercial Airplanes accounts for more than 60% of Boeing's total revenue. It has nearly 12,000 commercial*

are excited to participate in that," he said.

"We have had a 45-year strategic relationship with China. Today, we deliver one of every four airplanes we produce to the China market. We have something like 1,600 aircraft in service in China.

"But China has been not only a great customer, Boeing has been a great partner. Boeing has helped China connect, using our airplanes, across China and with the rest of the world. We enjoy very deep relationships with our Chinese customers and we work really hard to find out where there are good win-win opportunities, like our finishing and delivery centre for B737s at Zhoushan. It is expected to open later this year.

"We also have excellent co-operation in Shanghai on B737 freighter conversions as well as a large number of partners in China that we count on every day to be suppliers across our airplane programs," said McAllister.

Interestingly, unlike some of his predecessors, McAllister does not believe in attacking long-time rival, Airbus, or engaging in verbal battles with Toulouse. "As a CEO I focus on the imperative of delivering on the commitment we gave to our customers. That's a daily thing," he said.

"What's important to me is to have a 'say to do' ratio of one, that is doing what we say we are going to do when we bring an airplane to market, whether it's a single aisle, a twin aisle, a passenger aircraft or a freighter aircraft.

"It's incredibly important we differentiate ourselves versus our competitor with the best value and the best operating economics, the highest efficiency and the best revenue generation capability for our customer. We must harness the collective capability, not only of our airplane business but the collective capability of our services business so we help manage through lifecycle costs."

McAllister is committed to digital technology. "We are bringing the capability of digital to the factory floor to collectively work out how to place airplane parts and information into the hands of our mechanics when they need them. Digital is allowing us to improve flow efficiency and quality, reduce costs and better fulfil our delivery commitments. By investing in differentiating technologies we have done a lot to focus on culture. That is a great enabler for our workforce," he said.

As for the challenges ahead, McAllister said that BCA must be very close to its customers and also understand when the market is changing. Secondly, "we must never res and always invest in strengthening our competitive edge", he said. ■

*jetliners in service worldwide and supplies approximately 75% of the global airline fleet.*

*A member of the Board of Directors for the Washington Roundtable, where senior executives work together to enhance economic growth in the Washington state, he also is chairman of the board of directors of Orbis International. The non-profit global organization is dedicated to preserving and restoring sight worldwide to people without access to restorative ophthalmologic care.*

*"It is really important to be a good leader if you aspire to be a great leader. Being a good leader is spending time in your local community, but also it is helping others. I am very proud of what Orbis does as we work to eliminate blindness," he said.*

*"Orbis builds capacity in emerging countries to cure blindness. It is a very important priority in my life. At the times when you want to get your head out of work and do something else that also matters Orbis is a great way to do that."*

*Aa a past president and a member of the board of Governors of venerable The Wings Club, a global society of aviation professionals and a leading forum for aviation issues, McAllister told Orient Aviation: "I don't know too many kids growing up who were not mesmerized by airplanes. For me, it was something I probably discovered later in my childhood and into my adult life.*

*The son of two mathematicians, his name clearly reflects his Scottish roots although his forebears moved to Ireland before they decided to settle in the U.S. His mother is Italian so he is "blessed with Scottish, Irish and Italian blood", he said.*

*He enjoys a golf game when time permits. "It seems to be a perpetual struggle for me to play the game well. I would say I'm high on interest but low in execution in the golf category," he said.*

*He also loves to read as well as meeting his customers worldwide to better understand their requirements and their businesses.*

# Time to let go in subsidy war?

## There are two sides to every story. The long running battle between Airbus and Boeing over alleged government subsidies is hardly different.

***By chief correspondent, Tom Ballantyne***

On the surface, it seemed clear cut. The World Trade Organization (WTO), in a landmark ruling last month, decided Airbus had received illegal government funding to develop its jets, costing rival Boeing sales.

"Today's final ruling sends a clear message: disregard for the rules and illegal subsidies are not tolerated. The commercial success of products and services should be driven by their merits and not by market distorting actions," said Boeing chairman, president and chief executive, Dennis Muilenburg.

"Now the WTO has issued its final ruling, it is incumbent upon all parties to fully comply as such actions will ultimately produce the best outcomes for our customers and the mutual health of our industry."

Not so fast, said Airbus chief executive Tom Enders. "Today's significant legal success for the European aviation industry confirms our strategy which we have followed over all those years of the dispute. Of course, today's report is really only half the story. The other half coming out later this year will rule strongly on Boeing's subsidies and we'll see then where the balance lies."

The result is simple, he added. "Airbus pays back its loans. Boeing pays back nothing and continues to exploit the generosity of the U.S. taxpayer. Despite Boeing's rhetoric, it is clear that their position today is straight forward healthy. They have half the market and a full order book. They have clearly not been damaged by Airbus repayable loans."

The European plane maker said the WTO confirmed there have been no prohibited subsidies at Airbus, although minor elements of actionable subsidies have to be addressed.

"Repayable launch investment" is confirmed as a legal financing mechanism for aircraft development and the WTO has confirmed compliance was fully achieved on the A320 and the A330, and remaining tweaks on A380 and A350 are only minor, it said.

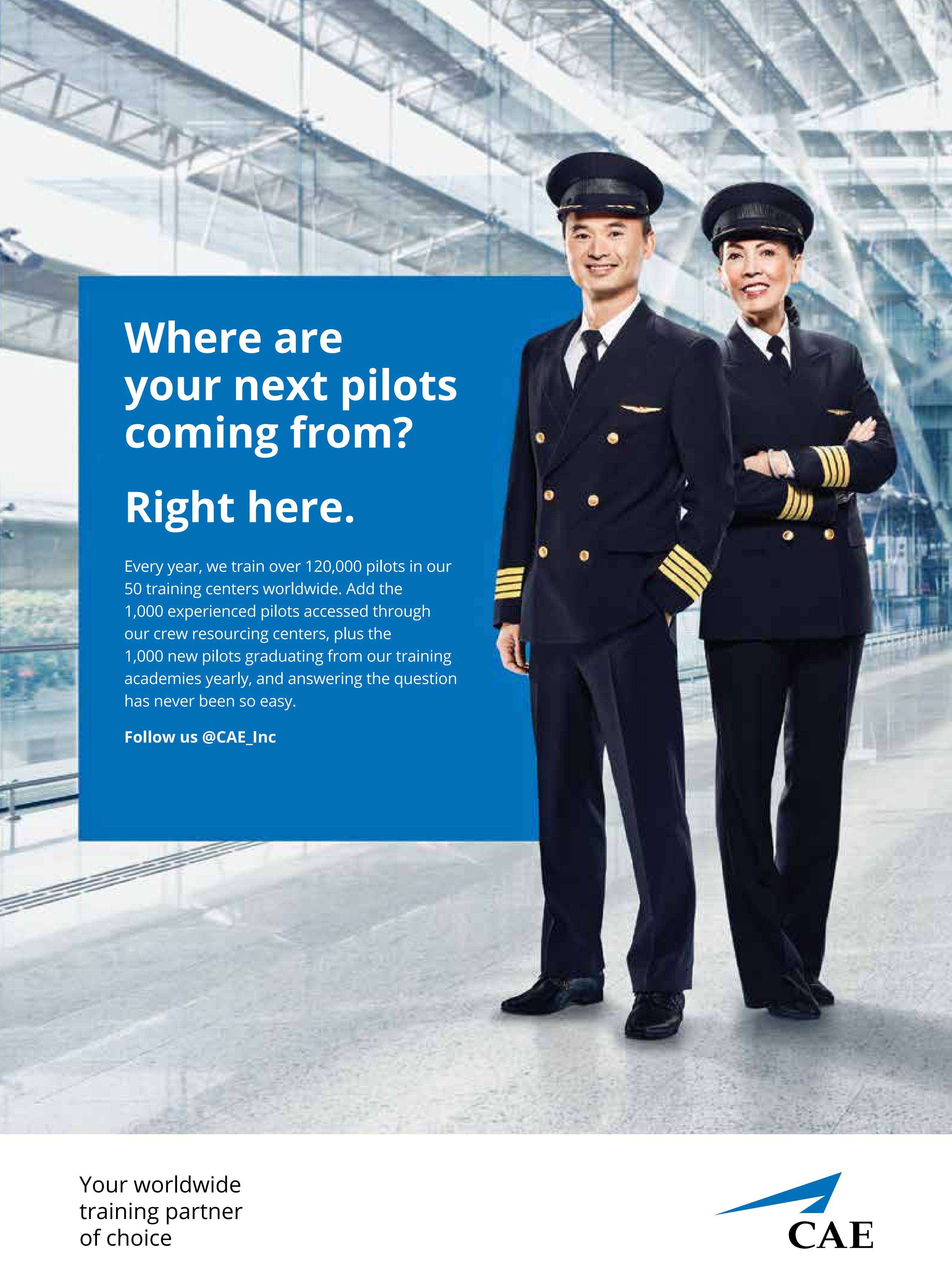
Realistically, the latest ruling will not be the end of the matter. A separate decision, scheduled for later this year, is expected to rule on a European Union (EU) challenge that billions of dollars in U.S. tax incentives have been delivered to Boeing. All of this is increasing tension between the U.S. and Europe after U.S. President Donald Trump's decision on steel and aluminum tariffs and his withdrawal from the nuclear treaty with Iran.

The signs point to the U.S. being prepared to impose sanctions on the European Union. U.S. Trade Representative, Robert Lighthizer, said: "Unless the EU finally takes action to stop breaking the rules and harming U.S. interests, the United States will have to move forward with countermeasures on EU products."

The U.S. said the WTO decision affirms a ruling that France, Germany, Spain and the U.K. have failed to adequately remedy market-distorting aid for the launch of Airbus's A380 jet, infrastructure support and equity investments that unfairly benefited the plane-maker.

The WTO added that the bloc compounded the issue with below-market loans for the A350 jetliner and that the financing hurt sales of Boeing's B747 and B787 which in turn reduced exports to the EU, Australia, China, Korea, Singapore and the United Arab Emirates. The trade body also upheld an earlier finding that the EU aid had no adverse effect on the market for single-aisle jet sales, the largest source of profit for Boeing and Airbus. The size of U.S. tariffs to be allowed will be determined through a WTO arbitration process and will be based on the annual harm to U.S. and Boeing. The U.S. has previously said losses from range $7 billion to $10 billion a year.

Airbus is not going away. It said that on the A350, minor elements of the ruling remain to be addressed and it is implementing changes to respond to the findings. "While Airbus is preparing to make adjustments to fully implement the WTO recommendations, Boeing continues to make its own subsidy matters worse with abusive Washington State tax breaks that are bad for taxpayers and global trade harmony alike," it said. ■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# "Big Three" bluster came to nothing

**The three most influential carriers in the U.S. have mounted a vociferous campaign that accused Gulf airlines of benefitting from huge government subsidies that disadvantaged North Atlantic carriers. In May, the two sides signed a new Open Skies agreement that barely differs from past accords. What was the fuss about? Chief correspondent, Tom Ballantyne, reports.**


The U.S.-based Business Travel Coalition did not hold back when news broke last month that Washington and the United Arab Emirates (UAE) had shaken hands on a new Open Skies treaty that was not substantially different to previous accords.

"It is only fitting that in a scripted Washington, DC House of Cards kind of way, a political campaign based on a legal fabrication, compounded by lies and fueled by seemingly limitless corporate money, would end with bizarre claims of victory even when, by the victor's own definition of success, it was a colossal failure. That is precisely what happened last week when the news that the U.S. and the UAE had reached an understanding to end a three year fake controversy," the group declared.

The coalition's view may be extreme, but in many ways it summed up three years of going nowhere by American Airlines, Delta Airways and United Airlines. When U.S. Assistant Secretary of State, Manisha Singh, and Emirati Ambassador to the U.S., Yousef Al Otaiba, signed the accord at the U.S. State Department, it became clear the agreement involved no restriction, limit or prohibition on Gulf carriers, Etihad Airways and Emirates Airline.

They will be able to fully and freely exercise the Fifth Freedom rights contained in the U.S.-UAE Open Skies Agreement. Qatar, not part of the UAE, came to a similar agreement with the U.S. earlier this year.

The dispute began in 2015 when American Airlines, Delta Airways and United Airlines alleged Emirates Airlines, Etihad Airlines and Qatar Airways received billion dollar government subsidies that gave them an unfair advantage in the North American market. The Gulf carriers have long denied all allegations.

Extraordinarily, both sides claimed victory after the new treaty was signed. In a website statement, the lobbyist for the three U.S. carriers, the Partnership for Open & Fair Skies, wrote: "This agreement will freeze Emirates and Etihad Airways from additional direct flights from the United States to Europe and Asia, that is fifth freedom rights that allow a carrier to transport revenue traffic from its home country to a second country and onto a third country."

An advocacy group representing Delta Airlines, Americans for Fair Skies, said: "The UAE has agreed to end its market-distorting subsidies and freeze new fifth freedom routes into the U.S."

The statements were quickly contradicted by the UAE Embassy in the U.S. "All current and future rights for both countries' carriers to fly all flights, including fifth freedom flights, remain in place as an outcome of the discussions," it said.

"Airlines in both countries are free to continue to add, reduce or adjust flights and services consistent with the broad provisions of the 2002 ATA (Air Transport Agreement)." It said the UAE's carriers "are, and have been at all times, in full compliance with the agreement."

Emirates said: "Contrary to some media reports, there is no freeze on any of the operating rights prescribed in the Air Transport Agreement or any tacit undertakings to do so. The Record of Discussion also makes clear the UAE and its designated carriers are, and have been at all times, in full compliance with the Agreement, and there were never any violations of the Agreement by UAE carriers."

The Dubai carrier added the talks preserved Open Skies and guaranteed "complete commercial flexibility that benefits consumers, communities and the economies of both countries."

U.S. carriers have demanded that Gulf carriers disclose full financial reports to disprove allegations they are subsidized.

"We are pleased to note the Record of Discussion explicitly recognizes Emirates' longstanding practice of publicly releasing audited financials in full compliance with international standards, as well as engaging in arms-length market-based third party transactions, without recourse to government subsidies," Emirates said in a statement.

In January, the airline announced some flights to the U.S. would be reinstated after their suspension last year. A month later it said it would upgrade Dubai-Dallas from B777s to A380s. ■

## Qantas uses all-electric Telsa to tow B787

In a world first last month, **Qantas Airways** used an all-electric **Tesla Model X P100D** SUV to tow one of its new B787s on a remote taxiway at Melbourne Airport. The exercise was part of a a Guinness World Record attempt to achieve the heaviest tow by an electric production passenger vehicle.

The Model X can accommodate up to seven passengers, far less than the 236 people on a Qantas Dreamliner, but the Tesla towed the 130 tonne B787 well above its on-road tow rated capacity of 2.5 tonnes.


The SUV's dual electric motors generated a huge amount of torque, powering the Model X with enough strength to tow the B787 almost 300 metres. There were no passengers or cargo on board and the aircraft carried a small amount of fuel. ■

## Airbus CyberSecurity joins EU research program on The Internet of Things

**Airbus CyberSecurity** will join several European partners in researching the interoperability and cybersecruity of The Internet of Things (IoT). As a member of European Union Framework Program for Research and Innovation Horizon 2020, the scientists from industry and academia will begin working on Brain-IoT.

Airbus said as IoT products and services are becoming more common and concerns have arisen about dependability, security, privacy and safety. The Brain-IoT project aims to establish a framework that supports users of IoT platforms and ensures security of their data.

Airbus members of the IoT project will concentrate on secure devices and service provision. The researchers, goal is to develop a state-of-the-art security layer and lightweight mechanisms to secure all typesof IoT. The solutions will have applications from sensors to smartphones.

**Airbus CyberSecurity Head of Technology, Steven Rymell**, said: "This is a fantastic opportunity for us to contribute to the most important security topic facing our generation. When it comes to IoT, it is necessary to address tomorrow's safety and security issues today."

Airbus CyberSecurity, a division of Airbus Defence and Space, provides companies, critical national infrastructures and government and defence organisations with products to detect, analyse and respond to increasingly sophisticated cyber attacks. ■

## ST Engineering delivers healthy first quarter profit

**Singapore Technologies Engineering** has achieved higher year-on-year revenue and a net profit for its first fiscal quarter for 2018. Group revenue was improved by nine per cent, to $1.65 billion, and net profit increased by 18%, to S$117.7 million, over the same months a year ago.

The group's aerospace sector recorded new orders valued at S$510 million for services ranging from airline heavy maintenance support and cabin reconfigurations to engine wash services. ■

## ARINC and GE Aviation sign flight analytics digital agreement

**GE Aviation** and **ARINCDIRECT** have agreed to provide flight operations quality assurance services (C-FOQA) based on **GE's Centreline** service to customers. The two global aerospace conglomerates will work together to build data integration that will be marketed for flight training processes. Additionally, GE Aviation and ARINCDIRECT anticipate that for the ten-year service period GE Aviation will assist ARINCDIRECT in the development of additional flight analytics services for commercial airline customers.

In the first phase of the agreement, which will be launched in the North Atlantic summer, the two companies will co-operate with a group of customers they share to deliver Centreline to ARINCDIRECT's customer flight portal. Once the first phase is complete, the two companies will offer C-FOAQ Centrline with ARINCDIRECT enhancements to all their customers. ■

## GE Aviation and Avionica expanded partnership to joint venture

Miniaturised data and wireless equipment manufacturer, **Avionica**, and **GE Aviation** announced last month that GE had invested in the manufacturer and that the companies would expand their partnership to a joint venture.

The new partners said the joint venture would improve the flow and expand the scale of aircraft flight data supported by internet technologies.

"We are determined to take aerospace data usage, related product delivery and customer support, to the next level," **GE Aviation chief digital officer, John Mansfield** said. "Our customers increasingly require a lightweight solution for data flow to and from their fleets. The flow of rich and continuous data provides insights into asset condition not previously possible."

The joint venture combines Avionica's suite of flight data management solutions, which includes WiFi, cellular and satellite connectivity, with GE Aviation's analytics expertise and digital products. The applications will address airline needs in flight analytics, aircraft health management and flight operations. ■

## Aireon achieves sixth successful ADS-B launch

**Aireon**, which has recently added UK air services provider, **NATS**, as an investor, announced the sixth successful deployment of its space-based Automatic Dependent Surveillance-Broadcast (ADS-B) payload. It was hosted by the **Iridium NEXT** satellite constellation.

The May 22 launch from Vandenburg Air Force Base in California took the number of Aireon payloads in orbit to 55. Two more launches of 10 satellites each will conclude the program. After the Aireon system goes live later this year, operational trials are scheduled to commence over the North Atlantic in early 2019.

On May 16, Aireon officially welcomed NATS as an investor. The British Air Navigation Services Provider (ANSP) joins **NAV Canada, Navair Denmark, Enav Italy**, the **Irish Aviation Authority** and **Iridium Communications** in bringing space-based global tracking to airlines.

"This has been an unbelievable two weeks for Aireon," **Aireon CEO, Don Thoma**, said. "The addition of NATS to our ownership group is an undeniably significant show of the importance Aireon is bringing to the industry, especially as they [NATS} were among the first to become a customer even before a single Iridium NEXT satellite had been launched.

"Adding another successful launch on top of that makes this a week that will be forever remembered in the history of Aireon."

When completed the Aireon system will provide real time air traffic surveillance across the globe for aircraft equipped with ADS-B – the next generation surveillance technology that supercedes radar in capability.

The Aireon system places network grade ADS-B receivers on each NEXT Iridium satellite. The space-based system receives broadcast aircraft data and information and transmits it to air traffic controllers or airlines in seconds.

The Iridium NEXT satellite constellation, when fully operational, will have 66 low-orbit cross-linked satellites that will blanket the earth with communications coverage. Eighty one Iridium NEXT satellites are being built. All of them will be equipped with the Aireon payload.

Separately, Iridium has announced **GoGo** is its latest value added manufacturer for its **Certus** aviation terminals for business aviation. Under the agreement, GoGo will be the first company to design and manufacture the terminals as well as provide the new L-band broadband service for business aviation. ■

## Flexport receives US$100 million from SF Express to fund expansion

China's leading courier company, **SF Express**, is investing US$100 million in software powered freight forwarder, **Flexport**. SF Express joins investors, including **First Round Capital** and **Bloombeg Beta**, in backing the five-year old company that is servicing 15,000 customers worldwide in 2018.

Flexport provides businesses with global logistics services for air and ocean freight, trucking, cargo insurance nd customs brokerage.

The freight forwarder is investing in technology to reduce transaction costs and provide supply chain managers with the means to make data driven decisions.

Earlier this year, Flexport launched


its private air freight service, which is a dedicated B747 that flies twice weekly between Hong Kong and Los Angeles. By year end, the company is expected to double its warehouses and open offices in Hamburg, Chicago, Taiwan and Singapore that will add to its presence in Los Angeles, Atlanta and Shenzhen.

**Flexport CEO and founder, Ryan Petersen**, said: "The investment by SF Express, one of the world's top couriers, will let us create more value for businesses shipping freight internationally." ■

### BRIEFLY…

- **Singapore Airlines's (SIA)** first Boeing 787-10 aircraft was converted to **Mobil Jet Oil 387**. The converted components included the aircraft's **Rolls-Royce Trent 1000 engines** and **UTC Aerospace Systems** variable frequency starter generators. SIA is the first commercial fleet to use the Exxon Mobil product. The remaining 48 B787-10s scheduled for delivery to Singapore Airlines also will use Mobil Jet Oil 387.
- **TRU Simulation and Training** will provide an A350 full flight training suite to the Airbus Training Centre in Singapore, with delivery expected in early 2019. Last year, after TRU became an approved Airbus supplier, the simulator manufacturer signed contracts with Airbus to provide an A320 FFS to the Toulouse group's Singapore training centre and a second A320 FFS to Hua-Ou Aviation Training Company in Beijing.
- **Lufthansa Technik** has signed its first customer for its new Three in One Solution (TIOS) radome. It will be installed on a B737MAX 8. TIOS is an L, KU and KA fuel efficient tail mount for the B737 family, the German OEM and MRO said.

LEASING

## SMBC Aviation Capital and Ruili Airlines sign B737 Letter of Intent

**SMBC Aviation Capital** and **Chinese carrier**, **Ruili Airlines**, have signed a Letter of Intent for placement of two B737MAX 8 aircraft, the first commitment the carrier has negotiated with an aircraft lessor outside China.

The four-year-old full service airline is headquartered in Kunming. It operates to Chiang Mai and Chiang Rai in Thailand and Sihanoukville in Cambodia as well as serving Chinese domestic routes. The aircraft under placement will be powered by **CFM LEAP-1B** engines. Ruili Airlines already has 16 B737s in its fleet.

Ruili Airlines is owned by **Yunnan Jingcheng Group Ltd**. **Group chairman, Dong Le Cheng**, said at the signing ceremony: "We are pleased to partner with SMBC Aviation Capital, our first aircraft leasing relationship outside China. We are looking to considerably in the coming years. These new aircraft will help achieve our target of adding 40 aircraft to our fleet by 2021."

**SMBC Aviation Capital CEO, Peter Barrett** said: "We look forward to building on our new relationship with Ruili Airlines with the placement of these two aircraft. China is a fast growing market that is seeing increased demand for high quality aircraft that offer the latest technology. This deal allows us to extend our presence in the region." ■


## AirAsia shareholders approve Fly Leasing portfolio acquisition

**AirAsia Group** shareholders last month approved **Fly Leasing Ltd's (FLY)'s** acquisition of 55 Airbus narrow bodies and seven CFM engines on operating lease from the Malaysian company. The deal, approved at an extraordinary general meeting of AirAsia Group shareholders, included the option to purchase 20 more A320neo family aircraft .

"This positive vote by AirAsia's shareholders was the final approval needed to complete the transition," **FLY CEO Colm Barrington** said. "The addition of these aircraft and engines will grow FLY's fleet significantly and will drive improved returns for our shareholders. We look forward to completing the transfer of the 34 aircraft and seven engines that will comprise the initial part of the transaction by the end of the third quarter." ■

## IBA forecasts engine lease market cannot support near term demand

At a May London conference, speakers from the **IBA** consultancy said the engine lease market will not be able to meet critical demand for spare engines and parts as hundreds of shop visits are ahead for **CFM56-7B and 5B** engines.

The consultancy said "there is very limited availability of spares and unless spare engines are generated by retirements and aircraft teardowns or airline held spare stock that absorbs some of the demand, engine inductions and longer turnaround times will create a logjam".

Quality engine shops worldwide are edging towards full capacity, IBA said, which will allow little room to cope with the unexpected such as new Airworthiness Directives.

Limited availability of spare parts could mean longer downtime during maintenance and prompt higher lease rates. The problem will ease from 2024 when the numbers of A320ceo and B737NG retiring each year will release engines onto the market for part-out or redeployment, IBA said. ■

## TrueNoord seals GECAS deal for Mandarin Airlines E-190s

**TrueNoord** has completed the purchase of two **E190s** from fellow lessor **GECAS**, bringing the regional aircraft lessor's E190 fleet to 17. The **Embraer** airplanes are under lease and operated by Taiwan's **Mandarin Airlines**. The carrier introduced the E190 into its fleet in 2007 and operates six of the type on its domestic and regional network.

"Providing aircraft to a regional carrier in East Asia is an exciting step forward for TrueNoord said **CEO, Anne-Bart Tieleman**. "We see a multiplicity of opportunities with existing operators, new airlines and new lessees across East Asia. The provision of regional aircraft is TrueNoord's sole specialization." ■

# Drone industry booms across globe

**Airways, New Zealand's Air Navigation Services Provider, has completed the world's first comprehensive review of commercial and recreational use of drones. The study provides valuable insights into the management of the growing army of drones worldwide.**

***Orient Aviation reports***

Drone manufacturers and their customers are very confident there will be a significant increase in demand for drone services and they welcome a global code for safe operations in the sector, the world's first comprehensive study of drone use has revealed.

New Zealand's Air Navigation Services Provider (ANSP), Airways, delivered its report on the state of the drone industry last month after conducting interviews with 1460 drone pilots that included 500 drone service providers.

Airways head of strategy, Trent Fulcher, said "businesses in the drone industry are telling us they expect significant growth and it is great to see that most users are aware of safety regulations and try to abide by them.

"But there is a clear gap in understanding and attitudes towards compliance and a division between commercial and recreational operators."

The study revealed that commercial operators are more stringent about following rules. Seventy two per cent of them were always fully compliant with safe operations compared with 51% of recreational users.

Respondents were not as concerned about conforming to privacy regulations. Less than half of those surveyed ensured they had the necessary landowner approvals for a flight.

"Drone operators are telling us there should be stricter enforcement of rules and harsher penalties for drone operators who don't comply with legal codes," Fulcher said.

"They want freer access to air space and simpler processes for land owner approval for flights.

"Drone operators also are becoming impatient with restrictions on Beyond Visual Sight Operations (BVLOS). BVLOS would be revolutionary in the industry as it would allow drone package deliveries and the development of the autonomous vehicle industry."

The New Zealand ANSP intends to develop a national drone traffic management system. The trial of the AirMap drone traffic management platform this year was the first step in the process.

The next step are pilot technologies that allow drones to be tracked accurately beyond pilots' lines of sight and allow detection and avoidance capacities to safely separate them from other aircraft.

The ANSP has an online hub, AirShare, which informs drone users about how and where they can request clearance to fly from air traffic control.

In the May 2018 edition of Orient Aviation it was reported that airlines and airports are calling on the International Civil Aviation Organisation (ICAO) to quickly set up a global drone registry and develop a set of global standards for drone operations.

In September, ICAO will hold its second "Drone Enable" conference, this time in Chengdu. Delegates and speakers will have the goal of safely integrating drone traffic management systems with existing air traffic management providers.

The International Air Transport Association (IATA) fully supports a global registry for the industry sector.

The association's director of air traffic management infrastructure, Rob Eagles, said at a recent conference IATA would consider collaborating with ICAO by applying data analysis to the registry's information to improve safety.

"An inclusion we would like to see in the registry, apart from compilation of data, would be incident and accident reporting," Eagles said.

"A single registry would create a one-stop shop that would allow law enforcement to remotely identify and track unmanned aircraft along with each operator and owner."

In the U.S., the Federal Aviation Administration (FAA) requires all recreational and commercial drone operators to register their details online.

Australia's Civil Aviation Safety Authority (CASA) is evaluating responses from interested parties for "a regulatory road map" that will integrate drones into the country's air space and air pathway systems.

CASA is considering the options of unmanned traffic management and detect and avoid technologies to prevent drone collisions. ■

## Key findings of the study were:

**Safety and regulations:**

- Sixty per cent of drone users strictly comply with civil aviation rules when they fly and 37% comply where possible.
- Sixty per cent of drone users support mandatory registration
- Fifty nine per cent support compulsory training

**Business outlook:**

- Seventy per cent of drone-related businesses are expecting an increase in demand for their services with 20% expecting a significant increase.
- One third of drone businesses will employ more staff in 2018, with an average rate of four new hires.
- Forty three per cent of drone operators believed some civil aviation regulations should change to better support the growth of the drone industry.

## INDUSTRY ADDENDUM EXTRA

### ST Engineering adopts single brand to drive growth

ST Engineering will make a group wide transition of its subsidiaries to the master brand, ST Engineering, on June 1.

"The brand harmonisation will drive higher brand visibility and position the group for greater commercial impact and marketing presence as it expands to new global markets and industry segments," ST Engineering statement said.

"A single brand approach is as important strategy as innovating or creating products or solutions," said ST Engineering chief marketing officer, Chew Men Leong.

"With two thirds of ST Engineering's growth in the next five years projected to be from overseas uniting all our corporate brands into a master brand will enable us to leverage scale and enhance competiveness and help cement the reputation of the group a global technology, defence and engineering group."


The brand harmonization will begin with ST Engineering subsidiaries in Singapore and all subsidiaries in the aerospace sector followed by other overseas subsidiaries

When the transition is complete the group's division will be known as ST Engineering, ST Engineering Aerospace, ST Engineering Electronics, ST Engineering Land Systems and ST Engineering Marine.

Headquartered in Singapore, ST Engineering is a global technology, defence and engineering group that specializes in aerospace, electronics, land systems and marine sectors. It employs 22,000 people across Asia, The Americas, Europe and the Middle East serving customers in more than 100 countries and is one of the largest companies in Singapore. ■

### Sabre joins forces with Microsoft

Global technology provider, Sabre Corporation, has signed a long-term agreement with Microsoft with the goal of helping it better harness the power of its data. The partnership also will assist Sabre in applying artificial intelligence (AI) and advanced analytics to create new services for hotel, agency and airline customers.

Every year, Sabre technology processes more than US$120 billion in spending on travel. As Sabre develops its Cloud technology, its customers will be able to offer travelers more personalized and integrated experiences as well as develop

next generation retailing and distribution solutions, a company statement said last month.

Cloud technology is critical to our development of a microservices architecture which can offer Sabre's clients precise functionality from small segments of information to large and complicated applications, Sabre CTO, Vish Saoji, said.

"Microsoft's cloud services will bring a range of new capabilities to Sabre that will unlock more value for their customers and will help them successfully transform their industry with intelligent solutions," Microsoft U.S. president, Kate Johnson, said.

Sabre and Microsoft jointly co-operated earlier this year in the pilot launch of an AI-powered chatbox, Ella. It is exploring how AI can help travel agencies better service travelers by fulfilling their most common services and support requests with smart technology. ■