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CHANCE ENCOUNTER

Bumping into fellow music industry colleague Tony Fernandes more than 20 years ago has led Bo Lingam to the top of the LCC group's leadership tree

Orient aviation 29 YEARS

Piecing together the new Air India

Demand surge for cockpit training post pandemic

Asia still bottom of the COVID recovery league

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Cheap money and parked aircraft prompt avalanche of airline start-ups

The jury is out on how many of the dozens of airlines planned for launch will survive. That is the view of veteran industry identity, Air Lease Corporation's executive chairman Steven Udvar-Házy. He is right.

It is estimated close to 130 hopefuls worldwide are preparing or are prepared to take to the skies for the first time. That investors should see opportunity in the pandemic crisis is expected. The planet is awash with aviation expertise, from unemployed pilots and engineers to other specialists in the sector either working reduced hours or being furloughed as a result of COVID-19.

Suddenly, all these leased or retired aircraft have become available, ripe for a good deal. In the Asia-Pacific, planned carriers have jumped on the bandwagon, including Greater Bay Airlines in Hong Kong and Bonza in Australia. In 2022, they may attract pilots, maintenance engineers and cabin crew as well as aircraft at a good price, but an airline start-up comes laden with risk.

Firstly, most of the region's new airlines have had to postpone launch dates, sometimes several times, because of the emergence in the last 18 months of new COVID-19 strains and travel restrictions imposed by some Asian governments.

Extra months without flying and no paying passengers add up to costs that can never be clawed back, a big drain on cash. Secondly, when new airlines finally can fly they will be entering markets mostly on the verge of recovery. They will be competing with established carriers that have spent the last two years fighting for their very lives. They will be doing everything they possibly can to fight off new competition and capture the passengers they need to recover from the pandemic.

Also, we don't know about the depth of management expertise at some of the start-ups. Do the C-Suites have airline experience, an extremely complex business? Do their carriers have sufficient funds to operate if another variant of the virus emerges; a situation that is certainly not out of the question. So, all in all, the answer to the question of how many recent new carriers will survive in the long-term is easy to answer. Only a few. ■

TOM BALLANTYNE
Associate editor and chief correspondent
Orient Aviation Media Group

Asia still bottom of the global recovery league reports IATA

The **International Air Transport Association (IATA)** announced earlier this month air travel experienced a strong rebound in February 2022 compared with January 2022, as Omicron-related impacts moderated outside of Asia. The war in Ukraine, which began on February 24, did not have a major impact on traffic levels, IATA said.

Total traffic in February 2022 (measured in revenue passenger kilometers or RPKs) was up 115.9% compared with February 2021, an improvement from January 2022, which increased 83.1% over January 2021. But compared with February 2019, traffic was down 45.5%.

The global airline association said February 2022 domestic traffic rose by 60.7% compared with the year-ago period, building on a 42.6% increase in January 2022 over January 2021. Overall, domestic traffic in February was 21.8% below the volumes of February 2019.

International RPKs rose 256.8% versus February 2021, recording a 165.5% year-over-year increase in January 2022 against the year-earlier period. All regions improved their performance compared with a month earlier, but February 2022 international RPKs were down 59.6% against the same days in 2019.

"The recovery in air travel is gathering steam as governments in many parts of the world lift travel restrictions. States that persist in attempting to lock out the disease, rather than managing it, as we do with other diseases, risk missing out on the enormous economic and societal benefits that a restoration of international connectivity will bring," said IATA director general, Willie Walsh.

Asia-Pacific airlines recorded a 144.4% rise in February traffic compared with a year ago, "up somewhat over the 125.8% gain registered in January 2022 versus January 2021. Capacity rose 60.8% and load factor was up 16.1 percentage points to 47.0%, the lowest among regions", IATA said.

"As the long-awaited recovery in air travel accelerates, it is important our infrastructure providers are prepared for a huge increase in passenger numbers in the coming months. We are already seeing reports of unacceptably long lines at some airports owing to the growing number of travellers," Walsh said.

"And that is even before the surge of Easter holiday travel in many markets. The peak Northern summer travel season will be critical for jobs throughout the travel and tourism value chain. Now is the time to prepare. Governments can help by ensuring border positions are staffed adequately and background security checks for new staff are managed as efficiently as possible." ■

OBITUARY

A tribute to Peter Ricketts aviation journalist and photographer
August 19, 1941-February 16, 2022

"It is was with great sadness that I learned my good friend, Australian aviation journalist and photographer, Peter Ricketts, died on February 16, 2022 at the age of 80.

"He was diagnosed with esophageal cancer in July 2020 and it is clear he made no public mention of his cancer, as most people, myself included, when I relayed the sad news to them were not even aware he had been ill.

That was typical Peter Ricketts behavior: a quietly conscientious and competent man who sought neither fame nor publicity.

I first met Peter in 1983, shortly after my arrival in Sydney from England when I was working for Saab-Fairchild International. He was the first Aussie journalist I had met and he endeared himself to me immediately with his ultra-dry sense of humour and his no-nonsense approach to life in general. It was the start of a long friendship. We always seemed to meet each other more outside Australia than in, since most of our social encounters involved late night drinks after long days at airshows in Farnborough, Singapore and Paris.

When back in Sydney, a daytime tradition evolved of pre-Christmas lunches at Peter's favourite Asian BBQ restaurant in Sydney's China Town. They were always well attended and lots of fun.

Peter's appetite for aviation was voracious and his level of knowledge astonishing, particularly on the stories behind the stories. His passion for aviation photography was on clear display as he was always laden with cameras and lens. My enduring image of Peter is of him, with camera bags slung over both shoulders, trudging along the static display lines of an airshow – any airshow – wearing a brightly coloured cap to protect his follicly challenged pate (a shared attribute) from the sun.

Perhaps the regard for which I hold Peter is best illustrated by the invitation to his 60th birthday party some 20 years ago. It had two photographs, side by side. One was of Peter and the other was of Orville Wright, with whom Peter shared a birth date – obviously not the same birth year! The caption read: 'One of these people is an aviation legend. The other is Orville Wright'. Quite." ***By Harry Forsythe. (harry.forsythe@me.com)*** ■

Industry falls short in managing customer expectations when booking travel

Toluna Research conducted for global technology company, **Travelport**, has revealed that the 2,000 respondents from seven countries included in the survey would give up their favorite leisure activities for six months or longer if it meant they could travel.

The survey reported 71% of respondents would forgo concerts, 64% would stop buying clothes, 63% would give up spa treatments, 60% would skip the cinema, 53% would not play sports and 36% would not dine at restaurants

"While the last two plus years have been a significant challenge, the global travel industry recovered more than 50% of its gross activity by the end of 2021," **Travelport Chief Marketing Officer, Jen Catto**, said. "Should this trend continue along the same trajectory, it could reach 85% recovery by year-end.

"Pent-up desire to travel is strong. Our latest survey findings clearly demonstrate this, highlighting the many indulgences people are willing to sacrifice to travel again."

But a notable customer experience gap emerged in the study between the high degree of enjoyment respondents experience from a holiday and the frustration they experience when booking that very same trip.

About 43% of U.S. respondents, the largest travel region, do not find booking travel enjoyable, but 95% of that same group enjoy being on holiday. Globally, travel was ranked as the number one most enjoyable activity by those surveyed.

But when it came to ease in shopping for travel, the industry dropped to the number four spot, trailing the clothing, restaurant and electronics sectors. And this is not just a generational issue. Twenty five per cent of Gen Z respondents described the complexity of searching, comparing and booking travel offers as not fun.

'Respondents reported they perceived the travel industry to be even less innovative than the finance industry'

Toluna Research polled respondents from the U.S., UK, Australia, Hong Kong SAR, India, Singapore and the United Arab Emirates in the Travelport commissioned survey.

On average, potential travelers visit 38 websites before booking travel. Other industries have steamed ahead of the travel sector with the simplicity and innovation of their online services, evolving with the sophisticated expectations and shifting perceptions of their customers over time. ■

Piecing together the new Air India

By Anjuli Bhargava

The air is clearing at Airlines House on New Delhi's Parliament Street, the headquarters of the country's recently privatized international carrier, Air India. As one of India's largest private conglomerates, Tata Sons (Tata's) takes full charge at its high profile acquisition, the conglomerate has appointed Tata Sons chairman, N. Chandrasekaran, as the airline's chairman after Ilker Ayci, previously Turkish Airlines chairman, backed out of the offer to be the Indian airline's new CEO.

Even before the Tata's new board, which still has a few members of the Air India old guard among its members, began work, the restructuring of an aimless Air India had begun. Tata's had decided to begin integrating AirAsia India (AAI) into Air India after joint venture minority shareholder, AirAsia Group, fully exits the partnership. Additionally, full-service Vistara, the joint venture between the Tata's (51%) and Singapore Airlines (49%), will continue to function independently - for now.

Post-pandemic, the Singapore Airlines group (SIA) is judged as neither in the position nor the frame of mind to take any financial calls on something as big as this, according to sources close to developments at Airlines House. If and when SIA is ready to consider this matter in its entirety, it is possible Vistara may become a separate entity with SIA holding diluted equity in the new Tata airline of a merged Air India and AirAsia India. Since this will not happen immediately, Tata's will have some breathing space before it takes a shot at merging different airline cultures, schedules, staff and operations.

Tata's venture, failed AirAsia India, is easier to resolve. Tata's has paid US$37.7 million for 32.7% of the Malaysian company's equity in the bankrupt LCC. In coming weeks, it will buy the remaining 16.3% of AirAsia India held by its Malaysian investor for US$18.83 million.

When these transactions are completed, Tata's will own 100% of AirAsia India and the airline will be folded into Air India operations. Completion of the deal is likely to take from nine to 12 months from now, according to sources close to developments.

AirAsia Group co-founder, Tony Fernandes, who in 2013 brought in half the US$30 million needed to buy a 49% holding in the India LCC, is estimated to walk away with a minimum of US$56 million from the buy-out.

Since both partners have had to inject funds into AirAsia India over the last nine years, it is difficult to know if the Fernandes investment has paid off. In terms of the controversies the airline has provoked in India in its early years, many would say it has not. AirAsia India has a fleet of 28 A320CEOs and a market share of 4.6%, January 2022 data from the Directorate General of Civil Aviation reports.

At Air India, a small team led by Tata's senior vice president, Nipul Aggarwal, has the unenviable task of fixing the many problems of the former government airline and is "shadow dancing", senior airline officials and commanders told Orient Aviation.

As yet, no major feathers have been ruffled among the four Air India directors still on the airline's board. Changes, when made, have been largely cosmetic. Departmental heads remain in place. But the new owner is emphasizing the importance of on time performance in rebuilding the airline's reputation and has initiated processes to better this critical operating metric. Improvements also are being made to onboard food and beverage offerings although they are yet to be visible or endorsed by the airline's customers. Passengers known to this writer, who took Air India flights in the last few days, said the food on board remained "nothing to write home about".

Directives also have been issued urging crew to refrain from shopping indiscriminately at duty free outlets. Airline insiders added non-essential staff and non-performers were beginning to get jittery about their tenure as the days went by. A State Bank of India led consortium is expected to assist in raising funds to invest in the carrier.

Elsewhere, some Air India senior sources and industry observers maintain Tata's lacks the depth of knowledge in airline economics and dynamics to operate the carrier successfully. Tata's veteran, Sunil Bhaskaran, who was pretty new to the airline business when he took charge at AirAsia India in 2018 and then led the buyout of the LCC on behalf of Tata's, has a deeper understanding than most involved in shaping the new Air India, observers believe.

Since AirAsia India and Vistara only have been drains on Tata's resources and there are no visible signs of a turnaround in sight, many in the industry remain unconvinced the conglomerate can pull off any Air India marketing coups in the immediate future. This is a long-term gamble and not one certain to pay off, sceptics assert.

Three passengers told this writer recent flights were on time and the staff seemed to have been injected with a syringe of "professionalism". A former Air India director, who flew as a paid passenger between Delhi and Mumbai last week, said there was some change in staff attitudes and bearing. "I could visibly see the "Tata" effect. Years of complacence seems to have been shed quite rapidly as ground staff and crew appeared more alert and awake!" he said - only partly in jest. ■

START-UP CARRIERS HUNT OPPORTUNITIES FROM COVID-19 CRISIS

There has been an avalanche of airlines starting up across the globe in the last two years, including several in the Asia-Pacific. The question is: how many of the region's new carriers, born of the pandemic, will survive in the post-COVID world? Associate editor and chief correspondent, Tom Ballantyne, reports.

When the COVID-19 pandemic turned serious for the world's airlines in March 2020, it did not take long for a number of investors to see opportunity in the midst of crisis. According to the databases of consultancy CAPA, 42 airlines launched operations from January 2020 to June 2021. At least another 36 were actively planning to begin flying in the next 12 to 24 months, it forecast. Eight of the new carriers are or will be based in the Asia-Pacific, 13 in Europe, eight in Latin America, four in Africa and three in North America. But that is only the start.

In a recent report documenting new airlines, the IBA analytics team crunched the stats and declared more than 130 start-up airlines planned to be operating worldwide by year-end.

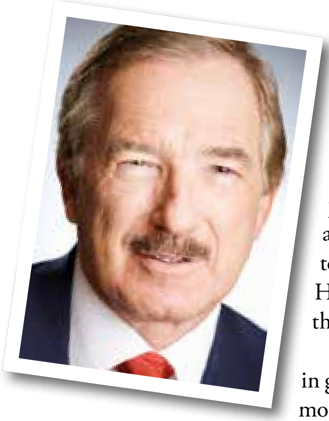
In the Asia-Pacific, one hopeful is Greater Bay Airlines (GBA). The Hong Kong-based regional carrier planned to launch services in late 2021, but the extremely constrained pandemic restrictions imposed on Hong Kong put paid to that. It has had to postpone its scheduled first flights to later this year.

Thai Summer Airways, headquartered in Bangkok, has its Air Operator Certificate, but has not specified a launch date. SKS Airways is a proposed Malaysian charter airline based at Senai International Airport in Johor Bahru, operating turboprops. It has a Conditional Air Services License (ASL), but its launch has been postponed several times.

In South Korea, Air Premia intends to operate wide-body aircraft on medium and long-haul services to North America, Europe and the Asia-Pacific. Founded by former Jeju Air president, Kim Jong Chul, it took delivery of its first 787-9 from Air Lease Corporation (ALC) in March 2021. It is planning to fly ten 787-9s within five years with the fleet fitted with an economy and a premium economy cabin configuration.

Canh Dieu Airlines (Kite Air) is a proposed Vietnamese carrier based at Chu Lai International Airport. Its scheduled turboprop and narrow-body aircraft fleet is targeted to reach

30 airplanes by 2024. Toki Air is a Japanese LCC jointly established in 2020 by Niigata Chamber of Commerce and Niigata Association of Corporate Executives. It expects to operate ATR turboprops from Niigata on routes including Sado, Sendai and Sapporo Okadama. Pasifika Air is a proposed start-up airline in Christchurch in New Zealand whose model is to be price competitive, but not low-cost. Initially, it will offer flights from Wellington and Christchurch to Rarotonga in the Cook Islands and then expand to other Pacific island nations. Yuva JetLines Airways is based at Ranchi Birsa Munda Airport in the east India state of Jharkhand. It markets itself as a premium LCC operating from tier 2 and tier 3 cities to metropolitan centres, flying with Embraer ERJ 145s.



New entrants are not the only carriers setting up airlines. In Japan, All Nippon Airways is launching an airline brand as part of a major restructuring of its business model in response to the pandemic. AirJapan will be positioned between premium full-service carrier, All Nippon Airways, and its LCC Peach on the service/price matrix. It will focus on "medium-distance" international routes in "Asian growth markets" with destinations in Southeast Asia, Australia and New Zealand, flying B787s.

In Australia, LCC Bonza (local slang for first rate or fantastic) has announced it will start flying later this year with an initial network of 25 routes to 16 domestic destinations operated by five 737 MAX 8s.

While not based in the Asia-Pacific, another newcomer entering the region's markets is Northern Pacific Airways, operating out of Anchorage in Alaska. Also launching later this year, its goal is to capture traffic from destinations in North Asia such as Japan and Korea to Mainland U.S. via Alaska, initially with veteran B767s.

How many of these new airlines will actually take off? How many will survive against incumbent carriers?

Speaking at CAPA Live last year, industry veteran and ALC executive chairman, Steven Udvar–Házy, identified the raw ingredients necessary for a new airline as "cheap money, capital, cheap aircraft and pilots". "There is venture money available. There is good young used aircraft at reasonable prices. There are plenty of pilots and flight attendants looking for work. That is a temptation to start an airline," he said. However, the "the jury is still out" on whether all these start-ups will succeed, he said.

IBA chief revenue officer, Stuart Hatcher, is in general agreement with Udvar-Hazy. "This modest boom in start-ups largely has been driven by cheap aircraft and empty routes. IBA anticipates the favorable environment for start-ups to continue in 2022, but if global utilization continues to pick up following the easing of border restrictions and quarantine, availability of cheap aircraft may change prospects for some business models," he said.

In Australia, where Bonza will be taking on entrenched Qantas Airways, a re-energized Virgin Australia (VA) following a restructuring and fast expanding REX, it will certainly be a competitive challenge for any newcomer to succeed in the Australian domestic market.

VA CEO, Jayne Hrdlicka, has voiced doubts about Bonza's business strategy, arguing the low-cost, low-frequency leisure travel model that functions overseas may not translate to Australia. "If you're connecting two cities that have never seen a connection, if you are flying it twice a week, it's very hard to build an underlying presence in that market. The way that's done in Europe and the U.S. and Canada is because they are huge markets with millions and millions of people. You can approach that with group tours and things like that which do not really exist in the same way in Australia," she said. Hrdlicka called Bonza's strategy an "interesting idea" and said "we'll just see how it plays out".

Elsewhere, airline executives appear comfortable with new competition. AirAsia Aviation Ltd CEO, Bo Lingam, wishes all new entrants good luck. "Hopefully, they have a very sound business plan. We wish them the best because there is always a market for everyone," he said.

At the CAPA Live event, Udvar–Házy did question how many new airlines will remain in business. He recalled the U.S. aviation deregulation in 1978 that led to 120 start-up airlines. Perhaps two or three are left, he said.

"Now, maybe it won't be that bad, but there is a great temptation to start a new airline with a young workforce that's not unionized, at a much lower labour cost, and relatively young used aircraft like A320s, 737-800s and in some cases Embraers or A220s," he said.

ALC considers several factors before supporting a start-up with leased aircraft, he said. They include the competitive landscape and if competitors can simply allocate a certain percentage of their seat capacity to match fares and other perks, such as frequent flyer miles. ALC also looks at the new airline's management team, the economics of the route structure, suitability of aircraft types, growth potential and capital structure. ■

Pandemic spurs digital embrace at Asia-Pacific airlines

At press time, LCC group, Jetstar, said it had signed a second partner, India's IndiGo, to its fledgling virtual interline service.

In the same week, Seoul Incheon airport announced a ground-breaking experiment in security clearance procedures. The South Korean capital city airport said it will commence trials of a new X-ray system that will eliminate the need for passengers to remove digital devices and liquids from their hand baggage as they proceed through airport checks.

The X-ray system trial will start at Seoul's Terminal 1 in September. If successful, it will be installed at all of the airport's check-in and transit security checkpoints by 2025.

The prospect of reduced queues at airport security, for both passengers and airlines alike, and the cost benefits of the hundreds of hours of time saved by this innovation are enormous.

These shifts from pre-pandemic practices are but two of many examples of Asia-Pacific commercial aviation seizing the moment to deeply digitise operations, revenue management and booking chains in preparation for the forecast post-COVID upturn.

IndiGo is Jetstar Group's second virtual interline partner after Tigerair Taiwan signed for the Dohop developed offering in 2019. The LCC is the most successful and largest airline in India.

"The ability to partner with other LCCs through Dohop has opened a world of possibilities, helping customers enjoy more seamless connectivity throughout the region," Jetstar said.

In our cover story this month, LCC boss, Bo Lingam, told Orient Aviation "the pandemic has forced us to accelerate digitising the group". "Our first thoughts were 'you don't want to go to the check-in counter. You register with your face. You check in with your face. If you have a bag you use self-service. If you don't have a bag, you walk straight to the gate and off you go'," he said. "Our only problem is airports are not keeping up with change," Lingam said.

Capital A, the parent of Lingam's ASEAN-focused LCC airlines is taking industry digital change several steps further. Units of Capital A, formerly AirAsia Group, especially in profitable sub-sectors, have been hived off and are being digitised from ground up.

In Japan, global airline leader, All Nippon Airways (ANA), has developed ANA Pocket to build a next-generation mileage program. ANA Pocket allows users to earn points and miles from the distance of their daily movements and to redeem ANA flights and travel products. "A world where people can live off their miles," ANA said.

ANA was heavily affected by the pandemic and has quickly made changes to loyalty offerings in response. Subscribers to ANA Pocket have access to a platform that connects partner businesses with ANA Group customers via digital touch points.

The mobile-based program means mileage rewards are earned for everyday activities such as walking, cycling, taking taxis or travelling on trains.

ANA Pocket functionality needs a payment platform that delivers. The airline group chose Stripe Billing whose technology makes it easy for ANA to implement and manage subscription payments.

"Small details matter when it comes to making ANA Pocket a premier experience for our most valuable and loyal customers," said ANA X Corporation business development boss, Rina Hirooka. "Simple things like ensuring monthly subscription payments are stress-free, secure and reliable go a long way in letting our customers know how much we value them."

ANA Group built momentum for ANA Pocket with first-month-free promotions and outreach across a variety of marketing channels. Using Stripe's dashboard, ANA Group has an operational flow that can respond to billing errors and enhance fraud prevention.

"Helping ANA take flight again with its new offering is a great stamp of approval in our journey to assist more Japanese enterprises to transform digitally," said Stripe Japan country lead, Daisuke Aranami. "Amidst unprecedented economic and social changes, Stripe is deploying a powerful financial services technology platform that meets ANA Group customers' high demands." ■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AIRASIA GROUP AIRLINES FOCUSING ON ASEAN FOR GROWTH

AirAsia Aviation Ltd carriers are rebuilding their networks and fleets as most governments ease travel restrictions. Group CEO, Bo Lingam, explains his post-crisis strategy to associate editor and chief correspondent, Tom Ballantyne.

Back in late 2000, music industry executive, Bo Lingam, had decided to quit the business. "I wanted to back pack around the world. I said if I don't do it now, I will never do it," he told Orient Aviation last month. Then fate intervened. He bumped into AirAsia co-founder, Tony Fernandes, with whom he had worked in the music industry, in Kuala Lumpur. "Tony said 'come (to AirAsia) for six months and then you can leave'," Lingam said.

He accepted the offer, a chance encounter that more than two decades later has Malaysian-born Lingam (57) overseeing the recovery of Malaysia AirAsia, Thai AirAsia, Indonesia AirAsia and Philippines Air-Asia to full strength and heading up their parent, AirAsia Aviation Ltd (AAAL).

"We have about 200 aircraft across the group. We are flying 57 planes today. With the lifting of restrictions in most ASEAN (Association of South East Asian Nations) countries

"There is still so much of ASEAN we have not connected as yet. There is an opportunity to connect a lot of ASEAN. All these places we were planning before COVID. I am accelerating the pace of connecting those dots"

Bo Lingam
Group CEO of AirAsia Aviation Ltd

since April 1, we are looking at capacity moving to 50% minimum of our previous fleet and operating at least 75% of our fleet by year-end," Lingam said. He forecasts the group's airlines will be at 2019 levels by mid-2023.

"China is the only place we can't service. It is closed. A sizeable chunk of our business was China," he said. However, Lingam believes the lost China market can be recovered within ASEAN. "A lot of people in ASEAN are not going to fly long-haul. They want to be within a four-hour range [from their home cities].

"This is where we are putting more capacity, creating routes and places for people to holiday and so forth. It is being worked on."

Lingam, who shortened his name from Tharumalingam Kanagalingam because people in the music business had difficulty pronouncing it, said aircraft orders – the group had 362 A321neo on order - have been restructured.

"Airbus was very good to us. We had a very good discussion. We agreed on a restructure. In 2023, we will be taking maybe two or three planes. In 2024, another 10 and so forth until 2035. This could change if business is bad," he said.

Lingam became Group CEO last October when the LCC company announced it was reorganizing its corporate structure to separate its airlines from its digital initiatives. The holding company for the airline group was renamed AirAsia Aviation Limited (AAAL). Until the corporate restructuring, Lingam was president (airlines) for AirAsia Group.

AirAsia Group Berhad (AAGB) is the investment holding company for eight digital portfolio companies. They are AirAsia Aviation Ltd, airasia Super App, cargo and logistics venture Teleport, BigPay financial services, edutech arm AirAsia Academy, engineering company Asia Digital Engineering, ground services division GTR and restaurant chain and food group Santan. The structural change facilitates strong projected growth in the airline and non-airline portfolio businesses, the announcement last October said.

In 2020, Teleport, the logistics venture of AirAsia digital, ramped up its delivery and digital cargo capabilities to meet significant e-commerce growth accelerated by the COVID-19 outbreak. The pandemic encouraged consumers to trust and rely on the convenience of e-commerce, boosting growth of the industry.

But at AAAL times remained tough. In its latest reported quarter, to September 30, 2021, available to Orient Aviation, revenue declined 70% year-on-year and 37% quarter-on-quarter, largely as a result of the lockdown in Malaysia from January 2021. At the same time, the aviation group reduced costs by 15% over the previous quarter and reported travel was returning, with increased bookings for the fourth quarter of 2022.

Lingam believes airlines will experience a V-shaped recovery within ASEAN - in other words a rapid return to normalcy. He premises his forecast on the easing of restrictions in several countries in the region.

Malaysia reopened its international borders to fully vaccinated travellers on April 1, as did the Philippines. Indonesia is welcoming vaccinated travellers, although they must take a COVID-19 PCR test on arrival and self-isolate until reporting a negative result. In March, Vietnam scrapped

quarantine and other travel restrictions for foreign visitors.

Singapore has re-opened to all vaccinated travellers without quarantine on arrival and has abolished its Vaccinated Travel Lanes policy. Thailand is lagging behind some of its neighbours with its decision to fully re-open international borders in October. Oddly, tourist hot spots such as Phuket are operating a relaxed regime with only one night of quarantine required in a designated hotel after travellers arrive on the island.

Lingam sees signs of industry recovery. For example, he said, one AirAsia flight to Indonesia, with a 180-seat Airbus, had 152 bookings. "Even if they had to do a PCR here (in Malaysia) pre-departure people still went. It is very encouraging. In the Philippines, where there is no quarantine and no PCR test requirements, bookings went up week on week by 167%. Also, take into account Easter is coming. People are booking for Easter holidays. And beyond Easter people are starting to book," he said.

Lingam said: "The pandemic came as a shock to all of us. We thought it might be over in weeks or months. As it progressed, we had to make some drastic decisions."

One was furloughing hundreds of AirAsia group pilots, although they retained benefits such as medical entitlements and their rights to fly with the airline. Elsewhere in the group, only essential employees were kept on. Senior management took drastic pay cuts to ensure salaries could be paid to lower ranked staff.

> I am very lucky because 95% of my pilots are with us. They are gradually returning for their recurrent training. I have close to a thousand pilots and 500 of them are online and flying. Another 500 are ready. I can train 50 pilots a month. By the end of the year, I will have the bulk of them flying. My cabin crew was never let go. For engineers, again we furloughed them. About 10% have left us to pursue other interests, but most of them are still with us

As the pandemic crisis wore on, an AirAsia Consulting division was established to take purview of new airline partnerships and franchise opportunities. In the same 12 months, AirAsia Japan went bankrupt, closing down, and AirAsia India came under full control of Indian conglomerate and former joint venture partner, Tata Sons.

In 2022, there are plans to have another one or two

AirAsia brands in ASEAN, Lingam said.

And the consultancy business is looking further afield.

"We have a lot of interested companies and individual people, who have made lots of money over the years, harassing us to open in Africa, in Bangladesh and other destinations. We are not that keen to spread ourselves too thinly because it is not what we are good at," he said.

"These people are very persistent. We came up with the idea we will devise a product and franchise it to them. Or we will assist them to set to up an airline, for example, in Africa. We will help you with what you do and so forth," Lingam said.

"The establishment of the consulting arm does not mean we will see an AirAsia Nigeria or an AirAsia Kenya. Not at all.

"The moment you say AirAsia Nigeria people associate it with us. Then I have to ensure safety. I have to ensure best practices. I have to ensure transparency to all that worries me. Then I would have to go to another continent. Even Tony [Fernandes] says no."

The pandemic has forced the group to accelerate digitalizing the business, even at AirAsia, generally recognized as a digital leader.

"It was the first thing I did when COVID happened. Our first thoughts were 'you don't want to go to the check-in counter'. You register with your face. You check in with your face. If you have a bag you use self-service. If you don't have a bag, you walk straight to the gate and off you go," he said.

"I am planning to create even more automation. If you go on board now there is no menu card. You go onto Wi-Fi, check the menu on your phone and you order. The only challenge I have is many airports are still finding their way around this. They have to help airlines, help people to digitalize the airport experience as well."

Shocking as it was, the pandemic was timely, Lingam said, enabling AirAsia, even if everyone was working from home, to focus on plans to split the business and create an ASEAN Super App, a travel and lifestyle mobile app that does everything for customers. It includes AirAsia Health, a one-stop healthcare travel platform aimed at facilitating the healthcare of travellers' journeys.

Lingam said the industry has learned from the crisis. "When we had SARS (the Severe Acute Respiratory Syndrome outbreak in 2003) people were a bit complacent. When SARS came along they should have found a vaccine. The world has taken note of this during COVID," he said.

"As an airline, we must continue to push innovation in health education. On the AirAsia Health app we are including lots of health products. This is because of COVID."

As for the future, Lingam predicts fuel costs may be a primary challenge. "After battling the pandemic, sensible people need to get to the table and resolve whatever differences they have (a reference to events in Ukraine). I hope the fuel price will slowly come down. Of course, there is always the possibility of a new (COVID) variant."

As for AAAL, Lingam said it will continue to be a low-cost operator. "What will be different is we will have to bring a lot of innovation into the business. We will stay ahead of the curve, keep our costs low and continue to connect." ■

From the ground up

Like AirAsia co-founder, Tony Fernandes, Bo Lingam was working in the music industry before he switched – and then immersed himself - in the airline business. He had worked at various production houses, including roles as Production Controller at EMI Music Malaysia and Operations Manager and Promotions Manager at Warner Music Malaysia. He joined AirAsia in 2001 as a Ground Operations Manager, responsible for the implementation of the low-cost concept in operations and procurement.

Lingam told Orient Aviation the two industries – music and airlines – are like "chalk and cheese'. " People said 'what do you know about running an airline'? That was my challenge. To prove them all wrong."

So he "sat down with very senior aviation and engineering people, also consultants Tony (Fernandes) had hired at the time, and I used Yahoo and Google to learn everything I could about the airline business".

In the following two decades, Lingam has held several key positions at the company, including purchasing and supplies senior manager and regional guest services director. When he was promoted to president and group chief operations officer, he supervised AirAsia operations in Malaysia, Thailand, Indonesia and the Philippines. He also drove process improvement and set up airlines in the region for the Group. As Group CEO of AirAsia Aviation Limited, he leads AirAsia Berhad Malaysia, Indonesia PT Air Asia, Philippines AirAsia and Thai Air Asia.

AIRBUS PLANS ASIA-PACIFIC "READY TO FLY" PILOT TRAINING CENTRES

Despite the pandemic, 550,000 new pilots will be required by commercial airlines in the next two decades and nearly 50% of them will be flying with Asia-Pacific carriers. Airbus aims to play a major role in meeting demand for new pilots by opening ab initio training centres in the region. Associate editor and chief correspondent, Tom Ballantyne, reports.

Airbus may be a relative newcomer to the business of ab initio pilot training, only entering the sector in 2019 with flight schools in France and Mexico, but it has big plans for expansion and this year the focus is on the Asia-Pacific. Airbus Senior Vice President Training and Flights Operations Services, Valerie Manning, told Orient Aviation last month the OEM is supporting the establishment of two ab initio training schools annually and this year the target is the Asia-Pacific.

"How advanced are we? We are looking at different approaches, different schools. There's nothing fixed, but India is one of the main areas of focus and probably Australia," she said. China also is being considered for ab initio training courses, but Manning told Orient Aviation she wants to be realistic and have achievable goals.

"Airbus is not interested in turning out people who can fly a light aircraft. It aims to equip cadets with the skills and mindset to be an "operationally ready pilot". In other words, when they finish the course they are "airline ready", "she said.

The Airbus training program focuses on the development of key pilot technical and behavioral competencies. It is about setting standards in the market as airlines are growing their fleets post-pandemic.

"It is not to say we are going to take 50% of the [ab initio training] market as we have in large aircraft sales. We know a lot of pilots are needed. We want to help our customers. Let's set a standard. Let's go from zero to a hundred in training and really have some ready to fly pilots at the end of their training," Manning said.

"We want to accompany our airline customers as they expand their fleets and grow their crew. This is where the ab initio view comes in. It is an extension of what we do in type rating and initial and recurrent training.

"Initial training is when we say 'I am already a pilot, now I need to learn to fly an A320, an A330 and an A350'. Yes, that's what my organization is known for. But how do you go from zero with someone who says 'I want to be a pilot' and from day one you are training them with that in mind. At some point, I am going to be an A320, A330, A350 pilot for Qantas and by the way Qantas, five minutes after you walk in the door, you should have done X, Y and Z. We should be building that in upstream in the training."

> China is very strong on evidence-based training with kind of heavier requirements. At the moment, in addition to our training centres we have some agreements or are developing agreements to go in and set up this evidence-based training at airlines [in China]. This is a relatively new area of growth in our training business. It's not only us. Others are trying to do this. China is a big push here because the CAAC (Civil Aviation Administration of China) has imposed very heavy requirements and we are working there

Dr Valerie Manning
Airbus senior vice president training and flight operations services

Airbus is not going to train all of the 20,000 pilots needed annually, some 55 a day. "The pandemic forced us or enabled us to accelerate some of our plans, to put in place sectors like ab initio training. It takes about 18 months or more to train someone from 'what is an airplane?' to 'I'm now in the right hand seat of an A320', or some other aircraft, and to do it properly. To do it so when they have done their training they are ready to go.

"Flying is a fun thing to do," Manning said, but to prepare somebody to be ready to fly for an airline "is a different animal". We are trying to do it in a very streamlined way to meet these big needs."

American-born Manning manages the company's flight, maintenance, cabin and structure training, its flight simulation business, its Navblue subsidiary and its flight operations engineering, support and training standards. She has had an illustrious career, both in aviation and before joining the industry.

An active instrument-rated pilot and flight instructor in Europe, she graduated from Princeton University with a degree in mechanical & aerospace engineering and earned her Masters and Ph.D. in aeronautics and astronautics from Stanford University. After working at General Motors as an aerodynamics engineer, Manning became an officer in the U.S. Air Force and served continuously on active duty or in the reserves. She was a consultant with McKinsey & Company and has consulted privately in multidisciplinary optimization and supersonic aircraft design.

While the pandemic is not over, recovery is underway and Manning said one of the major challenges is replacing experienced pilots and engineers who either have retired or have left the industry during the pandemic.

"The issue is either bring back people temporarily out or train new crew. The other option is retraining, up skilling or re-skilling pilots that have been sitting out for a while. We have developed courses that are returning pilots to flying," she said.

"It is not just about having a pilot or having a mechanic. It is about very skilled people. Some people took retirement or early retirement during the pandemic and those people are generally the most senior people. In the mechanics world it might be a key team leader. In the pilot's role it is the captain, the left seat pilot. We don't just need pilots. We need captains.

"Right now, we have a challenge. How do you get them to know what to do in the left seat? We are making a special effort and have started to have very efficient command courses, upgrade courses, to get these people going. Yes, you still need to fly the plane but there are additional things.

"When you're an Airbus pilot you don't spend all your time flying the plane. There is a lot of other stuff you do to manage situations. This management aspect is something that was lost a bit during the pandemic."

Like other aerospace companies, Airbus has worked closely with customers to help them manage the rapidly changing operating environment. "We adapted. Firstly, we kept all our training centres open. Some had nothing to do so they did not need to be open, but when you talk about Miami and Toulouse for Europe and Singapore, we stayed open. We kept our instructors there. They were ready for any customers who did want to train," she said.

"We also accelerated distance learning, especially on the maintenance side. We had to accelerate the ability to train like we are talking right now (on-line) and find a way of how, especially for mechanics, we can help to sign them off on their exams if nobody's there? We did everything we could to try to keep things going."

An important aspect of the work of Manning and her team is defining standards. "Part of what we do is to say this is an aircraft and we have made a modification. Added a heads-up display or a sharklet or X, Y or Z. Part of my role and the role of my team is to say does this thing [modification] require training?" she said.

"Does this change impact the crew or impact the maintenance staff? Yes? No? If so, do we need to change the documentation? Yes? No? Do we need to add training?

"So, I would say not so much has changed during the pandemic but yes, the standard operating procedure, how you interact with the aircraft and all of the tools and what the aircraft does is an important part of training."

During the pandemic, "we realized that, wow, there was a higher incidence of, for example, takeoffs with unreliable airspeed performance where maybe that takeoff should have been aborted", she said.

"Why were there more unreliable airspeed situations? Well, there were a lot of airplanes sitting around with bird nests in the wings and the pitot tubes etc. The aircraft talks to you or shows you things. We did a lot of reminding pilots that they were going to face several of these situations that maybe they did not face so much before.

"It's not that things changed in the cockpit during the pandemic but we had to remind pilots, if not train [them], how to interact with our advanced aircraft. The aircraft does do a lot, let's be fair. And it does things pilots perhaps had not seen other Thursday and now, maybe, they are seeing more often."

Airbus recently completed a major update of its Standard Operating Procedures (SOPs). "We updated some of them because our cockpits have changed, the aircraft has changed a bit and the operating environment has changed. We would love our customers to follow 100% of our SOPs, but everybody has to customize a little bit. We are trying to reduce the level of customization to 5% to 7%," she said.

Another developing direction in pilot training is a bigger shift to evidence-based training. Evidence-based training looks at the actual in-service record of pilots and adapts training needs to competencies they must master.

"This is done at the airline, not necessarily at a training centre," Manning said: "This is now a regulation to move to a type of evidence-based training. We are part of developing this regulation and delivering on these regulations. Each authority is adopting this at different rates." ■

Asia-Pacific "is where it's at" for Airbus ab initio training in 2022

Asia is a huge part of Airbus's plans for expanding its training facilities. In February, Manning was in Singapore for the launch of a fourth A350 Full Flight Simulator (FFS) at the Airbus Asia Training Centre (AATC), a joint venture owned 55% by Airbus and 45% by Singapore Airlines. Operational from April 2016, the centre also has two A320s, one A380, and two A330 FFS.

Airbus has 18 training centres around the world and Singapore, not Toulouse, is the largest and the only one equipped with four A350 simulators. The 10,000 sq. metre centre at Seletar Aerospace Parker, being "nearer to the home bases of airlines in the region has been extremely well received", Manning said at the Singapore A350 FFS ceremony.

"In terms of infrastructure, it is a great place, Singapore and the Asia-Pacific. So we have grown there. Why? Because the Asia-Pacific is a hub for it. We have A380s, A350s, A330s, A320s. We are hosting ATR there with a 72-600 FFS. We can train up to 10,000 pilots a year there. There are start-up costs. It takes time, money and energy to build a training centre so we don't build them everywhere. But we have Korea. We have Vietnam. We have Beijing and we are thinking we may do more. We also have India where we have a training centre," she said.

"And yes, we are constantly looking at expanding Singapore because customers like to go there. Unfortunately, Singapore has been very strict during the pandemic so we suffered a lot. People simply could not get a visa to live in Singapore for the six weeks to 18 months it takes to train there. But "the Asia-Pacific is where it's at for Airbus"." ■

Nurturing talent for the regional aviation community

Late last year, Boeing forecast that Asia-Pacific markets will account for approximately half of global air travel by 2040. Much of this growth is expected to come from Mainland China and the Greater Bay Area (GBA), where long-term prospects remain strong despite the effects of the pandemic. Over the next 20 years, the regional aviation industry will need thousands of qualified professionals who can help it meet such substantial demand.

Situated at the doorstep of the GBA is the Hong Kong International Aviation Academy (HKIAA), which in just five years has become one of Asia-Pacific's leading training centres for professionals and newcomers alike to sharpen their skills, further their careers and feed a much-needed pipeline of talent for the future of the aviation industry. The HKIAA was established by the Airport Authority Hong Kong (AAHK) in 2016 to help establish the city as a regional civil aviation hub by providing educational programmes and training for industry practitioners. Its two primary missions are nurturing young talent and offering career advancement opportunities for the continuous development of Hong Kong's aviation sector, as well as supporting the sustainable growth of the industry across Asia-Pacific. The Academy has been a member company of HKIA SHL, a subsidiary of the AAHK, since December 2019.

Since its launch, the HKIAA has greatly expanded its curricula and introduced a number of internationally recognised training courses and sought-after

qualification programmes. It recently opened a new, state-of-the-art, 5,500-square-metre campus featuring the latest innovations and technologies. Over the years, it has welcomed more than 180,000 participants from Hong Kong, the Mainland, and around the world.

Ir Simon Li, President of the HKIAA, said continuous learning and development are key to capitalising on the industry's potential growth. "The past couple of years have been difficult, but the long-term outlook for Asia-Pacific's aviation sector is still very promising. Plus, the industry is constantly evolving. Thus, there is a greater need than ever for talented individuals who can adopt the latest technologies and trends and help take regional aviation to the next level."

The HKIAA offers a diverse range of courses catering to the training needs of the regional aviation community. Specialised disciplines include Air Traffic Management, Airport Operations and Management, Aviation Security and Safety, Emergency Services and Crisis Management, and Foundation and Academic Programmes. These programmes are aligned with international standards and best practices, and they are delivered in partnership with leading local and overseas educational institutions, professional organisations and industry practitioners such as the International Civil Aviation Organisation and Airports Council International.

Ir Li said regaining and rebuilding practitioners' confidence in the industry since the outbreak of Covid-19 is an important goal for the HKIAA, as is continuing to develop the Academy's hardware and software to ensure that it addresses the needs of the regional and local aviation industries. As a former Director-General of Hong Kong's Civil Aviation Department, Ir Li added that he will devote his experience to reinforcing the HKIAA's position as a regional civil aviation training hub by continuing to expand and enrich the Academy's curricula, particularly in the areas of Air Traffic Management and Airport Operations and Management. He said the HKIAA will also work closely with its extensive network of civil aviation officials in the Mainland and ASEAN countries to help the regional aviation industry reach its enormous potential.

"The HKIAA not only focuses on supporting regional collaboration, but also provides participants with the opportunities to attain even more rewarding careers and forge valuable professional networks," Li said, concluding that he believes talent is always a company and industry's most valuable asset. ■

To know more about the HKIAA, please visit www.hkiaAcademy.com

Demand surge for cockpit crew post pandemic

Boeing's pilot and technician forecast to 2040 urges accelerated efforts to recruit new pilots and technicians to the industry as the pandemic recovery gathers speed. Associate editor and chief correspondent, Tom Ballantyne, reports.

While the recent industry downturn has resulted in a temporary oversupply of qualified pilots and engineers, long-term demand for qualified crew and skilled technical support remains robust, Boeing vice president of Commercial Training Solutions for Global Services, Chris Broom, told Orient Aviation last month.

"Pre COVID-19, a shortfall of qualified pilots and maintenance technicians was anticipated because of a coming wave of mandatory retirements at airlines," he said. "But analysis of new licenses and certificates issued in the last few years indicated new crew entering the airline industry was lagging demand.

"A shortfall may still happen if the industry does not adequately recruit and train enough new pilots and engineers."

The pandemic has deeply impacted the aviation industry, but pilot training requirements have remained consistent. "During the early days of the pandemic, there was a decrease in training at our global campuses due to the impact of the pandemic on our customers," Broom said.

As the aviation industry recovers worldwide and Southeast Asia prioritizes growth, airlines in the region should ensure they have adequate qualified pilots to fly their routes, he said.

Already, the commercial airline training division of Boeing was witnessing a near-term increase in demand for training in Southeast Asia as pilots and technicians transition to new aircraft types, maintain certifications and return from pandemic-related pauses in active service.

"Our outlook forecasts the Asia-Pacific, including China, will require nearly 820,000 new aviation personnel, including more than 230,000 pilots, nearly 250,000 technicians and 340,000 cabin crew in the next 20 years"

Chris Broom
Boeing Commercial Training Solutions for Global Services vice president

Broom added: "The aviation industry has proven resilient time and again as it withstood major external and macroeconomic shocks. This is driven by global commerce, people's desire to travel, visit family and friends, explore the world and build relationships."

The 2021 Pilot and Technician Outlook is based on Boeing's analysis of long-term market demand, fleet growth, aircraft utilization, attrition rates and regional differences in crewing specific to aircraft types.

"The numbers reported in the Pilot & Technician Outlook represent demand only. Since the total supply of personnel available to fill this demand is not reported, Boeing is unable to accurately assess potential supply of available cockpit crew and technicians to fill demand,'' Broom said.

What has not changed, Broom said, is the drive to improve training. "We partner with airlines to develop innovative training solutions to improve learning efficacy, offer tailored learning flexibility and enhance overall aviation safety. We defer to our customers to share their specific needs," he said.

"Boeing is designing, developing and deploying competency-based training and assessment curricula focused on holistic training rather than a prescriptive, task-based syllabus. A competency-based approach prepares resilient pilots with a combination of skills, knowledge, attitudes and values required to perform flight operations tasks to prescribed standards allowing them to quickly recover in the face of challenges."

"Boeing is integrating advanced analytics and technology into training programs with the goals of better prepared pilots and enhanced industry safety." ■

Cathay Pacific Airways and local university launch restructured cadet pilot training program

Hong Kong's Cathay Pacific Group has revamped its cadet pilot training program in collaboration with the Hong Kong Polytechnic University (PolyU). "Despite the challenges presented by the pandemic, Cathay Pacific is confident in the development and long-term future of Hong Kong as a premier aviation hub," the airline group said on March 28.

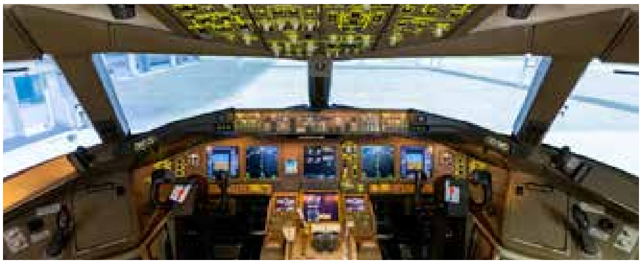
"The airline's flight operations department has been forward planning and reviewing its resources in preparation for the recovery in the aviation market.

"Together with PolyU, it has developed an integrated pilot training course that offers young people in Hong Kong professional pilot training and also creates job opportunities for instructors and trainers and other indirect roles in the local market."

The airline's original cadet pilot program was suspended in March 2020 after the emergence of COVID-19.

Cadet pilots will study the ground theory module of the 55 to 60 week course under the auspices of PolyU [University], proceed to flight training in Australia or the U.S. and then return to Cathay City for multi-crew simulator training.

The partnership will greatly expand the number of cadets it can train each year, the airline company said. It aims to welcome about 190 candidates to the airline group in 2022 and increase its employment to 240 to 300 cadets from 2023 to 2025 - compared with around 180 cadets graduated in 2019. Since the airline's cadet



pilot program began in 1988, it has trained more than 1,000 Hong Kong cadet pilots.

Chief Operations and Service Delivery Officer, Greg Hughes, said: "We are delighted to be recommencing our cadet pilot program and to be launching these exciting new integrated courses, thanks to the commitment and expertise of PolyU and its professional instructors. We also would like to thank the Civil Aviation Department (CAD) for its guidance and support in the development of the new training program."

The Cathay Pacific group re-commenced recruitment of local pilots in mid-2021, including 200 eligible qualified pilots for Cathay Pacific and altogether about 300 for the Group's airlines, the airline group said.

"PolyU and Hong Kong have the potential to be a centre for excellence and industry leading aviation training that enables not just Cathay Pacific, but other airlines to train cadets using a similar model. We hope these courses will inspire the next generation of prospective pilots in our home city," it said.

PolyU Faculty of Engineering Dean, Ir Professor H.C. Man, said: "PolyU is glad the collaboration with Cathay Pacific will provide opportunities for our younger generation to realise their dreams of becoming commercial pilots. We are confident the joint effort will strengthen Hong Kong's position as an international aviation centre."

The first batch of 24 candidates enrolled in the new integrated program started classes last month. They will commence flight training in October after they have completed the ground theory portion of the course. In addition to the integrated program at PolyU, Cathay Pacific will conduct four separate training courses to December 2022 based on the original program module developed by Australia's Flight Training Adelaide. The next batch of 24 cadets will start the Adelaide flight training program in late April.

"Cathay Pacific is about to onboard the first of its fully trained and qualified cadets unable to join the airline in 2020 due to the pandemic. The airline expects to onboard all 150 of these graduates in 2022," the airline group said.

"Enrolment for the Cathay Pacific cadet pilot program is open. We greatly encourage aspiring pilots to visit the following link that has information on the application critieria," the airline group said. (*https://careers.cathaypacific.com/jobs/cadet-pilot-program-5519030)* ■

Boeing's Singapore campus is its largest Asia training centre

Boeing is a major presence in the Asia-Pacific in airline training. It's Commercial Training Solutions Singapore Campus is the company's largest aviation training facility in Asia. It has six simulators and five flight training devices to support training on various aircraft types including three full-flight simulators (FFS) for the B787-9, one B777-300ER FFS, one B737NG FFS and one B737-8 MAX FFS. There is team of technicians offering 24/7 support. It works with more than 14 regulators to ensure compliance across many customer jurisdictions.

The facility also is equipped for maintenance training, including training personnel in the care and maintenance of composite airplane material in its Composite Structures Lab.

At its Shanghai campus, Boeing provides training solutions for pilots, maintenance teams and cabin crew to Chinese airline customers and the region. The Campus is steadily expanding its training courses since it opened in September 2009. It now has four FFS: one B737 MAX FFS operating from 2017, one B737 NG FFS installed at the centre in 2015, one B787 FFS and one B757/767 FFS.

Survey reveals gender discrimination in crew training sector

The serious imbalance between male and female pilot numbers has been widely discussed. A new report reveals the same barriers exist for woman pilots in the airline training sector.

A new report has shone a light on significant gender discrimination and a lack of gender diversity among pilots in the airline industry with a specific focus on the airline pilot instructor role.

The findings of the Royal Aeronautical Society (RAeS) and the University of the West England (UWE Bristol) joint report is based on survey responses from more than 700 airline pilots worldwide, 750 personal testimonials and eight hours of focus groups.

Among the study's major findings were extremely concerning incidents of overt and covert sexism and sexual harassment towards women, including frequent reports of an "old boys' network", the study reports.

Some 42% of the female respondents surveyed said they had been treated differently at work and 30% said they had been discriminated against because of their gender.

Male pilot respondents also felt there was a lack of role models for females and that the low female numbers in cockpit training was historical due to low numbers of female pilots flying with commercial airlines.

Released in March, the report was co-authored by Captain Marnie Munns, an airline pilot at EasyJet, chief executive of the RAeS, David Edwards, and professor Susan Durbin from the University of Western England in Bristol.

Airline training specifics of the survey revealed women make up 5.26% of the global pilot workforce, but the numbers of female pilot trainers are even lower. For example, in the UK, 0.9% of Type Rating Examiners (TREs), a category of airline trainer, are women.

The authors said sexism and sexual harassment is mostly kept secret in the airline industry because it lacked safe reporting processes. Additionally, female pilots feared being labelled as "difficult". The study's author described some of the findings as "shocking" and said not all of the episodes were included in the report to ensure respondents retained anonymity.

> **Encouraging women to join the industry is difficult "but persuading women to remain in the industry is even more of a challenge" with airline pilots indicating bias and discrimination are the two primary factors that discourage women from joining and then remaining in the profession**
>
> International Federation of Airline Pilots Association
> September 2021

"This independent (RAeS) report reveals the experiences of pilots and pilot trainers across the UK and in the international airline industry. It is clear from the findings the industry is a long way from achieving gender equality," its authors said.

RAeS CEO Edwards agreed. "As the airline industry recovers from the devastating impact of COVID, it should look at any lessons that can be learnt, especially around part-time employment, which has shown to work during this period," he said.

The survey report said the "full-time rule" applied by the airline industry will not make the pilot trainer role more gender diverse. It does not tap into the diversity of talent waiting in the pilot pipeline.

In the survey report, pilots and pilot instructors suggested options to replace the "full-time rule" included:

* *Offering training roles at an airline's home base*

* *Job share options and flexible working hours to help with childcare and make the role more family-friendly.*

"The evidence is clear. There is an appetite amongst male and female respondents for the [instructor] role to be offered on a part-time as well as a full-time basis, especially among pilot trainers already in the role. Will the airlines and training schools listen to this? We hope so," the survey authors said.

An initial broad-based initiative to increase female flight instructors would be more advocates for women amongst the pilot trainer, management and training departments at airlines, the survey said. ■

Aviation pursues sustainable aviation fuel advances to meet 2050 zero-emissions goal

Airlines and aerospace companies worldwide are intensifying research and production efforts to meet environmental goals. Among the latest global initiatives are efforts to develop hydrogen fuel technology, reports associate editor and chief correspondent, Tom Ballantyne.

In Western Australia last month, Airbus signed a Memorandum of Understanding (MoU) with Australian renewable energies resources company, Fortescue Future Industries (FFI), to study the application of liquid hydrogen and Power-to-Liquid fuels to aviation. "We are all citizens of a global world," FFI founder and chairman, Dr. Andrew Forest, said.

"People want to see their friends and loved ones in other countries. They want to explore new places. They want to explore the world. But we also want a world for the future. By helping to enable a greener aviation industry, we pave the way for the future generation to live in this global society and doing so without sacrificing the planet."

The deal reflects the shared ambition of the partners to support the entry-into-service of a hydrogen-powered aircraft by 2035 and achieve net-zero emissions across the industry. The collaboration includes examining the challenges of hydrogen regulations, supply, infrastructure and fueling for aviation from the production of hydrogen to its delivery to airports and transfer on board aircraft.

Airbus also has signed an agreement with joint venture engine manufacturer, CFMI, to collaborate on a hydrogen demonstrator planned to fly by mid-decade. The partners are aiming for a commercial zero-emission hydrogen airplane, also by 2035.

In February, the Toulouse-headquartered company signed a Cooperation Agreement with Singapore's Changi Airport Group, global industrial gases and engineering company, Linde, and the Civil Aviation Authority of Singapore (CAAS) to study the potential of a hydrogen hub in Singapore.

In the same month, Korean Air (KAL) signed a MoU with Incheon International Airport Corporation (IIAC), Airbus and Air Liquide to cooperate on supplying aviation hydrogen fuel and developing relevant infrastructure. KAL's contribution will focus on overall operational activities, including ground handling planning, maintenance and flight operations, and IIAC for the research and development of airport facilities.

Airbus and Air Liquide will analyze domestic demand for hydrogen-powered aircraft and establish a roadmap for the introduction of hydrogen fuel, respectively.

"The Asia-Pacific will play a key role as we work towards making climate-neutral aviation a reality," said Airbus Chief Technical Officer, Sabine Klauke. "By partnering with Changi Airport and Incheon Airport, Airbus will leverage the operational and technical expertise of two of the world's leading hubs. The studies we will carry out together reflect the need for a cross-sectoral approach, including manufacturers, airlines, regulators, airports, energy providers and academia. We need bold and coordinated action to achieve our goals."

In a separate announcement, banker HSBC announced it will invest $100 million in Breakthrough Energy Catalyst, a program within the larger Breakthrough Energy network founded by Bill Gates. It will support the growth of climate critical technologies – direct air capture, clean hydrogen, long-duration energy storage and sustainable aviation fuels.

The use of hydrogen to power future aircraft is expected to significantly reduce aircraft emissions in the air and help decarbonize air transport activities on the ground. In 2020, Airbus launched "Hydrogen Hub at Airports" to jumpstart research into low-carbon airport operations across the entire value chain.

Other recent sustainable aviation fuel (SAF) deals include the Qantas Group's decision to purchase, from 2025, 20 million litres of blended SAF annually from U.S. biofuels company, Aemetis, for flights from Los Angeles and San Francisco to eastern Australia. The SAF, produced from waste products and blended with normal jet fuel, will be manufactured at the Aemetis facility being built in California.

Qantas Group CEO, Alan

Joyce, said SAF was critical to aviation's transition to a low emissions future. "Climate change is front of mind for Qantas, our customers, employees and investors. It is a key focus for us as we move through our recovery from the pandemic. Operating our aircraft with sustainable aviation fuel is the single biggest initiative we can do to directly reduce our emissions."

Elsewhere, Boeing has announced the largest purchase of SAF by an aerospace manufacturer, buying two million gallons of 30% SAF blend from EPIC Fuels. In Asia, Neste will open a Singapore sustainable aviation fuel plant in the first quarter of next year. Airbus, Rolls-Royce, Safran and Singapore Airlines signed the Global Sustainable Aviation Fuel Declaration at the Singapore Air Show in February. In Japan, the government aims to have airlines replace 10% of their jet fuel with eco-friendlier alternatives by 2030.

Last month, engine manufacture Pratt & Whitney successfully tested its GTF Advantage engine configuration with 100% SAF at its West Palm Beach facility in the U.S., a critical step forward in producing 100% SAF operation of GTF-powered aircraft. The test program is a key element in readying the GTF Advantage for entry into service in 2024 by validating the engine's performance on 100% SAF in thrust transients, starting and operability.

"We are thrilled to have successfully tested the GTF Advantage engine on unblended SAF," said Pratt & Whitney chief sustainability officer, Graham Webb. "The GTF Advantage represents the greenest, lowest emission engine in the industry. It is demonstrating full operational capability for the greenest aviation fuels of today and tomorrow. Operation on 100% SAF is a key component of the industry's commitment to net zero carbon emissions by 2050 and the completion of these tests brings us closer to that goal."

In his latest media update, International Air Transport Association (IATA) senior vice president Environment and Sustainability, Sebastian Mikosz, said despite the tragedy of the war in Ukraine and rising fuel prices, aviation must not forget about the industry's environmental challenges. "Flying net zero is a fiendishly difficult task that will happen because of systematic, small steps we will pursue." To reach net zero emissions for aviation by 2050, the sector will require around 450 billion litres of SAF, he said. ■

Orient aviation

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