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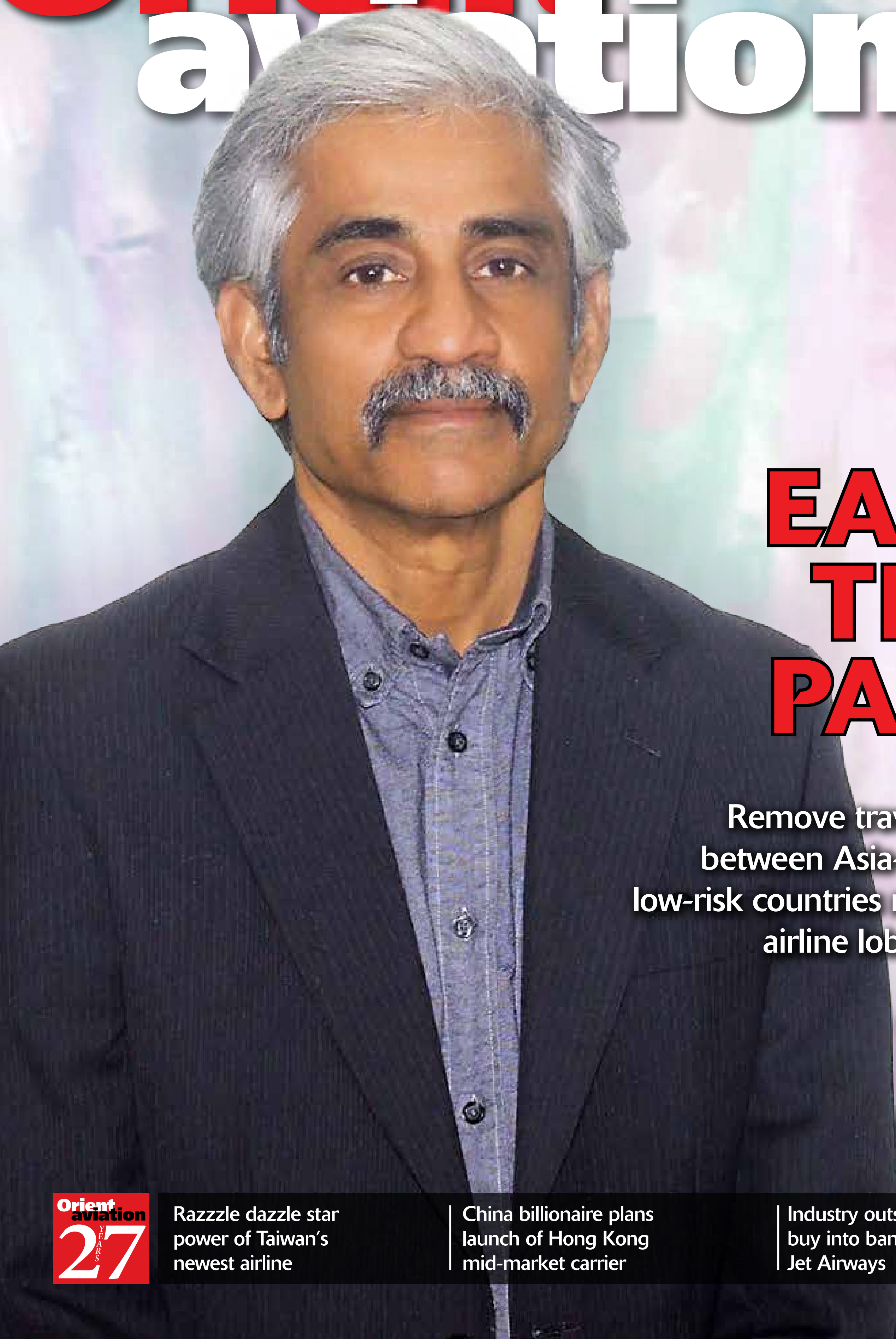

EASE THE PAIN

Remove travel rules between Asia-Pacific's low-risk countries requests airline lobby boss

Orient aviation 27 YEARS

Razzzle dazzle star power of Taiwan's newest airline

China billionaire plans launch of Hong Kong mid-market carrier

Industry outsiders buy into bankrupt Jet Airways

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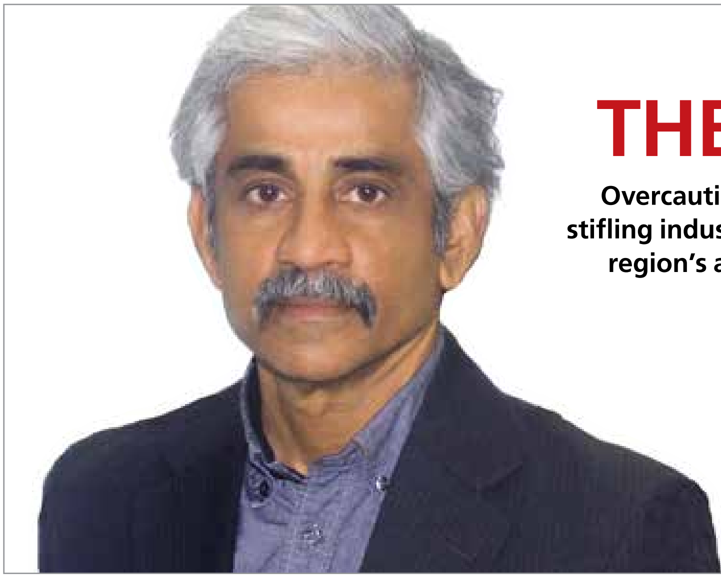

EASE THE PAIN

Overcautious governments stifling industry recovery says region's airline association


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Cash crisis accelerates at region's airlines

For the second consecutive year, the Association of Asia Pacific Airlines (AAPA) has had to drastically rearrange its annual gathering, the Assembly of Presidents of its member airlines.

Last year months of anti-government protests in Hong Kong, which had frequently paralysed the Special Administrative Region (HKSAR), prompted a move to a members-only gathering in Kuala Lumpur. This year, not surprisingly, travel restrictions and quarantine measures put paid to Japan Airlines hosting the Assembly in Tokyo. Instead, for the first time, airline leaders will meet in an online, members-only gathering.

A media briefing, also online, will follow a few days later. The AAPA's airline leaders will have plenty to discuss at the mid-month meeting as they debate options for survival beyond COVID-19. No doubt the impact of the pandemic will top the agenda, particularly as the region's governments have largely been unresponsive to aviation's urgent need for borders to re-open and restrictive quarantine measures be relaxed.

AAPA director general, Subhas Menon, points out the region has the lowest rate of infection per 100,000 of the global population, yet it has the highest number of border closures. Asia-Pacific governments are over-reacting and should be less risk averse, he told Orient Aviation in our cover story this month.

A strongly worded motion calling on governments to loosen restrictions will certainly emerge from the Assembly especially as international flying is essential to the recovery of most of the region's airlines.

In the meantime, staying in business, and that must involve more support from governments, remains the biggest challenge for Asia-Pacific airlines. It is a perilous course to navigate made clear by the International Air Transport Association's warning that the world's airlines, on average, have only eight months of cash left to fund their operations. ■

TOM BALLANTYNE
Associate editor and chief correspondent
Orient Aviation Media Group

Hong Kong's new airline on track for third quarter 2021 launch

Plans for the Asia-Pacific's newest airline are well underway, but one thing Greater Bay Airlines will not be doing is competing with the incumbent Cathay Pacific Group said one of the carrier's senior advisors. Associate editor and chief correspondent, Tom Ballantyne reports.

Hong Kong aviation veteran, Stanley Hui, wants to make it very clear the launch of Greater Bay Airlines (GBA), planned for the third quarter of next year, is not an attempt to grab opportunity in the middle of a pandemic. The former Cathay Pacific senior manager, Dragonair CEO and Airport Authority Hong Kong chief executive told Orient Aviation the vision of adding an airline to the mix of carriers in the southern China greater bay region was born long before the crisis.

"The first time we broached the idea of another airline in Hong Kong was at the beginning of last year. That was well before the riots in Hong Kong and COVID happened," Hui said. "It is a very long term vision being undertaken."

In the end, the timing could hardly have been better. "It just happened that when we started the ball rolling it was at the time aviation was in an unprecedented crisis. As a result, resources were being put back into the market in the form of aircraft, in the form of crew, in the form of people who unfortunately have been made redundant by the reshaping exercises of different airlines around the world," he said.

"Of course, it is coincidental, but the end result is all those resources, which are extremely precious, valuable and difficult to come by, all of sudden are right there to be picked. This project is going to help some people who have been sacrificed by current circumstances. Coincidental, but obviously very helpful."

Hui is the right-hand man and principal advisor to GBA's owner, Bill Wong, a billionaire who made his initial fortune in southern Chinese property.

Wong, at 62, is pumping US$258 million into the new airline and already has spent $64.5 million on the startup. GBA will begin with three B737 jets, leased from a European lessor, and plans to expand to 30 aircraft by 2025.

Wong's Hong Kong-based East Pacific Holdings is

heavily involved in property development, but its principal is no stranger to aviation. He set up and owns Shenzhen-based Donghai Airlines, which has been flying for more than 15 years.

It was that connection, said Hui, which prompted the idea of establishing a new Hong Kong airline. "Having an airline in Shenzhen and in Hong Kong is a good thing, particularly as it is in line with China's development

New investors taking charge at Jet Airways

By Anjuli Bhargava

London-based Kalrock Capital and multibillionaire businessman, Murari Lal Jalan, have come together to revive India's **Jet Airways** almost 18 months after the country's oldest private airline went into administration.

On October 17, the committee of creditors of the bankrupt carrier, which has been on the market for more than a year, approved a joint revival bid from Kalrock Capital and Jalan. The offer must now be approved by India's aviation regulator. It is reported but not confirmed that the carrier group owes US$4 billion to lessors, airports, suppliers and former employees.

Kalrock Capital is a financial advisory and asset management company set up by European entrepreneur, Florian Fritsch. Jalan is Dubai-based with enterprises ranging from paper trading, manufacturing, mining, fast-moving consumer goods, photo imaging and equipment to residential property development, five-star hotels and healthcare.

The new owners have said the resurrected airline will be a full-service carrier that will operate domestic and international networks.

At press time, Jet had about 10 aircraft compared with 112 in its heyday. In particular, each of its 777s requires about US$5 million to US$7 million to return them to running order. It is generally accepted the airline will need at least US$1 billion to be up and running and another US$4 billion to survive COVID-19 and become viable.

India's aviation industry is sceptical about the plan given the airline's huge debt and regulatory issues it must overcome. It has lost its slots in Mumbai, Delhi and airports serving its former international network. The India

slots have been reallocated to rival carriers and the airline's staff have scattered in the last 18 months.

The aircraft in its fleet have to be prepared for their return to service, a process estimated to take at least three months. Cockpit and cabin crew have to be recruited or re-employed and salaries owed to the airline's staff at the time of its entry into administration negotiated.

In a domestic aviation market that has seen demand collapse by 70% for the first nine months of this year, compared with annual average growth of 11% a year for the last decade, aiming to return Jet to profit is a risky business.

The odds of pulling off a revival are long, especially since the investment planned for the carrier falls far short of the true cost of returning the airline to the skies. ■

strategy for the Pearl River Delta, now renamed the Greater Bay Area," he said.

"There always has been close relations between Hong Kong and Shenzhen, in particular, and surrounding cities. The policy to develop the Greater Bay Area, announced in 2018, is a drive to facilitate deeper co-operation between Hong Kong and the Bay area," he said.

"And of course, as this area continues to develop it will act as a push for the rest of the country. There will be spin-off effects. Hong Kong is unique. With Wong's background, and we certainly support him, we think the policy will give Hong Kong new impetus to develop."

Hui wants it made clear GBA is not planning a head-to-head clash with Cathay Pacific.

"Honestly, the Cathay group is so big in Hong Kong. Don't ever dream of trying to compete with a giant. I don't think anyone entering the market would be able to compete with Cathay. Far from it," Hui said.

"Look at it from another angle. It's always a benefit for consumers to have a good choice and that's really what we are aiming at." He said the positioning of GBA will be very different from the incumbents, whether it will be Cathay-owned LCC, HK Express, or full-service Cathay itself. "We are aiming to take a position somewhere in between. In terms of marketing, it will be a value carrier, similar to the position (a restructured) Virgin Australia is taking in Australia."

While still looking for a CEO, the airline has recruited a number of former executives and senior managers from the Cathay Pacific Group, Hong Kong Airlines and Hong Kong International Airport, many of whom have worked with Hui. They include former Cathay Pacific Airways engineering director, Derek Cridland, who has taken a consultancy role to support the airline's passage to being granted its Air Operator Certificate. A former Hong Kong Airlines president, Zhang Kui, is the chief operating officer of the airline.

In a recent interview with Hong Kong's South China Morning Post, Wong said at least 300 staff would be needed ahead of the airline's launch, with the workforce expanding to 500 by the end of 2021 and to 2,500 to 3,000 in five years.

The airline plans to serve major Mainland cities, including Beijing, Shanghai and provincial capitals, as well as second-tier tourism destinations such as Hailar in Inner Mongolia, Urumqi in Xinjiang, the Wudang Mountains and Yichang Sanxia in Hubei. Also on the agenda are services to Japan, South Korea, Southeast Asia and some cities in South Asia. Wong told the newspaper there was a potential customer catchment of two billion passengers: 1.4 billion on the Mainland and another 600 million in Asean countries.

Given China has been leading the way in terms of recovery from the pandemic – its domestic traffic is already pretty much back to pre-crisis levels – the prospects for Greater Bay Airlines certainly look promising. ■

What worked in 2019 may not work in 2021 says Qantas Group boss

With nearly all of its critical international flying grounded, Qantas Group CEO, Alan Joyce, is clearly frustrated with the haphazard approach of the country's various states to closing their borders between each other. In a speech at press time, Joyce praised the early efforts of the nation's leaders in fighting the pandemic.

"Unfortunately, the solidarity of the national cabinet did not last. Nowhere is this more evident than the Rubik Cube approach to state borders," Joyce said in his speech to the country's business leaders. "At first, decisions around borders were made on the basis of the health risk and that's fair enough.

"Now they seem to be driven by politics and populism. Before its recent election, the Northern Territory government said its borders would be closed for 18 months. After the election, they opened in a matter of weeks.

"Queensland has dragged its heels on opening its borders to other states, but the day before its election it announced they would remain closed to Greater Sydney because of four cases. Four! On a day of zero cases of community transmission, the premier went further and said the closure would remain in place until December. As we said at the time, this is ridiculous. Australia will be living with this virus for a long time and Sydney is probably a world leader in managing it."

The Business Council of Australia estimated the country is losing $319 million a day because of closed borders. "This inertia is destroying jobs and creating a mountain of red tape for business," Joyce said.

Qantas had been forced to put on hold plans to add more than 1,000 flights between

Sydney and Queensland for the month of November, which would cost the Queensland economy hundreds of millions of dollars a week, Joyce said.

His speech was delivered as it was announced Qantas and Jetstar would operate thousands of flights to and from Melbourne and regional Victoria over the southern hemisphere summer following the New South Wales Government's decision to open its border to Victoria. Western Australia is opening its borders later this month, though not to residents of Greater Sydney, the country's biggest city.

Joyce said despite the virus issues, some green shoots were appearing in the industry. "We remain hopeful that between Qantas and Jetstar we will be back to 50% of our pre-COVID domestic flying by Christmas," he said. "Some of our key markets in Europe and the United States are likely to remain closed for some time, probably until an effective vaccine arrives.

"But we have a one-way bubble with New Zealand and the [Australian] government is talking about bubbles with some parts of Asia and the Pacific. We can pivot quickly if that happens." ■

Passenger rebound no antidote to Mainland airline losses

By associate editor and chief correspondent, Tom Ballantyne

With air travel in most of the Asia-Pacific struggling for renewed traction in the face of the coronavirus crisis, the country at the epicentre of the pandemic, China, has seen its domestic airline traffic return to near 2019 levels.

And if there was any doubt China was leading the "new normal" of Asia-Pacific commercial aviation, at least in domestic air travel, that evaporated when the country celebrated its annual national day holiday in the first week of October. Domestic passenger numbers for the Golden Week reached 13.26 million, or 91.07% of levels recorded in the same period of 2019, reported the Civil Aviation Administration of China.

With the country reporting relative control over a pandemic that continues to cripple the aviation industry worldwide Chinese airlines are filling their seats on local air routes.

Mainland carriers are still not in profit – they are luring passengers aboard with cheaper air fares – but they are boosting the hard-hit travel sector. China's Ministry of Culture and Tourism recently reported the nation's tourist attractions received 637 million visits in the October holiday week, 79% of the visits made last year. Tourism revenue was US$68.5 billion, 69.9% of 2019.

The latest figures underpin the recovery taking place since China's airlines hit record lows early in the year from the impact of COVID-19. In February, during the worst of China's slowdown, the country's aviation market shrank to the size of Portugal's. Now, according to aviation data supplier OAG, China's three major carriers, China Southern Airlines (CSA), China Eastern Airlines (CEA) and Air China, have risen up the ladder of the world's top 20 airlines to positions two, three and six, respectively. By July, in a Global Recovery Update from ForwardKeys, Chinese airline travellers contributed 68% of total air travel in the Asia-Pacific.

In September a China-based civil aviation data service provider, VariFlight, was reporting the country's airports were handling more than 90% of the volume registered in the same month last year. Although international flights remained extremely low, they also had increased slightly in September compared with August,

Given there are no fresh outbreaks of the virus, airlines and travel industry executives are confident Mainland domestic travel patterns will be completely back to normal by the end of the year.

In a recent online aviation summit, the chief executive of Chinese travel agency Trip.com, Jane Sun, said people now feel "very safe" flying within China and demand continues to pick up strongly. Even business travel will rebound, she said, dismissing concerns work trips will be a thing of the past now people have become accustomed to virtual meetings. "Domestic travel will be back to normal by the end of this year," she said.

Despite the recovery, China's airlines have not avoided the financial pain of the global COVID-19 crisis. The "Big Three" carriers have reported combined losses of almost $4 billion in the first half of this year and the boost in domestic travel will not return them to the black in 2020.

Like airlines elsewhere, they are raising fresh capital to keep their heads above water. Guangzhou-based CSA is seeking $2.4 billion by selling 160 million A Share convertible bonds. Shanghai-based CEA intends to increase its cash reserves by $4.6 billion with the sale of 32% of its equity to four state-owned businesses.

Bloomberg Intelligence said Air China's losses will be exacerbated by troubles at its associates and could reach more than $2 billion this year, even with the increase in domestic travel. CEA could experience a 2020 revenue slide of 50% and CSA sales may drop 41%, forecast analysts, James Teo and Chris Muckensturm.

In the meantime, China is pressing ahead with aviation infrastructure developments outlined in its latest five-year plan. They include the completion of the starfish-shaped Qingdao Jiaodong International Airport, which can handle 35 million passengers a year and operate landings or take-offs every 73 seconds, and a $7.2 billion expansion of Xi'an International airport. ■

More staff cuts on horizon at several Asia-Pacific carriers

By associate editor and chief correspondent, Tom Ballantyne

Fleet downsizing and job cuts have become the order of the day for some of the Asia-Pacific's biggest airlines as their operations and finances continue to be rocked by a coronavirus pandemic that refuses to abate.

A little more than a month after Singapore Airlines announced it was reducing its workforce by 4,300 in the face of the "debilitating impact" of the pandemic, Hong Kong's Cathay Pacific Group disclosed it would make almost 6,000 staff redundant and close its regional carrier, Cathay Dragon.

In Japan, both major carriers are reporting record losses. Japan Airlines (JAL) is projecting a net loss of more than US$1.9 billion for its current fiscal year. It is turning unprofitable for the first time since relisting on the Tokyo stock market in 2012 after its 2010 bankruptcy.

Rival All Nippon Airways (ANA) said it expected to report a massive $4.8 billion deficit for the year. At press time, the airline's parent company, ANA HOLDINGS INC. (ANA HD), unveiled its "Transformative Measures to a New Business Model" to take into account reduced business class travel, robust and increased demand for leisure and visiting friends and relatives (VFR) travel, passenger preference for sustainable flying policies and high standards of automated options that improve hygiene for customers.

The grim statistics of 2020 forcing radical change on some of the most successful carriers in the world come as the International Air Transport Association (IATA) warned airlines will have to reduce operating costs by at least 30% in 2021 to counter a forecast 50% plunge in revenue from pre-COVID-19 levels. The major steps taken by the region's airlines to reduce costs have not been sufficient, leaving the industry with little choice but to trim their largest expenses, one of which is the cost of labour. That means downsizing staff, which is often extremely difficult in the face of labour unions.

"Airlines have to shell out money for maintenance and repairs as well as leasing aircraft and wages. These costs are much harder to reduce, particularly quickly. That is a key reason they were making massive losses in the second quarter and burning cash," said IATA's chief economist, Brian Pearce, last month. There was little indication the first half of next year will be significantly better, he added.

In the face of the crisis and essential to its transformation is ANA's decision to dispose of 30 B777s, but ANA president and chief executive, Shinya Katanozaka, has ruled out the possibility of receiving additional government support. "We are not expecting it," he said during a news conference after the company announced its earnings outlook. He also brushed off concerns about the financial standing of ANA and promised a return to profitability in fiscal 2021 with a shift to its new business model.

ANA will receive $3.8 billion in subordinated loans from major banks, including the government-affiliated Development Bank of Japan, to strengthen its financial base.

In addition to ANA and its low-cost subsidiary Peach Aviation, the group will establish a third airline based on its domestic Air Japan unit, and "pursue sustainable growth through transforming the services of the Group's airlines to cater to a wider range of customer needs in price range and services". It will target demand for low-cost, medium distance flights to Southeast Asia and Oceania with 737s configured with 300 seats.

JAL reported a net loss of US$1.5 billion for the six months to September 30. It has implemented cost-cutting measures and benefited from a government program launched in late July that subsidizes 35% of domestic travel expenses. JAL said it would take time for international air travel demand to recover as long as strict border controls remain in place amid the coronavirus pandemic.

JAL introduced new accounting standards, starting in the current business year, and is considering raising as much as $2.9 billion in capital to strengthen its financial standing. For JAL, the situation is a matter of déjà vu. After it filed for bankruptcy in 2010, it undertook drastic restructuring measures that reduced its fleet by more than 100 aircraft and eliminated about 16,000 staff from its payroll. ■

Razzle dazzle start-up threatens staid Taiwan carriers

Charismatic Chang Kuo-wei, newly enriched by a court ruling in favour of his sole US$464 million inheritance of the Evergreen Group, is Taiwan's airline shooting star, reports Tomasz Sniedziewski from Taiwan.

The aviation industry of Taiwan became much more interesting in mid-2016 when it was announced Chang Kuo-wei, the former chairman of EVA Air and a prominent figure in Taiwanese aviation, would start his own airline, challenging the long-established duopoly of the country's two major carriers.

Starlux Airlines, launched in January this year, was conceived by its creator as a boutique airline, promising passengers a premium travel experience backed by the best product on the market.

Its beginning was not best timed. It started its operations almost at the same time the COVID-19 pandemic put the whole industry on hold. Its launch date was 12 months later than planned.

The question being asked now is will the current crisis break the new carrier or will it present opportunities for a brand, and the carrier, that has set out to change the airline status quo in Taiwan?

Creating opportunity out of adversity might well be in the DNA of Chang. In 2016, the life of Chang, the chairman of EVA Air since 2013, took an unpredictable turn after the passing away of his eighty eight-year-old father, Chang Yung-fa, the founder of the Evergreen shipping group and the owner of EVA Airways.

Soon afterwards, Chang who is the youngest son and the only child of Chang Yung-fa's second wife, was ousted from his position as EVA Air chairman by fellow board members, mainly his family rivals, in particular his half-brother, Chang Kuo-cheng.

The decision by commercial pilot Chang, familiar to Taiwanese as an outspoken expert of the industry, to start his own airline after his sacking created enormous public interest across the country. Very quickly he was dubbed "Prince Hamlet" amid widespread speculation that retaliation against the family was the major motive for his decision to launch Starlux. Chang always dismisses this as gossip.

The story of a bunch of feuding would-be tycoons could not but help stoke public interest in the startup carrier, especially as Chang junior's father had left a hand written will near to his time of death that bequeathed the entire company to his youngest son and EVA Air 777 captain. As it has turned out, aviation enthusiasts have proved to be a very important group in cementing interest in the new airline.

Pilot Chang had not only been a successful chairman of one of Taiwan's major airlines, he also was leading EVA Air when it was better regarded than China Airlines for its quality and safety management.

With his background as a working long-haul captain, Chang was not shy about offering his opinions on industry issues, an outspokenness that earned him a lot of fans.

Cleverly, since the beginnings of the Starlux project, Chang has tapped into his personal brand to promote the airline. He went through type-rating training for the A321neo to pilot the first delivery flight to Starlux from Toulouse in late October last year. The airline's PR team used Facebook to directly contact followers of the flight. Its first stop in Taiwan was Kaohsiung airport. Despite a very early morning arrival and short notice of the stopover on social media, the airfield's perimeters were crowded with plane spotters and fans. Soon after the aircraft landed, social media was flooded with images of the Airbus plane

in Starlux's livery. Facebook has several groups of Starlux fans in Taiwan with one of them registering more than 100,000 members.

Such PR stunts have become the trademark of Starlux and as the pandemic drags on they are essential to keeping the brand front and centre in Taiwan despite the major disruption to regular operations brought on by the pandemic.

Of three initial Starlux destinations out of Taipei, the carrier suspended its service to the Special Administrative Region of Macau less than two weeks after the inaugural cross strait flight. In quick succession in March, Taipei to Penang in Malaysia and Vietnam's Da Nang were put on indefinite hold. In September, the carrier's website said routes to Penang and Macau were being operated, but Taipei-Cebu has been postponed twice and is now planned to launch next March.

In the meantime, Starlux is operating flights to nowhere and has resurrected its e-commerce platform, Starlux Shop. The online site's limited offer of moon cakes packaged in a miniature air cargo box to celebrate the Mid-Autumn festival generated substantial interest.

"None of these campaigns constitute our genuine business. They contribute only a tiny profit to our revenue, but as the pandemic drags on, we can only rely on our creativity to maintain some buzz", explained Chang in widely read CommonWealth magazine.

Perhaps the most important factor in creating Starlux's strong brand is the carrier's dedication to providing a premium passenger experience.

The interior of the A321neo, designed by the renowned BMW's Designworks studio, offers business class seats that recline to a fully flat bed, an

inflight entertainment system for every passenger and Wi-Fi with basic access.

As an airline from Taiwan, the island where enjoying tasty food is rooted deeply in local culture, Starlux offers a choice of favorite local meals, prepared in collaboration with famous local restaurants, including Michelin-starred Longtail in Taipei. It prepares the menus for Starlux's business class travelers. The crew's uniforms are created by local designer, Sean Yin, the boarding music was composed for Starlux by famous jazz musician, Peter White, and Taiwanese fragrance brand, P.Seven, developed a unique scent to enhance the ambience of the carrier's cabins.

The investment necessary to create a brand to dazzle travelers has a hefty price tag. In the first half of 2020, Starlux lost NT$1.31 billion (US$44.8 million), NT$1 million less than China Airlines.

To June 30, the full-service carrier had accumulated losses of NT$2.81 billion. The company was not only spending money on fixed costs such as staff salaries, but on construction of warehouses and its own MRO facilities, pointed out Nieh Kuo-wei, the Starlux Airlines spokesman quoted by local UDN News.

The commitment to expanding the brand remains strong, even during the pandemic. In September, Starlux announced it would lease eight A330-900neo, the first Taiwanese carrier to commit to the type. Deliveries will start in the fourth quarter of next year. Starlux's order book is now 10 A350-900s, nine A350-1000s and an agreement to acquire three more A321neos above its previous order of 10 of the type.

Following the recent signings, Starlux will have 39 aircraft by 2024, putting it on par with the operations at CAL and EVA Air. In a decision bucking a premium cabin trend, the airline has announced the A350 will join its fleet at the beginning of 2022, slightly later than originally planned, but that the plane will be equipped with a first class cabin.

Chang is no stranger to going against conventional wisdom. One of the informal managerial truths in the industry is that the colors of an aircraft livery have no effect on profitability.

The brainchild of Chang, EVA Air managed to bend this rule by creating, in cooperation with Japanese company Sanrio, the Hello Kitty Jet. The concept grew into a small, dedicated fleet operating on specific routes that attracted great interest and filled planes.

There are many stories about Chang, a huge aviation enthusiast and constant learner. He started his climb through the ranks at EVA by working at the airline's check-in and baggage counters and has a proven record of being ahead of general thinking in the industry.

Perhaps the most famous of his documented insights happened in the early 2000s when he convinced his father, an ardent fan of the 747 as the foundation of the carrier's long-haul fleet, to order the new 777-300ER.

"Building the right fleet of planes is crucial to the survival of a carrier, which could suffer for up to 20 years if the wrong model is purchased. The 777 push was the best bet I've ever made," Chang told Forbes magazine in 2014.

Chang is widely considered to be a friend of Boeing. His personal aluminum Rimowa pilot suitcase is decorated with a big Boeing logo sticker, but for Starlux he has chosen Airbus aircraft.

The COVID-19 pandemic, although a setback to the initial plans of Starlux, might present opportunities for the new airline. It is believed by many experts the demand decline from the pandemic outbreak will upend the accepted model of business travelers providing a major source of income for airlines.

In the new reality, post-COVID-19, the biggest patrons of the airlines might be passengers paying for premium flying with their own money thereby choosing their own airline rather than having to accept the carrier choice of their corporate bosses.

With its elevated brand that is capturing the imagination of passengers expecting grand flying, Starlux might benefit from this change. The added bonus for the startup is reduced air traffic at Taipei Taoyuan Airport presumably making it easier for the airline to be awarded quality slots.

Opportunities from the pandemic could be behind the recent changes at Starlux, which is becoming more assertive in challenging its established rivals, CAL and EVA.

After announcing the Starlux project in 2016, Chang was careful to avoid inferring he would be directly competing with his former airline. In fact, he did not rule out the possibility of some form of cooperation with EVA at the time.

But Starlux's order book extension, announced in September, is an indication Chang and his team are no longer wasting time in their efforts to become a force in commercial aviation in Taiwan.

In October, Starlux said it would inaugurate twice-weekly flights to major Asia hubs, Bangkok Suvarnabhumi, Osaka Kansai International and Tokyo Narita, from December. It is a decision that will challenge the two main airlines of Taiwan, which already were struggling pre-pandemic from extended industrial disputes with their employees.

Perhaps the most symbolic and telling indication of Starlux's ambitions was the decision to break the long-standing Taiwanese tradition of aircraft registrations.

Tail numbers in Taiwan that consist of the letter B followed by five digits would normally not include the "unlucky" number "4" at the front or at the end of the registration. With more than 260 aircraft registered in Taiwan, not a single one of them has broken this rule, claimed UDN News, until now. The latest addition to Starlux's fleet, an A321neo, registration B-58204, was delivered in November. It will be the first exception to the long-held identification practice for the nation's airlines, indicating Chang will not be swayed by superstition.

In the end, it is Chang Kuo-wei and his drive that has brought Starlux to life. His ability to attract talented people to the airline as well as solid business partners has created a brand that not only stands out in the local airline industry but also across the entire corporate landscape of Taiwan, a country more famous for its OEM and ODM ventures than groundbreaking branding.

In the current most unpredictable times for the industry, it is very difficult to make safe bets about any players. It would appear though that Chang, who is 50 this year, is determined to stand and fight for the star in the logo of his Starlux Airlines to shine in full. ■

Star power of "K.W."

Four years ago, at age 45 and finding himself outsted from the family firm, the Evergreen Group scion and aviation nut, "K.W." Chang, decided to act on his belief Taiwan deserved a better full-service carrier than what was on offer.

In mid-2016, he announced the formation of the company that would own and operate Starlux Airlines. He received regulatory approval for the startup a year later and intended to commence Starlux routes early in the first quarter of 2019. A hyped up Taiwanese market was ready for the launch.

For various reasons, Starlux did not begin flying until last January: experiencing some of the worst luck in the history of Asia-Pacific aviation when it comes to airline launches.

Equipped with A321 family aircraft that have hardly flown anyway in the last 10 months, Starlux's management team recently announced the start of three regional destinations from Taipei to Bangkok, Osaka and Tokyo Narita in December. Essential to the long-term business plan of the carrier are destinations in North America and Europe.

The impact of COVID-19 on the startup is not the first time the fourth child of Evergreen Group founder and owner, Chang Yung-fa, has faced uncertainty head on - and had to get out of a mess.

Born into a gilded Taiwanese dynasty, he studied economics, and spent hours at aircraft manufacturer, McDonnell Douglas, in the U.S before returning to Taiwan and EVA Air in 1996

He began his climb to the top of the family business in baggage processing and passenger check-in. He was known for his understanding of aircraft engineering and MRO, before he moved to head office two years later.

At the age of 34, he took charge of EVA and his half-brother, Chang Kuo-cheng, was appointed head of the group's shipping division, Evergreen Marine.

Their father, it is reported, was an advocate of tough love and it was not long, in 2006, before K.W. walked away from the job.

Within four years, after obtaining his wings with Boeing, he was back at the carrier as chief executive and vice president and flying on the side.

In 2013, he became EVA Air chairman and was running the airline group when his father died in 2016. The elder Chang's will, handwritten as he approached death, left the entire Evergreen group to K.W. infuriating his three siblings. They engineered his ousting from the airline and instigated court proceedings to challenge the authenticity of the will.

In 2017, Starlux was approved by Taiwan's regulator and plans to launch the carrier, with an emphasis on full service passenger luxury, began in earnest.

Its first flight, Taipei to Macau, flew in January this year and was intended to capture market demand during Lunar New Year holiday break. Only weeks later the scheduled flights were suspended after countries began restricting entry to visitors as COVID-19 spread beyond China.

Aircraft cabins safer than most indoor public spaces

By associate editor and chief correspondent, Tom Ballantyne

It is official, at least as far as the world's three major commercial jet manufacturers are concerned. If you want to reduce your chances of catching COVID-19, flying in an aircraft is one of the best places to be. As the world's airlines continue their fight to win back public confidence in air travel, Airbus, Boeing and Embraer have joined forces to release the results of extensive testing they have commissioned to prove their point.

In a recent online media discussion hosted by the International Air Transport Association (IATA) representatives of each of the aircraft OEMs said they had employed separate computational fluid dynamics (CFD) research in their aircraft to determine the possibility of COVID-19 transmissions in flight.

The research found that aircraft airflow systems, High Efficiency Particulate Air (HEPA) filters, the natural barrier of the seatback, the downward flow of air and high rates of air exchange efficiently reduced the risk of disease transmission on board in normal times.

Additionally, wearing face coverings provided a significant extra layer of protection that meant being seated in close proximity in an aircraft cabin was safer than most other indoor environments. Methodologies used by each manufacturer differed slightly, but each detailed simulation confirmed aircraft airflow systems control the movement of particles in the cabin thereby limiting virus spread.

IATA's New Zealand-based medical advisor, Dr. David Powell, said since January 2020 only 44 cases reported cases of COVID-19 are believed to have been associated with a flight journey.

"The risk of a passenger contracting COVID-19 on board appears very low. With only 44 identified potential cases of flight-related transmission from 1.2 billion travellers is one case in every 27 million travellers," he said.

"We recognize this may be an underestimate, but even if 90% of the cases were unreported, it would be one case for every 2.7 million travellers. These figures are extremely reassuring and the vast majority of published cases occurred before the wearing of face coverings inflight became widespread."

Airbus Engineering and the leader of the Airbus Keep Trust in Air Travel Initiative, Bruno Fargeon, said the company used CFD to create a highly accurate simulation of air in an A320 cabin to determine how droplets resulting from a cough move in the cabin airflow. The simulation calculated parameters such as air speed, direction and temperature at 50 million points in the cabin or up to 1,000 times per second.

Boeing researchers, also using CFD, tracked the movement of particles around the cabin from coughing and breathing. Various scenarios studied including the coughing passenger with and without a mask, the coughing passenger located in various seats including the middle seat, and different variations of individual overhead passenger air vents (known as gaspers) when on or off.

"This modelling determined the number of cough particles that entered the breathing space of other passengers," said Boeing chief engineer Confident Travel Initiative, Dan Freeman. "We then compared a similar scenario in other environments, such as an office conference room. Based on the airborne particle count, passengers sitting next to one another on an airplane are the same as standing more than seven feet (or two meters) apart in a typical building environment."

Embraer analysed the cabin environment by considering a coughing passenger in several different seats and air flow conditions in different aircraft to measure the variables and their effects. Its tests also showed the risk of on board transmission was extremely low. The data on in-flight transmissions that may have occurred supported these findings.

Embraer senior vice-president of engineering, technology and strategy, Luis Carlos Affonso, said: "the human need to travel, to connect and to see our loved ones has not disappeared. In fact, at times like this, we need our families and friends even more.

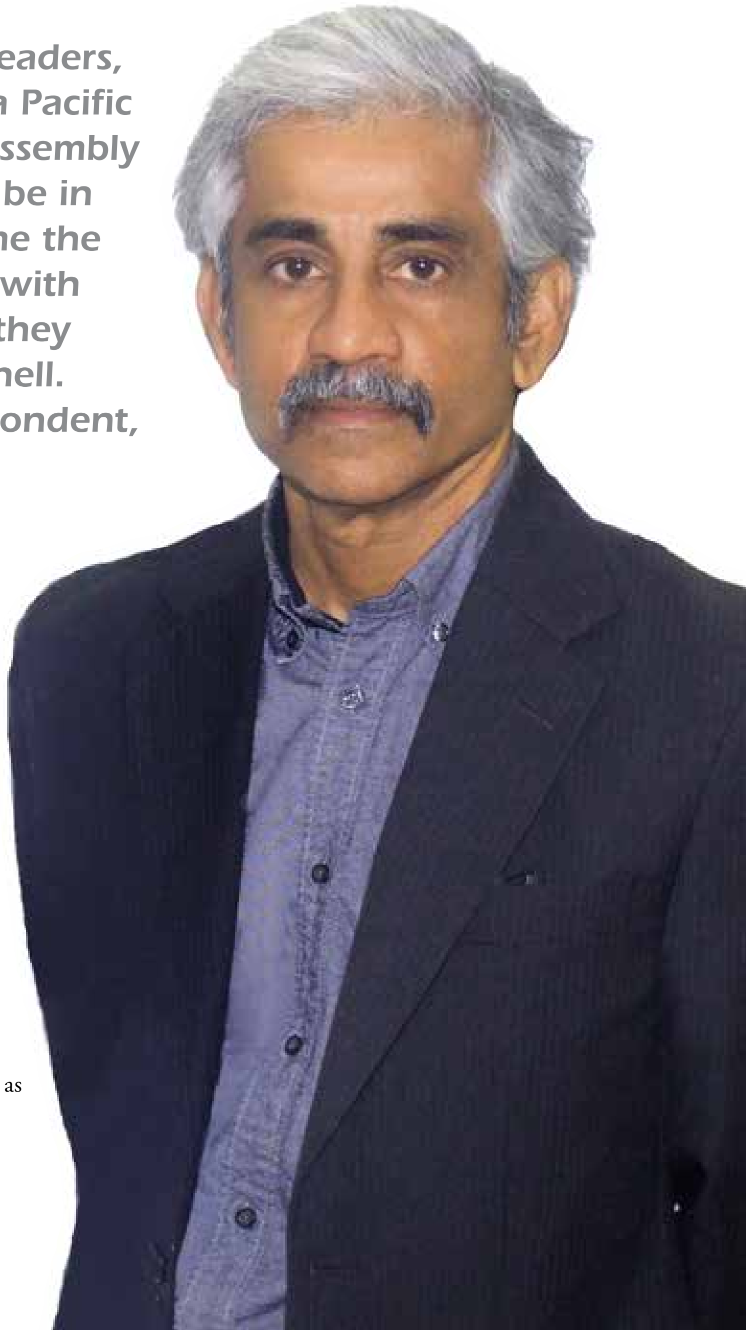
"Our message today is because of the technology and procedures in place, you can fly safely. All the research demonstrates this. In fact, the cabin of a commercial aircraft is one of the safer spaces available anywhere during this pandemic." ■

IATA's Dr. Powell said aircraft design characteristics add another layer of protection that contributes to the low incidence of inflight transmission of the virus. These include:

- ***Limited face-to-face interactions as passengers face forward and move about very little***
- ***The seatback acting as a physical barrier to air movement from one row to another***
- ***The minimization of forward-aft flow of air with a segmented flow design directed generally downward from ceiling to floor***
- ***The high rate of fresh air coming into the cabin. Air is exchanged 20-30 times per hour on board most aircraft, which compared very favourably with the average office space (average 2-3 times per hour) or schools (average 10-15 times per hour).***
- ***The use of HEPA filters that have more than 99.9% bacteria/virus removal efficiency rate ensuring the air supply entering the cabin is not a pathway for introducing microbes.***

OVERCAUTIOUS GOVERNMENTS STIFLING REGION'S AIRLINE RECOVERY

When the region's major airline leaders, members of the Association of Asia Pacific Airlines (AAPA), hold their annual Assembly of Presidents this month they will be in unknown territory. For the first time the event will be a virtual gathering with discussions dominated by how they can come back from a year of hell. Associate editor and chief correspondent, Tom Ballantyne, reports.



Despite the gloom and doom of the worst crisis aviation has faced in its history, Association of Asia Pacific Airlines (AAPA) director general, Subhas Menon, is far from pessimistic about the future of his airline members. Airlines must be optimistic, he insisted, when he spoke to Orient Aviation last month.

"Going on its track record this industry is one that is able to pick itself up. And I can tell you I have not seen aviation speaking so much with one voice as we are seeing in this crisis," he said.

"There is no dissent among stakeholders in our ecosystem about the path to recovery. They are all singing from the same hymn sheet. This is really a positive. The solidarity and the commitment of the industry to restoring international mobility will be critical to the future, not only of aviation but for the global economy."

At the same time, the Singapore Airlines (SIA) veteran, who took the helm of the regional airline body in March just as the COVID-19 crisis began to bite deeply into industry revenue, is far from ignoring the dire straits in which carriers find themselves.

The latest AAPA traffic figures, for September, documented that Asia-Pacific airlines carried 1.1 million international passengers in the month, 3.6% of the 30 million passengers it transported a year earlier. Average international passenger load factor for the reported period was 31.7%. Even international air cargo, regarded as a bright spot in the industry, registered a 29.9% decline year-on-year.

Menon is well equipped to withstand the pressures of the crisis and guide the regional industry forward. A graduate of the National University of Singapore, with a Bachelor of Social Science (Honours) in Sociology, he has worked across a wide spectrum of roles at SIA, including international and government relations, marketing, product development, logistics, country and regional management and a spell as CEO of SIA's regional subsidiary, SilkAir.

Recovery, he said, will not come easily or soon. As the first half of 2020 progressed, with COVID-19 spreading like wildfire through China, into Asia and then across the world, the industry assessment was it would take six to nine months for the pandemic to be contained and recovery to commence.

"Frankly it has gotten worse. Not from the point of view of the virus, because the second waves and all that had been predicted, but because the response of various governments in the Asia-Pacific was totally unexpected," he said.

"Countries like Australia and New Zealand, even Singapore and others in Southeast Asia, were taking a very, very risk averse approach to fighting the virus knowing full well tourism and trade were very important parts of the economy."

That reaction, said Menon, took airlines by surprise. "They [governments] have been digging in. They are prepared to wait until a vaccine is available and distributed before they open international borders. It is as if they are saying 'let's fix the problem locally, whether it is possible or not, and then we will attend to the international parts of our economy'," he said.

"The European Centre for Disease Prevention and Control, which publishes weekly numbers on the number of cases per 100,000 in each region, puts the Asia-Pacific at less than 20 cases per 100,000 population. These figures compare with Europe, at 60 and above and America, which is closer to 150 and above. So, in the Asia-Pacific I would say containment is relatively successful. But if you look at the United Nations World Trade Organization (UNWTO) [report] on regions where destinations have imposed border closures, the Asia-Pacific is the highest"

Subhas Menon
Association of Asia Pacific Airlines director general

"It has been a much unexpected evolution of the situation. We all feel pretty disheartened thinking ahead. Unless governments are persuaded to re-open their borders it is very difficult to see us up and running again."

Menon's argument is the Asia-Pacific does not have to be so draconian with its border restrictions and quarantine rules. With few exceptions, most countries in the region are successfully containing the spread of the virus, he said.

"There is a disconnect. Why is the Asia-Pacific taking such a risk averse approach to border closures? It does not have to be so bad if risk assessment is applied and mitigated. By now, we should be seeing these travel bubbles in the region but it is not happening," he said.

It is an argument that will undoubtedly be stressed at this month's Assembly, which was to have been hosted by Japan Airlines in Tokyo. Now to be virtual, Menon said it was the only alternative given the restrictions on travel. Even if airline executives from around the region could enter Japan, they could not do it without being quarantined. And when they travel back home, they would have to go into quarantine again.

It is a situation Menon himself has had to accept. A virtual Assembly and meetings are all very well, but he misses face-to-face interaction. As a Singaporean he was forced to leave AAPA headquarters in Kuala Lumpur and return to his home country shortly after taking charge. He later travelled to Australia and went through quarantine again, where he remains today, operating from Sydney.

Returning to Kuala Lumpur will not be happening any time soon, he said, because it would mean going into a government isolation centre for 14 days and prevent him from leaving Malaysia for three months after he completed quarantine.

AAPA staff also face disruption. Initially working from home after the crisis broke, they returned to the office. But in early October, when virus case numbers started to rise again in Malaysia, they returned to their homes to wait for the situation to stabilize.

In the meantime, airlines in the Asia-Pacific, like their peers worldwide, are struggling to survive. Although the International Air Transport Association (IATA) has warned the industry will burn through US$77 billion in cash in the second half of this year - almost $13 billion a month or $300,000 per minute - Menon does not forecast mounting bankruptcies among his members or at other airlines in the region.

REGION'S GOVERNMENTS "WILL DO THE RIGHT THING"

"It is like asking how long is a piece of string? If the spool runs out, what happens? Ultimately, it depends on the wherewithal of governments and their shareholders. So far, they have stood by the airlines, giving them as much support as they can. It all boils down to the means they have. When push comes to shove governments realise how important aviation and international tourism and trade are to their economies and they will do the right thing," he said.

The solution is not to continually refinance and refund, Menon believed. "The solution is to start reopening borders and let airlines earn their own keep. International isolation and continuance of funding of airlines from government coffers are not solutions for the future of aviation or the economy," he said.

"At the same time, we are actively advocating Asia-Pacific governments to mutually develop travel bubbles and expand bilateral travel bubbles to a travel bubble in the Asia-Pacific."

Right now, the key battle AAPA and other industry bodies is fighting is quarantine restrictions, the single major contributor to the dramatic downturn in air travel with the exception of the COVID-19 outbreak itself.

Like the leaders of other aviation organizations, Menon is putting a great deal of effort into lobbying governments on this front. He considers Singapore took a step in the right direction when the country's minister of transport announced he would pursue travel bubbles within the region.

"If you read his statement carefully, one of the points he made is if you are going to have a travel bubble between countries where the infection rate is equally low then the risk of imported cases is no higher than you would have in your local community," he said.

"For instance, if you are going to allow travel from Singapore to Australia, where the prevalence is in single digits and is the same in Singapore, travelling between these two places is no higher in risk than if somebody is coming from northern Sydney to the heart of Sydney. The risk of imported cases can be mitigated if you apply such risk assessment."

> If governments are still wedded to the idea of quarantine it should only be applied to people who are travelling from high risk countries. Otherwise, if it applies to equal risk or low risk countries you can mitigate the risk of asymptomatic cases by conducting testing before departure. Not on arrival because then it is too late. IATA and the ICAO are recommending this. It really all depends on governments accepting it

"Rapid result tests are already available but they are being validated in terms of their accuracy. If they are validated and their accuracy is reasonable and it is above 90%, that is a pretty reassuring measure so you can implement that," he said.

COVID-19 TESTS MUST BE AFFORDABLE

"Don't forget that if testing is not accessible to the general population it is not going to help air travel. It must be cheap, affordable. In Singapore, if you want to do a test, you have to pay $200 a pop. If you have a family of four that's going to be more than one air ticket.

"Of course, it can be passed on to the travellers if it is inexpensive but otherwise governments will have to pay for it."

If and when a vaccine becomes available, Menon said there will be major issues to resolve in delivering it worldwide. "There are not enough flights for that. I was listening to an interview with an executive from the largest producer of vaccine (an institute in India) who said they can produce a lot of vaccine, but pharmaceutical companies must gear up to reproduce these vaccines," he said.

"He said at the moment he did not think they had the capacity to do so. That is one part of the equation. Can you produce enough vaccines for the whole world? And two, do we have enough flights to carry the vaccine to all those countries? It is another reason why cross-border travel should be slowly re-opened."

Menon is cautious about predicting the timing of a recovery from the pandemic. "IATA is saying we can't return to 2019 levels until 2024. The longer it takes for governments to reopen borders, and it depends on region to region, the timetable will slip further. This assessment was made on the basis there will be some restart by the end of this year. Already we are in October and we don't see many signs Asia-Pacific governments are reopening borders. So that could slip," he said.

If more travel bubbles are introduced and testing becomes more accessible, Menon said "realistically we will see a restart of flights towards the end of the year. December is generally a holiday season when families want to get together so that should see VFR (Visiting Friends and Relatives) traffic, and then residents stuck abroad from COVID-19 starting to go home for the holiday season".

"Maybe 10% or 20% of what it used to be and then we go from there. If the situation begins to stabilize, governments are happy with the containment of the virus and measures are in place, maybe they will expand the bubble and perhaps we can start to look at travel to other regions where containment also is working quite well," he said.

GREATER DEPENDENCE ON AIR CARGO

How does he see the shape of the industry when recovery commences? "Firstly, there will be a greater dependence on cargo. Cargo has been a sort of silver lining. I don't want to emphasize that too much because when you reduce passenger flights you also reduce cargo capacity," he said.

"The main restriction on cargo demand is lack of capacity. Generally speaking, cargo will become an important part of shaping the recovery."

Secondly, Menon predicted a change in airline fleets. "Already, quite a lot of airlines have parked their bigger aircraft and are looking at more fuel efficient and cost-effective fleets for operating international flights. You will see some of that. Then it is a matter of nurturing demand, building confidence," he said.

Menon does not see 2021 as a year of rapid recovery. "It will just be a restart, getting ourselves back on our feet and slowly moving on. It also depends on how many flights airlines are able to implement. Cargo will help them to raise some money. Hopefully, fuel price will stay low because of lack of demand. I would not say they will make lots of money, but at least they can get on their feet," he said.

"The industry has gone through many crises and it always comes out of them stronger and more resilient. If we can get going by the end of the year, or at least the beginning of next year, we might see green shoots and these green shoots will develop into recovery." ■

Toil and trouble of travel bubbles

By associate editor and chief correspondent, Tom Ballantyne

For months, Australia's politicians have been promising their citizens the opening of a travel bubble with New Zealand, but when it finally eventuated in October, it was not quite what they were expecting. It turned out to be a one-way street. New Zealanders can enter Australia but Australians can't fly to New Zealand - although both countries have extremely low levels of COVID-19.

In fact, Australians can't yet fly overseas without permission from government authorities. And if they do depart to foreign climes in cases of extreme necessity, they have to quarantine for 14 days in a hotel on their return to their home country.

The new Australia-New Zealand entry rules are a perfect example of the complexity so-called bilateral air route bubbles can create. Where the bubbles do exist, uptake is extremely low, with various restrictions such as testing, mask-wearing and quarantine deterring significant numbers of potential travellers from taking advantage of the bubbles.

There are a number of bilateral agreements in place. South Korean and Japanese airlines can fly to China and there is a bubble between Singapore and China. Singapore has probably been most active in opening up links within the region, the latest being planned with Hong Kong.

This is hardly surprising as both Singapore Changi and Hong Kong International Airport have been walloped by the pandemic. At these major transit ports, traffic at Singapore Airlines and Cathay Pacific Airways is down nearly 99% on previous year levels.

Singapore has been more aggressive than Hong Kong in its attempts to kick start a recovery, opening bilateral green lanes with five other countries and also four other countries by waiving quarantine requirements, said Singapore-based analyst, Brendan Sobie. "None of these steps have had a significant impact and combined have generated even less additional traffic than the resumption of transit. The requirements associated with the five green lanes, which started in June with China followed by Malaysia in August and Brunei, South Korea and Japan in September, are onerous, limiting demand to a trickle," he said.

Elsewhere, there has been just as much difficulty. India opened a route to Germany in September and then closed it in October because of the spike in cases in Europe and disputes over access for Indian airlines into Germany.

The Philippines is lifting a ban on non-essential foreign trips by Filipinos, but the immigration bureau said the move did not immediately spark large numbers of departures for tourism and leisure. The government has gradually eased travel restrictions to bolster the economy, which slipped into recession in the second quarter of this year following months of lockdown and quarantine.

Thailand has opened up to China and the good news was the first batch of Chinese tourists who arrived in Bangkok in October all proved negative to the coronavirus. Visitors from Scandinavia – a major source of tourists for Thailand – will be allowed to enter the country from this month. Last month, Hong Kong said it will re-open its border with China for returning citizens.

All in all, it has become clear bilateral air bubbles won't do much to boost international air travel until quarantine restrictions are lifted and rapid testing becomes the norm. ■

Industry wallflower new belle of aviation ball

Air freight remains the one bright spot for the airline industry as the coronavirus pandemic continues to bite deeply into the passenger business. Yet air cargo operators are struggling to provide the capacity to meet demand, reports associate editor and chief correspondent, Tom Ballantyne.

The International Air Transport Association's (IATA) chief economist, Brian Pearce, makes it clear just how much pressure aviation's air cargo operators are experiencing. "Freighters are being used as intensively as possible. I think they are being flown more than 11 hours a day which is a record. Airlines have been trying to use passenger aircraft to carry cargo. More than 2,000 passenger aircraft are carrying cargo. Airlines are doing the best they can to serve the needs," he said.

Despite this, airlines cannot satisfy demand. "The issue for cargo is the shortage of capacity. Typically, half of the cargo would be carried in the bellies of wide-body passenger aircraft that usually operate on long-haul services. Most of those markets are still not open," he said.

IATA's latest freight statistics, released in late September and covering August, underscored the fact improvement in the sector remains slow because of insufficient capacity. Demand moved slightly in a positive direction month-on-month, however levels still remain depressed compared with 2019.

Cargo tonne-kilometres (CTKs) were 12.6% below previous year levels in August (-14% for international operations), a modest improvement from the 14.4% year-on-year drop recorded in July. But global capacity shrank by 29.4%. Belly capacity in passenger jets for international air cargo was 67% below the levels of August 2019.

Asia-Pacific airlines, the world's biggest movers of air cargo, saw international cargo demand slide 19.3% year-on-year in August, with the Association of Asia Pacific Airlines (AAPA) citing ongoing weakness in global trade flows. Freighter operations in the region remained active, but significant reductions in passenger operations led to a 33.4% year-on-year decline in offered freight capacity.

"Economic indicators are improving, but they have not yet been fully reflected in growing air cargo shipments," said IATA director general and CEO, Alexandre de Juniac. "That said, air cargo is much stronger than the passenger side of the business. One of our biggest challenges remains accommodating demand with severely reduced capacity. If borders remain closed, travel remains curtailed and passenger fleets remain grounded, air cargo's ability to keep the global economy moving will be challenged."

Analyst CAPA said with the peak season underway and severe capacity constraints in place shippers may look to alternatives such as ocean and rail to keep the global economy moving.

"The overall reduction in freight capacity, plus much more robust demand for air cargo versus air passengers, has pushed up cargo yield and load factor. This has the potential to offset lower volumes and drive cargo revenue to positive growth in 2020. Nevertheless, this will not offset haemorrhaging passenger revenue," it said.

CAPA tracks freight capacity trends by combining flight schedules data from OAG with cargo payload (in kilograms) for each aircraft. It has pointed out Asia-Pacific freight capacity is falling least heavily, with a year-on-year decline of 34.1%.

Freight capacity has been cut by 50% in the Middle East, 52.5% in Africa, 54.3% in Europe, North America 46.5% and 55.4% in Latin America.

The conclusion of previous CAPA reports on the impact of the COVID-19 crisis on air cargo remains unchanged: Air cargo revenue is more virus proof than air passengers, but cargo alone cannot save airlines.

Nevertheless, airlines are scrambling to increase cargo capacity, a sector AAPA director general, Subhas Menon, has predicted will become extremely important to carriers as they recover from the crisis. Ascend by Cirium head of market analysis, Chris Seymour, said the air freight sector had just emerged from its worst year for traffic in a decade, driven by weak global trade and a 3.3% fall in freight tonne-kilometres (FTKs), when the COVID-19 pandemic struck.

Underlying numbers hide differing fortunes, he said. "The fleet of main deck freighters in service has increased by 65 aircraft since the start of the crisis and utilisation has gone up."

There was a slight decline in the main deck freighter jet in-service fleet in February and March followed by increases each month since then. Forty five additional aircraft were in service by late August compared with January 31 this year.

"In the high capacity, long-haul fleet, the 747 remains the market leader, with a fleet of 300 in August, an increase of 10. This includes delivery of three new 747-8Fs, but also eight -400Fs and an -200F coming out of storage, indicative of the short-term demand for lift. One 747-400SF, which has been stored for seven years, is being reactivated," Seymour said.

Not surprisingly, the business of converting passenger aircraft to freighters is booming, as are plans by major aircraft manufacturers to produce new freighters. Boeing is looking at a new 777-X freighter based on the 777-8, which is predicted to be popular for the replacement of older B777Fs and B747-400Fs. It is estimated to have a payload capability similar to the 747-400F.

Airbus may develop an A350 freighter, based either on the -900 or -1000, but neither project is expected to be seriously considered until the late 2020s - at the earliest.

Seymour said the fleet of intermediate sized freighters numbered almost 600 at the end of 2019. "In the next 20 years, the opportunity exists to replace more than 60% of that fleet of A300s and B767s and grow it by a forecast 350 aircraft. The 767-300F has an advantage over other freighters because it is very much 'right sized' for integrator and e-commerce demand," he said.

"With a backlog of 53 of the type and nine orders to date in 2020, Boeing has increased its production of the type and is delivering 18-20 of the airplanes a year. FedEx is a key customer. Boeing also is considering a possible re-engineered 767-X using the 787's GEnx engines, for the 2030s, in part driven by the need to meet new ICAO environmental regulations."

Orders for conversions are coming in regularly. Boeing has announced a firm order, from an unidentified customer, for two 737-800 Boeing Converted Freighters (BCF) and has agreements to open additional conversion lines in Guangzhou and Singapore to meet strong market demand.

South Korea's Asiana Airlines has converted three passenger jets to cargo planes to offset its sharp decline in air travel demand. It has converted an A350-900 passenger jet and two 777-200ER jets to cargo carriers, joining two 777-200ERs already in service on Asian routes and an A350-900 flying to the U.S. ■

Industry shifting to post-COVID-19 survival strategies forward bookings increase

Industry appraisal consultancy, IBA, reported at press time the global airline industry is shifting from managing the COVID-19 crisis to developing strategies for long-term survival.

Forward airline bookings for next year were recovering globally "partially bolstered by greater ease in securing [ticket refunds] along with the prospect of faster testing at airports" leading to the potential to deliver higher passenger volumes, it said.

"Aircraft utilization on domestic flights has progressed slowly back to 60% of pre-COVID-19 levels, led by a strong resurgence in the Chinese and Russian markets. However, load factor remains depressed and aircraft utilization on international flights is only 28% of pre-pandemic levels," IBA's industry intelligence platform, InsightIQ, said.

Failed airlines, mainly due to the virus, had led to the exit of 1,489 aircraft from the global airline fleet, but the numbers were reducing, the consultancy said.

"The rate of growth has slowed considerably since July with only nine airlines entering this position during this time compared with 32 carriers from February to July this year," it said.

Aircraft being retired averaged an age of 20 years and included the 747, 767-300ER, MD 80-MD90 and also the A380, 340-600 and 777-200LR younger wide-bodies.

Aircraft values had suffered from an oversupply of airplanes in the depressed global industry with values for the 737NG and A320ceo varying by 20% from past levels. Younger types – A350, A320neo family, A330neo and the 787 – were doing better with a 10% drop in pricing.

Deliveries from the major OEMs, Airbus and Boeing, will decline by more than 50%, to 715, this year against 2019, IBA said. The European manufacturer is forecast to account for 68% of them. Boeing will lag behind, with 19% of global delivery share, largely from the huge impact of the 737MAX grounding on the company's production schedule.

Chinese and North American carriers account for more half of the approximately 800 MAXs grounded from March 2019 or built but not delivered since then. IBA predicts the MAX will begin its return to service at scale from April to June next year, subject to the regulatory, production and airline demand situations at the time. ■

SpiceJet's foray into air cargo paying off

India's second largest private airline, SpiceJet, is transforming into an airport transport group, reports Anjuli Bhargava.

After this year's COVID-19 induced lockdown crippled global aviation and brought passenger traffic to a near halt, Indian airlines, like every airline in the world, were confronted with a bleak future.

As the shock of the pandemic began to sink in across India, the country's carriers, led by SpiceJet, homed in on cargo to add cash to their bottom lines. Fellow LCC, IndiGo, quickly followed suit as did several smaller carriers.

Almost all Indian airlines also started doing Vande Bharat transport and charter flights to bring in much needed cash. Vande Bharat, or Train 18, is a high speed electric train, developed and built in India and launched last year. The fleet is planned to expand to 44 trains in the next two years.

Many airlines in India used their existing fleets to transport cargo, but SpiceJet decided to wet lease two aircraft. It is now flying 13 cargo planes and is planning to add three more to its fleet, a gambit many in the industry feel is rash since wet leasing aircraft is expensive and not usually the best option for an airline.

SpiceJet said the cargo push has paid off with revenues from air freight up 144% in the first quarter of 2020 over the same months last year, with its two-year-old cargo wing, SpiceXpress,

proving critical to the company's expanding air freight operations.

"We did not start dedicated cargo operations like some carriers following the lockdown," said a SpiceJet spokesman, "because the airline already had a dedicated cargo arm. SpiceXpress has taken more than two years of hard work for it to be where it is today."

Its airline management had "lots of doubts, apprehensions and questions" about the viability of cargo operations when the air freight carrier was launched. "However, for SpiceJet this was a natural progression and a no-brainer because a country as big as ours needed a big cargo operator," said the spokesman. "The air freight operator has allowed the group to develop the capability and experience to provide door-to-door deliveries to more than 12,500 post codes across India."

The SpiceJet subsidiary has invested in a logistics chain that has included setting up warehouses. "A lot of things we carry, like blood samples, need a temperature controlled environment. Now we have that facility in our planes and in our ground support vehicles. It is only recently the national focus has shifted to cargo flights, but the group said they were looking at increasing revenue from cargo before the pandemic," said an airline official.

SpiceXpress aside, which also operates a drone division, the parent carrier intends to move beyond "pure aviation". "We are relooking at our entire business with a critical lens and diversifying our revenue sources", said SpiceJet chairman and managing director, Ajay Singh, who has been aggressive in pursuing initiatives during the pandemic.

In due course, the verticals will be independent revenue generating businesses, he has predicted. The group's businesses range from SpiceTechnic (defence), SpiceCare (air ambulance) and SpiceJet Merchandise (E-commerce, retail & merchandise) to SpiceStar Academy (aviation training).

Recently, following final clearance from UK regulators, SpiceJet announced it would launch three times a week Delhi and Mumbai services to London in the northern winter with wet-leased aircraft, a decision many in Indian aviation describe as "suicidal".

Singh has defended his decision and said a dedicated team at the airline had been working on launching long-haul operations for close to two years. On multiple occasions, SpiceJet had applied for landing slots without success at Heathrow and other airports in the UK. The slots allotted to SpiceJet became available from September 1, 2020.

"There was no rush from our side. We took our time. The decision to launch operations in December was based on thorough analysis. We have chosen a time when we think demand will be the strongest," the SpiceJet spokesman said. Watch this space to see how SpiceJet's latest gamble fares. ■

Hurdles ahead to achieve hydrogen powered aircraft

The spotlight is on research into emission-free propulsion systems for jet engines, such as electric power and hydrogen fuel. They will come, says one leading engineer, but not any time soon.

By associate editor and chief correspondent, Tom Ballanytne

Pratt & Whitney senior vice president engineering, Geoff Hunt, is just as excited as everyone else about future propulsion technologies that will ultimately take airlines into a carbon free future. But he also is a realist who knows before jets can be fueled by hydrogen or driven by electricity, there is a mountain to climb.

"However we look at more radical propulsion technology such as electric, hybrid electric or hydrogen fuel, it's going to be at least 15 years before we see them in large commercial aircraft, maybe longer," he said during a panel session at the recent Air Transport Action Group's (ATAG) 2020 Global Sustainable Aviation Forum - Green Recovery, a virtual, on-line event that brought together representatives from all sectors of the industry to discuss aviation sustainability beyond COVID-19.

He was speaking just days after Airbus revealed three concepts for the world's first zero-emission commercial aircraft, which could enter service by 2035. Rather than using traditional jet fuel all three designs rely on hydrogen as their primary fuel source alongside batteries to power hybrid engines. In another development late last year the world's first electric-powered commercial

aircraft, a 62-year-old, six-passenger DHC-2 de Havilland Beaver seaplane retrofitted with a 750hp electric motor, flew in Canada.

Hunt said the more challenging question about hydrogen is the infrastructure level required to make it happen. "If we look at running just 10% of the aircraft fleet that operated in 2019 it would require 90% of the hydrogen produced globally that year. And 95% of that was produced from methane, which has its own issues from a climate perspective. The challenge is to convert that hydrogen production to a green source and scale the volume and distribution to supply not just the aviation sector but for other sectors that are starting to pivot towards that fuel source," he said.

"At P&W we ran our first hydrogen-powered jet engine in the 1950s. You could argue that electric starter generators on aircraft like the B787 represent a toe in the water of a hybrid-electric architecture.

"It has taken decades to establish the excellent standards of safety, reliability and life-cycle cost modern propulsion systems provide and the regulatory system that governs them. It's one thing to use hydrogen or hybrid electric to generate thrust, it's another to do it in a way that assures no compromise in those areas."

On the hybrid-electric side Hunt said "one lesson we can take from other industries is the pace of change in this area can be hard to predict. Today we have the technology to demonstrate what I could consider a mild hybrid on a large commercial scale using motors to provide augmentation to the engine spools. But our designs in this area need to be flexible to allow for the fact that battery technology may accelerate and over the 25-year life of an engine those improvements will possibly be available as drop-in replacements. Adaptable architecture is going to be very important. Regardless of the hurdles we must be pursuing those technologies in a large commercial segment. Developments are first going to be seen in the general aviation and regional space where investments and scale are more manageable," he said.

In the meantime, said Hunt, the continued focus on driving efficiency that's brought us 85% overall improvement since the start of the jet age must continue.

"The second critical element is sustainable aviation fuels. Whatever scenario you look at towards 2050 these are core elements of that strategy and P&W, along with other OEMs (Original Equipment Manufacturers), has approved a range of sustainable aviation fuels for use in our engines on a drop-in basis. However, the challenge is for energy providers to scale production from levels of about 40,000 tonnes to the 500 million tonnes that are likely to be needed by 2050." ■

SUSTAINABILITY

All Nippon Airways (ANA) and Neste commit to enduring sustainable aviation fuel deal

Japan's **All Nippon Airways** has strengthened action in reducing greenhouse gases from aviation with a new agreement to buy sustainable aviation fuel (SAF) from **Neste**, the world's leading producer of both SAF and renewable diesel.

ANA said last month it had established a procurement supply chain with Neste and secured the support of Japanese trading giant, Itouchu Corporation, in the venture.

The partnership will make ANA the first airline to fly with SAF out of Japan. The carrier is the first Asian airline to use Neste's SAF. Operations with SAF flights began from Tokyo's Haneda and Narita airports last month.

ANA executive vice president overseeing procurement, Yutaka Ito, said: "We are pleased to report, according to the International Sustainability and Carbon Certification, Neste My Sustainable Aviation fuel supplied in Tokyo provides approximately 90% greenhouse gas emission reduction through its life cycle and in its neat form compared with fossil jet fuels."

Neste executive vice president for renewable aviation, Thorsten Lange, said the company recognized the major role SAF has to play in reducing greenhouse gas emissions, both in the short and long terms. "With this new collaboration, we are enabling the supply of [our] SAF for the first time in Asia," he said.

The partners said last month they would enhance their collaboration after 2023, based on a multi-year agreement. Neste is expanding a facility in Singapore that will allow it to increase current annual production of 100,000 tons of SAF. With possible additional investment in its Rotterdam refinery, Neste said it could produce 1.5 million tons of SAF a year by 2023.

Neste, listed on Nasdaq Helsinki, refines waste, residues and innovative raw materials into renewable fuels and sustainable feed stocks. It also is introducing renewable and recycled raw materials such as waste plastics refinery materials. ■

MANUFACTURING

Mitsubishi retreats from SpaceJet program after buying Bombardier's regional jet business in 2019

After more than a decade of development and an investment of US$10 billion, Japan's national **SpaceJet**, or **M90**, has been suspended, its backer, Mitsubishi Heavy Industries (MHI) has announced.

In June last year, MHI bought Canada's Bombardier's regional jet division, which had developed the CSeries regional aircraft. The Japanese conglomerate paid US$550 million for the OEM and also accepted liabilities of another $200 million.

"We will temporarily pause while making preparations for the resumption of the business, **MHI chief executive, Seiji Izumisawa**, said on October 29. He insisted SpaceJet remained a long-term goal for the aerospace to energy and defence group. "How we will take the business forward will depend on market conditions," he said in a Financial Times report.

Meant to return Japanese aviation manufacturing to the global stage when it was launched in 2008, the SpaceJet has suffered several delays in achieving entry-into-service. It latest date for delivery was next year.

MHI has set a goal of 12% Return-on-Equity for the 88-92 seat aircraft by March 31, 2024. ■

TECHNOLOGY

Sabre and Google create Artificial Intelligence travel platform

In an industry first, travel technology provider, **Sabre**, and search engine, **Google**, are developing an Artificial Intelligence platform, **Sabre Travel AI**.

"With the creation of Sabre Travel AI, we are rebuilding our platform on cloud data driven technology that can be integrated into existing and future Sabre products," **Sabre Labs president, Sundar Narasimhan**, said.

"We are combining Google Cloud's infrastructure, AI and machine learning capabilities with Sabre's deep travel domain knowledge to create not next but third generation solutions we believe are smarter, faster and more cost-effective."

The company plans to bring the new customer experience solutions to the market next year. It has been working with Google Cloud since January 2019.

"Sabre Travel AI perfectly represents Google Cloud's strategic vision to partner deeply with thought leaders in industry verticals to utilize our innovative technologies to transform and create industry firsts," **Google Cloud president, Rob Enslin**, said.

"Today's announcement is what we hope will be the first of many concepts generated by our partnership." ■

Orient aviation

27 YEARS