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THAI'S COOL OPERATOR

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Charamporn Jotikasthira,
targets mismanagement
to revive the flag carrier

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YEARS

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Wi-Fi a security
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Mailing address:
GPO Box 11435 Hong Kong
Office:
17/F Hang Wai Commercial Building,
231-233 Queen's Road East,
Wanchai, Hong Kong
Tel: Editorial (852) 2865 1013
Fax: Editorial (852) 2865 3966
E-mail: info@orientaviation.com
Website: www.orientaviation.com

Publisher & Editor-in-Chief

Christine McGee
E-mail: cmcgee@netvigator.com

Chief Correspondent

Tom Ballantyne
Tel: (612) 9638 6895
Fax: (612) 9684 2776
E-mail: tomball@ozemail.com.au

Greater China Correspondent

Dominic Lalk
Tel: (852) 2865 1013
Fax: (852) 2865 3966
E-mail: dominic@orientaviation.com

North Asia Correspondent

Geoffrey Tudor
Tel: (813) 3373 8368
E-mail: tudorgeoffrey47@gmail.com

India Correspondent

R. Thomas
Tel: (852) 2865 1013
E-mail: info@orientaviation.com

Photographers

Rob Finlayson, Colin Parker,
Graham Uden

Design & Production

Chan Ping Kwan

Printing

Printing Station(2008)

ADMINISTRATION

General Manager

Shirley Ho
E-mail: shirley@orientaviation.com

ADVERTISING

South East Asia and Pacific

Tan Kay Hui
Tel: (65) 9790 6090
E-mail: tankayhui@tankayhuimedia.com

The Americas / Canada

Barnes Media Associates
Ray Barnes
Tel: (1 434) 770 4108
Fax: (1 434) 927 5101
E-mail: barnesrv@gmail.com

Europe & the Middle East

REM International
Stephane de Rémusat
Tel: (33 5) 34 27 01 30
Fax: (33 5) 34 27 01 31
E-mail: sremusat@rem-intl.com

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COOL
OPERATOR**

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to revive the flag carrier

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Avoid knee jerk reactions

Operational safety is a given for airlines. The declared goal of the International Air Transport Association (IATA) is zero accidents. It is a commendable target, but probably unattainable.

Air crashes and loss of life will still happen if only for their increasing unpredictability.

All the safety data, aircraft technology and operational precautions in the world could not have prepared airlines for the unexplained disappearance of Malaysia Airlines' MH370, the shooting down of its sister aircraft, MH17, or the crash of Germanwings flight 9525 into a French mountain, allegedly at the hands of a 27-year-old suicidal co-pilot.

Each accident highlighted a gap in airline safety management that had never been so clearly identified.

The industry's response to the tragedies has been swift. To avoid another MH370 disaster, airlines are installing better tracking systems that more frequently monitor aircraft as they journey across the globe. Total global coverage is planned to be with us from November 2016. Several Asia-Pacific airlines are trialling upgraded tracking technology that will be in place from this year.

Last month, the International Civil Aviation Organisation (ICAO) established a website to ensure carriers have the best intelligence about where it is safe to fly, especially over large swathes of the Middle East and the Ukraine where MH17 was shot down. Use of the advice is discretionary.

Unfortunately politics has already marred the worthy effort. After the UK warned airlines about the risks of flying over Iraq, Baghdad protested. Iraq is not the only country expected to object to the ICAO website listings, especially when overflight fees are involved.

A third issue, provoked by the alleged suicidal co-pilot who

crashed Germanwings 9525 into the French Alps, concerns the annual fitness tests pilots undergo to keep flying. Many in the industry support a global industry review of pilot recruitment, ongoing training and health checks.

Association of Asia Pacific Airlines (AAPA) director general, Andrew Herdman, said pilot recruitment is intensively regulated. Once pilots are flying commercially, they are subject to continuous monitoring and regular medicals.

The problem is that the medical check-ups focus on pilots' physical health. Pilots themselves are expected to self-report any mental issues, which is something they are unlikely to do if it brings their careers to an end.

For those who argue there should be specific, regular psychological reviews of cockpit crew, then airline management thinking might also need to change. They must support a system where pilots are not penalized for being honest about their mental health.

These issues aside, IATA and the AAPA, along with other global airline bodies, warn against knee-jerk reactions to these safety threats, often forced on the industry by the power of social media.

The potential for unintended consequences when reacting to this public pressure must be fully considered.

Herdman illustrated the problem with the industry's response to hijacking. Cockpit doors were required to be reinforced to keep hijackers out. No one considered the possibility the threat could come from inside the cockpit. Therefore, it is hard to argue against the view that any measures taken must be the result of a thorough, well-researched, collaborative process, based on global standards and best practices. ■

TOM BALLANTYNE

Chief Correspondent
Orient Aviation Media Group

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Former THAI president dies at 82

Chatrachai Bunya-Ananta, a towering figure in civil aviation most famous for his development of the legendary Thai Airways “Smooth as silk” campaign, died on April 18 in Bangkok, aged 82.

As vice president for marketing at THAI for 14 years from 1972, Chatrachai was influential in making Thailand’s flag carrier one of the most admired airlines in the world, with service standards that were the envy of rivals.

A man of great charm, he became the airline’s executive vice president in 1986 and before retiring in 1993, he served as the first civilian president at the carrier. By then, he and his team had built THAI into one of seven Asia-Pacific carriers in the top 10 most profitable airlines in the world.

Anyone who has flown with THAI will be familiar with the Chatrachai era magic: the Smooth as silk slogan, the symbolic logo, the purple orchids of Thailand, the traditional Thai uniforms on departure, modern attire on arrival - and great Danish pastries on an Asian airline.

The Smooth as silk campaign has been recognized as pivotal



to the success of the carrier’s global marketing campaigns. It replaced “Get into it”, which was considered too suggestive.

As the public face of THAI, Chatrachai introduced an annual marketing activity plan in 1972, which drew in the airline’s representatives from across its widening route network. The meetings were thrown open to the media and

promoted different regions of Thailand. Marketing Thailand as a destination was as important to Chatrachai as promoting THAI. Veterans at the carrier miss the enthusiastic national team spirit he inspired.

In 1993, after serving his term as chairman of the Orient Airlines Association, the forerunner of the Association of Asia Pacific Airlines, he

told Orient Aviation’s founder, Barry Grindrod, in an interview in 1993, that he would chose exactly the same career if he had his time over again.

After he graduated in economics from Wales University, Chatrachai was working as a policeman, as part of his military service, when BOAC recruited him as a management trainee. “They were looking for graduates who already had a couple of years work experience. I was so excited when I was approached. All aspects of the airline industry were exotic in those days and BOAC had one of the best civil aviation schools in the world,” he told Orient Aviation.

He spent the next 12 years with the British airline, working in many Asian cities, before he joined THAI in 1971, where he eventually became the first civilian to run the carrier. Many in the industry regard the years that Chatrachai was in charge as the golden era of the carrier.

Chatrachai is survived by his wife, Shirley, daughter Tania and her daughter Alexia Traill, daughter Anna, son-in-law Tom Whitcraft and grandson, Nicholas Chatrachai Whitcraft. ■

U.S. White Paper distorts my gulf carrier report says academic

Cranfield University lecturer, Dr. John Frankie O’Connell, said the U. S. carriers’ White Paper on alleged Gulf airline subsidies has made false claims from arguments put forward in his recent research paper.

The UK academic said his work was distorted several times in a 55-page White Paper, Restoring open skies: the need to address subsidized competition from state-owned airlines Qatar and UAE. His own paper, The rise

of the Arabian Gulf carriers: an insight into the business model of Emirates Airline, was published in the Journal of Air Transport Management.

“I feel that my views were inaccurately interpreted and skewed to serve objectives unrelated to my paper,” Dr. O’Connell said. He said the White Paper substitutes Emirates as a beneficiary of Dubai airport’s fee structure when he wrote all airlines benefit from it.

He also said that duty free subsidization of cheaper landing fees is not exclusive to Dubai, Doha and Abu Dhabi as intimated by the White Paper. It is a common practice worldwide for duty free facilities and other sources of non-aeronautical revenue such as car parking to subsidise landing fees and charges, he said.

The White Paper was also guilty of distorting the unit labour costs of Gulf carriers and its rivals.

Dr O’Connell said. “The unit costs in Euros for the latest financial year for Emirates and Singapore Airlines are very similar. The unit labour cost parity indicates that the Guf incumbent is subjected to the same productivity challenges as its Asian counterpart.”

Over to you Richard. Richard Anderson is CEO of Atlanta-based Delta Air Lines and is a forthright opponent of increasing Gulf carriers’ access to the U.S. market. ■

Onboard Wi-Fi vulnerable to malevolent hackers

By Tom Ballantyne

More and more airlines are introducing wireless entertainment systems onboard, but a U.S. government report has raised the possibility that the systems could be a serious security risk to carriers worldwide.

The report, from the U.S. Government Accountability Office (GAO) has warned wireless entertainment systems could be hacked inflight by passengers, allowing access to flight controls.

It said this is one of several emerging cyber-security weaknesses that the Federal Aviation Administration (FAA) must address as America's air traffic control systems move toward next generation technology. "Internet connectivity in the cabin should be considered a direct link between the aircraft and the outside world, which includes potential malicious actors," the report said.

The potential threat is not being ignored in the Asia-Pacific. Andrew Herdman, director general of the Association of Asia Pacific Airlines (AAPA), told Orient Aviation cyber security is regarded as an emerging threat and risk and has been the subject of considerable discussion within the industry.

"One of the issues is the operation of multiple systems. Because of the need to have



interoperability worldwide among these systems a lot of them are not encrypted, which raises the question of their vulnerability to attack. It's something the industry overall is conscious of," Herdman said.

He said for aircraft, maintaining separation between aircraft systems and IFE systems always has been understood. Major manufacturers such as Boeing and Airbus have maintained complete separation of the systems as a design principal in their aircraft, but Herdman said this built in security may not provide total protection.

"It is true that as the systems become more sophisticated and you have data where everything's fly-by-wire and on the communications backbone, you must ask if you are you relying on network firewalls to protect one system from another?"

He said cyber security experts from other industries point out the vulnerability is often not in a company's own systems. Because airline systems are interconnected to their suppliers and their distributors the security vulnerabilities can come through the back door.

"Cyber security experts have warned that everything is connected. You can't isolate yourself. The question is: What is your defence? A firewall is subject to penetration. That's one topic of discussion," Herdman said.

In the U.S., Federal Aviation Administrator, Michael Huerta, agreed with the GAO's findings and said the aviation regulator has started working with government security experts, including the National Security Agency (NSA), to identify needed changes.

"This threat will continue

to evolve and it needs to be at the forefront of our thinking," he told a U.S. Senate oversight panel. GAO investigators said cyber security experts told them onboard firewalls intended to protect avionics from hackers could be breached.

One expert told investigators "that a virus or malware" planted on websites visited by passengers could provide an opportunity for a malicious attack. Lawmakers in the U.S. Congress called on the FAA to act. "This report exposed a real and serious threat – cyberattacks on an aircraft in flight," said U.S. Representative Peter DeFazio, ranking Democrat on the House Transportation and Infrastructure Committee.

"The FAA must focus on aircraft certification standards that would prevent a terrorist with a laptop in the cabin or on the ground from taking control of an airplane through the passenger Wi-Fi system."

Herdman pointed out airlines faced potential cyber threats beyond the issue of safety. "At a lower level, there is the embarrassment for an airline if an attack leads to loss of passenger data or credit card information.

"Travel agents and airlines are like banks and retailers. They have huge data bases of sensitive information about passengers. This is another dimension of security that is not to do with flight safety but it shows that like every business on earth today, we are IT dependent." ■

India's carriers bound for America

The U.S.'s Federal Aviation Administration has restored India's category 1 safety rating, freeing the country's carriers to expand in the U.S. market.

By Tom Ballantyne

It took a year of exhaustive reevaluation of its safety oversight, supported by a U.S. consultancy group, but the effort proved worth it for India's Directorate-General of Civil Aviation (DGCA). In April, the country's civil aviation minister, Ashok Gajapathi Raju, announced the Federal Aviation Administration (FAA) of the U.S. had restored India's safety rating to Category 1.

The upgrade is crucial for India's international airlines. The U.S. is home to more than 1.5 million Americans of Indian origin, many of them affluent professionals, and is one of the subcontinent's most vital growth markets.

After a visit to India earlier this year by U.S. president, Barack Obama, the two governments have been promoting stronger economic ties, a development that promises increased travel between

the two nations, particularly in the lucrative corporate sector.

The FAA downgrade to Category II, imposed in January 2014, barred Indian airlines from adding destinations to the U.S. or changing aircraft types on routes into America. It was the result of several FAA concerns, which ranged from inadequate training for industry regulators to poor safety oversight and a shortage of flight inspectors.

India's path back to safety acceptability was assisted by a U.S.-based consulting firm, The Wicks Group, which took on a 12-month contract last June to assist India's DGCA in restoring its Category 1 safety rating.

The contract was organized under a bilateral assistance program funded by the U.S. Trade and Development Agency (USTDA). In a statement on its website, The Wicks Group said

the Category 1 achievement "is noteworthy due to the compressed time period in which it was accomplished and the size and scale of the DGCA organization, overseeing an aviation environment as large as the one present in India".

Wicks consultants advised on India's system of certifying air operators and aviation training organizations, the training of newly hired and existing inspectors, improving regulations and guidance materials in accordance with international norms and re-structuring some divisions of the DGCA.

Air India and Jet Airways, the two

Jet Airways B777ER: Returning India to a category 1 safety rating will allow Jet Airways expand its U.S. network

airlines flying to the U.S. from India can now increase flights to America. The downgrade's removal also will help Indian carriers write code-shares with American partners.

It is understood Jet, which flies to Newark, New Jersey, will consider expanding its services to the U.S. It had to put plans to re-start New York flights and launch a Chicago service on hold after the downgrade was imposed.

However, Jet can co-operate with its part-owner, Abu Dhabi's Etihad Airways, which flies to six U.S. destinations. Two of these routes, to Chicago and New York, are operated by Etihad using B777-300ERs that were first acquired by Jet Airways.

If the Indian government removes the controversial 5:20 rule, which prohibits India's airlines from flying offshore until they have been operating for five years and have a minimum fleet of 20 aircraft, it is certain more Indian carriers will want to fly to the U.S. India's new full service carrier, Singapore Airlines-TATA joint-venture Vistara, has said it wants

to service America. ■



Indian international airlines revamp their fleets

India's airlines might not reap immediate benefits from the restored FAA safety rating as they struggle to optimize their fleets to match route economics

Jet Airways' executive team said it had no plans to reduce its international operations, but sources have suggested management is considering either an outright sale or a sale and lease back of its wide-body fleet to raise cash and retire a portion of its significant debt. At press time, Jet had 22 wide-body planes (10 B777-300ERs and 12 A330-200s). Six A330s

are on operating leases and the remaining 16 airplanes are on financial leases. Jet only uses five B777s and seven A330s with the other 10 aircraft leased to Etihad Airways and Turkish Airlines, respectively. Later this month, Jet will seek shareholders' approval to raise up to \$400 million from "issuing secured and/or unsecured, listed and/or unlisted non-convertible debentures and/or subordinated debt instruments".

Rival Air India is still deciding if it will convert some of its seven remaining B787-8 orders into commitments for the larger -9 variant. "We are in

discussions with Boeing. We will not be paying any extra money for the bigger -9 planes and may induct less than seven planes. All of these are being discussed," Air India managing director, Rohit Nandan, told The Economic Times. At press time the Delhi-based carrier operated 20 B787-8s, with the 21st airliner scheduled for service entry in June. India's Financial Express earlier last month reported the flag carrier was losing money on all its B787-operated routes, but said five routes, including Delhi - Moscow were performing particularly poorly.



ADJUSTING AIR SAFETY PARAMETERS

In the 14 months since the disappearance of a Malaysian Airlines passenger jet and its 239 passengers and crew gaps in operations have been revealed that had never been imagined by the industry.

Tom Ballantyne reports

A long haul passenger jet disappears, with 239 passengers and crew onboard, and has yet to be found after 14 months of searching. A ground-to-air missile shoots down a commercial aircraft flying over the Ukraine last July. No one survived.

A suicidal pilot flies his aircraft into a French mountain. Again all lives were lost. A short haul journey between

Indonesia and Singapore becomes a death sentence for its passengers after the aircraft crashed into the sea in bad weather. Several lesser incidents and accidents in Asia have taken lives and injured many.

It's been an unnerving 14 months for the airline industry, which the director general and CEO of the International Air Transport Association (IATA), Tony Tyler aptly summed up as "an extraordinarily difficult time".



“Despite the improving safety trend, we have been confronted by a sequence of what seem like random disasters that have raised questions,” he told delegates at IATA’s annual safety operations conference, held this year in Los Angeles, in March.

“Three in particular have grabbed the global attention of the media and regulators. And that is understandable. Aircraft operating in open civilian airspace under radar control are not supposed to disappear nor be shot down by missiles.

“The first priority of all flight crew is the safety of those onboard. These assumptions have been up ended. And we, as an industry, are moving forward to identify and address what has come to light as a result of the recent tragedies.”

In the three most publicized cases – the disappearance of Malaysia Airlines (MAS) MH370, the shoot-down of MAS MH17 and the tragedy of Germanwings flight 9525 crash in the French Alps – the industry has quickly sought solutions to prevent each of these accidents, in very different circumstances, from happening again.

Rapid development of satellite-based tracking systems is progressing. The International Civil Aviation Organization (ICAO) has launched a new pathway to deliver warnings to airlines about conflict zones. Around the world, many airlines and regulators have changed standard operating procedures to ensure two crew members are in the cockpit at all times.

But airline industry leaders caution against “knee jerk” reactions to the accidents. Andrew Herdman, director general of the Association of Asia Pacific Airlines (AAPA) told Orient Aviation that 2014 was the safest year ever for commercial aviation.

“There is a contrast between the accident rate going down steadily and a small number of accidents that are unique, but generate great public interest.

“The public response builds pressure to do something, to address individual accidents. There is a danger you jeopardize 30 million plus safe flights every year with changes that may have unintended consequences.”

Herdman said the Germanwings case is an example. Evidence suggested the co-pilot, Andreas Lubitz, locked his captain out of the cockpit and deliberately steered his A320 into a mountainside killing all 150 passengers and crew.

“Several years ago, reinforcing the cockpit doors was a response to the hijacking threat. Now we have to ask what will happen if the threat is from the other side of the cockpit door? Hijacking threats are very rare. You have to weigh up a very low probability of an unpredicted event that causes a tragedy - approximately one in a hundred million - before we make changes. We must assess what a new rule will do to the overall safety performance of the

Asia-Pacific regulatory oversight disappoints

The director general of Association of Asia-Pacific Airlines, Andrew Herdman, said a major issue for airline safety in the Asia-Pacific is the failings of regulatory oversight in the region. A report earlier this year from the International Civil Aviation Organisation (ICAO) said a third of air accidents in the region - from 2008 to 2012 - involved deficiencies in regulatory oversight and another 27% involved deficiencies in safety management.

The director general and CEO of the International Air Transport Association (IATA), Tony Tyler also has been focal on this subject. In a March speech in Jakarta he expressed concern about safety in Indonesia and warned it was a problem that was not going to solve itself. There also have been major problems in the Philippines, India and most recently Thailand, with carriers facing downgrades or bans in the U.S., Europe and elsewhere because of deficiencies in their regulators’ oversight.

“That’s another reminder of something we’ve talked about many times. We need more effective regulatory oversight by countries,” said Herdman.

“It’s no good being a very accomplished airline, operating to global standards and higher, if you have a national regulator that falls short of international standards.

“It makes life very difficult because the airlines are subject to sanctions even though it’s the regulators of these countries that U.S. and the European Union are targeting. What’s happened in Thailand recently is another reminder that regulatory oversight must be taken seriously by governments throughout the world.”

system,” he said.

IATA agrees. “It may well turn out that some, or all of these [recent] initiatives, will be superseded by other measures, arrived at via a thorough, well-researched, collaborative process, based on global standards and best practices,” Tyler said.

“This has been the industry’s modus operandi for decades. It has helped make aviation the safest form of long-distance travel the world has known.”

Examples of the “knee-jerk” reaction aren’t hard to find. After the March Germanwings crash, the German air traffic control authority called on the aviation industry to

consider technology that allows people on the ground to take remote command of a passenger plane and land it safely. “We have to think past today’s technology,” said Klaus Dieter Scheurle, head of the Deutsche Flugsicherung.

Herdman said the fact a human being is in the cockpit has always been comforting for passengers. “Taking remote control of the aircraft has been

“Future safety gains will come increasingly from analyzing data from all flights, not just the infinitesimal percentage of flights where something goes wrong, just 0.0002% last year”

Tony Tyler

Director general and CEO
International Air Transport Association



Social Media's impact on safety investigations

However safe the industry is statistically, most experts conceded accidents are inevitable, but many believe the impact of social media on safety investigations can be unhelpful.

At the annual IATA safety conference last month one of the topics discussed was the pressure to respond immediately to an accident. The director general of the Association of Asia-Pacific Airlines, Andrew Herdman, said this pressure for an instant response to accidents or incidents is now irresistible. "In the past, you would conduct a very measured accident investigation over 30 days, produce an initial report and then conduct a fuller investigation in 12 to 18 months and submit a final report," he said.

"Now we live in a world of real time media news reporting and tremendous pressure to reveal information before it has been validated. This makes people who have been in the industry a long time, including accident investigators, rather uncomfortable.

"How do you meet current public expectations and maintain public trust when there is a frenzy of speculation that could be fiction, not fact. You can't say 'give me time,

leave it to me, we'll study it and let you know'. Accident investigators are feeling that pressure."

IATA director general and CEO, Tony Tyler, said the industry's responsibility is to keep flying safe, but it had to fulfill it in a world where expectations are constantly changing. "The Germanwings tragedy is a good illustration of change. Almost immediately the leaders of three nations visited the crash site," he said.

"And as more information was released it dominated conversations around dinner tables, across social media networks and also in the traditional media. How we fulfill our promise on safety is in the global public spotlight. And the challenge becomes even more intense as the nature of accidents is changing with their rarity.

"We want every flight to be a safe one. And we have come extremely close to meeting that goal. But accidents still happen. Finding the cause of the accident and implementing measures to avoid it happening again will always be paramount. But in today's reality the need to communicate constantly — even when we don't have all the answers — has taken on critical importance."

discussed in the case of pilot incapacitation. It's technically feasible, but it opens up other risks about the reliability of that control. You still have a pilot on the ground doing the flying anyway."

Another facet of the current debate about safety is the extent fully-automated aircraft should be allowed to over-rule pilot input. "A lot of the fly-by-wire technology incorporates protections in that regard, but when a situation develops where the pilot wants to do one thing and the aircraft's system wants to do another, what rules do you lay down about controlling those situations?" asked Herdman.

"Nobody wants a situation where the autopilot won't let the pilot fly if the pilot has a broader sense of the situation. Automated systems are fine if they are working fine, but when you have major mechanical failure automated systems are not very good at determining what to do if you've lost a lot of electrical power or hydraulics. A human being can adjust to that situation."

An example of this situation was the Qantas A380 flight QF32, which suffered an engine explosion after take-off from Singapore, said Herdman. "It's hard to imagine the automated system would have brought that to a successful conclusion. It was the human pilots who worked very successfully to manage a crippled aircraft and bring it back safely," he said.

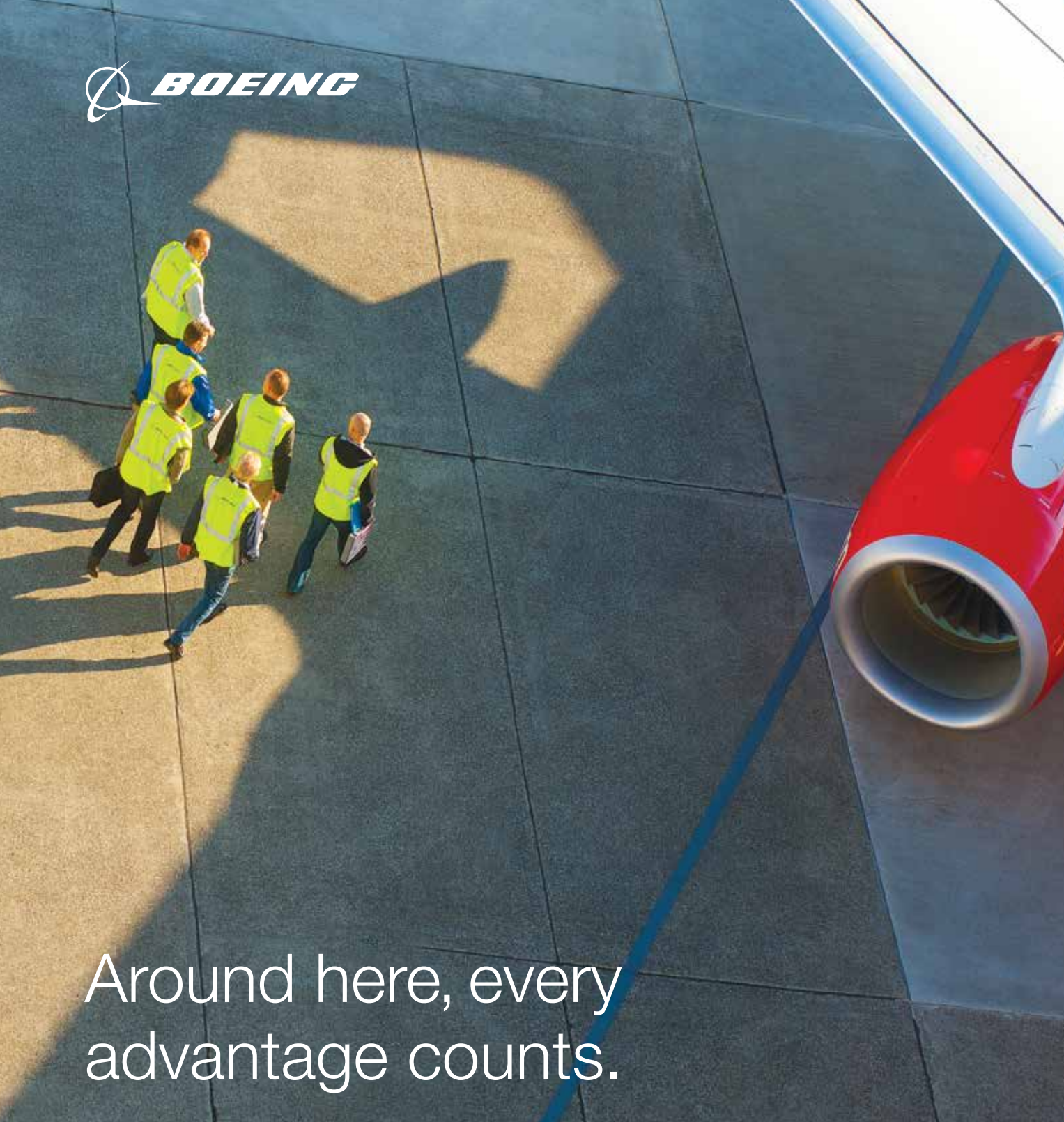
Since the Germanwings tragedy in March, when it is alleged the pilot was

suicidal when he took control of the aircraft, another tenet of established air safety has been challenged: the systems airlines normally use to monitor the physical and mental health of their cockpit crews.

The recruitment and training of pilots is exactly regulated. Once they are flying commercially they are subject to continuous monitoring and regular medical check-ups. Now the debate is about including psychological testing in the annual medical assessments pilots must undergo.

Currently, the assessments focus on pilots' physical health such as eyesight and cardiovascular fitness. Some observers said a system that relies on self-reporting by pilots who are suffering from depression or other mental issues is flawed because



An aerial photograph of an airport tarmac. In the lower-left quadrant, a group of seven ground crew members wearing high-visibility yellow vests are walking. In the upper-right quadrant, the red and white engine nacelle of a Boeing aircraft is visible. A large, light-colored arrow is painted on the dark asphalt surface, pointing towards the upper right. The scene is brightly lit, casting long shadows.

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most crew are highly unlikely to report diagnosis of mental health problems if it could end their careers.

Skaiste Knyzaite, chief executive of Lithuanian-based AviationCV.com, a provider of aviation staff including cockpit crew, said in a statement that recent tragic events cast a shadow on some aviation safety related procedures, particularly pilot mental health evaluation.

“It appears that even though hundreds of lives are in the hands of an aircraft pilot daily, it is pilots themselves who are responsible for assessing their own mental health. Airlines perform thorough background checks and seek reference letters for prospective crew but all that is done at the beginning of pilots’ careers,” she said.

“Later on, yearly checks, containing a couple of tick-boxes regarding mental illness is all that’s done to evaluate the overall capability of an aircraft pilot, leaving him as the sole authority to decide if his mind is set for the job.

“Note that one in four people around the globe are affected by a mental or neurological disorder according to the World Health Organization, so such an attitude rightfully becomes the reason for public concern.”

She added many regulators are reviewing their procedures in the light of recent events, but most of them say the current practice of assessing mental health is sufficient. “Moreover, they claim that no matter the changes, it is impossible to ensure that accidents caused by pilot’s mental stability are eliminated altogether,” she said.

Better progress has been made about commercial airlines operating over conflict zones. Last month, ICAO launched a website that distributes warnings about risks to aircraft. Setting up the website followed the downing of MH17 over the Ukraine on July 18 last year. The initial advisories came from the U. K. and warned of the risks of anti-aircraft weaponry in Libya, Iraq, South Sudan and the Sinai Peninsula in Egypt.

AAPA’s Herdman said Iraq objected to the bulletin. “It’s a reminder of how difficult it is going to be to persuade countries to share intelligence and opinions. There’s a subjective element to it. It could be contested by other States who have a different view and obviously different interests,” he said.

“It’s good that it’s up and running, but it’s going to be very interesting to see the quality of information. It’s just an additional input to an already very complex process of risk assessment.” He said it did not change the fact that airlines have to be mindful of guidance from the regulators and whether it’s mandatory or advisory.

“Ultimately, it’s up to airlines to assess everything, including the weather and operational risks and threats. Each airline has to decide where it is going to fly. By the same token, passengers can choose where and how they want to fly.

“We have to recognize the risk assessment is a complex system and it works well. Can it be improved? Certainly. But this new initiative has to be seen in the context of that overall decision-making process.”

Herdman criticized ICAO for carrying out safety audits

then leaving enforcement to others. “We’re not supportive of the fact that it’s the U.S. and the EU see their role as the key enforcers of this policy. We’d much rather see that ICAO showed more leadership, not by just publishing the audit finding but holding States accountable for the fact they are not compliant,” he said.

Tyler said that on the technical front, data will guide understanding of the minutiae of what is happening during a flight to make flying even safer. “We do not really have a choice. Much of the low-hanging fruit that can deliver major safety improvements has been harvested. As a result, there are so few accidents that they cannot yield the trend data that is vital to a systemic risk-based approach to improving safety. In 2014, there were just 73 accidents of all types, in 38 million flights,” he said.

“Future safety gains will come increasingly from analyzing data from all flights, not just the infinitesimal percentage of flights where something goes wrong (0.0002% last year). That is what is behind the Global Aviation Data Management (GADM) program. It is a comprehensive safety data warehouse. GADM includes analysis reports covering accidents, incidents, ground damage, maintenance and audits and data from nearly two million flights and over one million air safety reports.” ■

Search for MH370 widens

The mystery of Malaysia Airlines (MAS) missing flight MH370 persists, but as the deep sea hunt for wreckage in the primary search area in the Indian Ocean approaches its scheduled end this month, the governments involved announced the search zone will be doubled.

In a Kuala Lumpur meeting in April, the transport ministers of Malaysia, Australia and China said that if the aircraft was not found in the current search area, they would extend the search area by 60,000 square kilometres. The renewed efforts will expand the search area to 120,000 square kilometres.

The MAS B777, with 239 passengers and crew aboard, disappeared on March 8 last year on its way to Beijing from Kuala Lumpur. Not a single piece of wreckage has been found, despite a massive and painstaking search of the sea floor in the southern Indian Ocean.

In a joint statement after the meeting, Malaysian Transport Minister, Liow Tiong Lai, Australian Deputy Prime Minister, Warren Truss, and Chinese Transport Minister, Yang Chuantang, said the expanded search area “covered the entire highest probability area identified by expert analysis” for location of the aircraft.

The second phase of the search will cost an estimated US\$38.74 million, which would be borne by Malaysia and Australia, Liow said. The total search area, including the extension “would cover 95% of the flight path,” he said. The current search area of 60,000 sq km, considered by experts to be the likeliest final resting place of the aircraft, lies 1,600 km west of Perth, Western Australia. Four vessels, equipped with sophisticated underwater drones, have been involved in the search.

North Asia shunned for booming Shanghai

America's long-haul carriers are shifting away from former North Asia bases in Japan and South Korea and developing Shanghai as an international hub.

By Tom Ballantyne

For years, most air traffic between China and the U.S. was channeled through intermediate hubs such as Hong Kong, Tokyo and Seoul. Today, it's a different story. Chinese and North American airlines are fighting back by expanding their Trans-Pacific operations.

Big U.S. airlines have been focused on the North Atlantic as their largest long-haul market, but they are now turning to Trans-Pacific routes for growth, with China well and truly in their sights.

The latest move is a Delta Air Lines' plan to establish an international hub in Shanghai. The Atlanta-based carrier operates daily flights to Beijing from Seattle and Detroit and, subject to government approval, intends to offer 28 weekly departures to Shanghai, using its hubs at Detroit, Seattle, Los Angeles and Tokyo-Narita.

The development has drawn attention to another significant adjustment in Asia's aviation landscape: China is fast drawing Trans-Pacific business away from Japan. According to a report from consultancy CAPA last month, North American air traffic expansion into

China has doubled in recent years, but has stagnated in Japan. "From July 2013 to July 2015, China-North America capacity has increased around 60% and the biggest market, Japan, has decreased by some 20%," the consultancy said.

U.S. airline route maps are no longer anchored around Tokyo. Of the big three U.S. carriers, United has been the most diversified. In 2005, 57% of its Asian capacity was into Japan. American and Delta had 100% of their Asian capacity into Japan.

In 2014, American had 42%, United 41% and Delta 65%. With the launch of Dallas-Beijing flights in next month, American will have more capacity to China than to Japan for the first time in its history.

U.S. carriers are adding Chinese cities to their networks as big Chinese carriers operate routes to North America. The Americans are going beyond Beijing, Shanghai and

Guangzhou. "China Southern's Wuhan-San Francisco and China Eastern's Nanjing-Los Angeles services are two recent examples," said CAPA.

"Four secondary Chinese cities are linked to North America. It is not just the non-stops losing favour. Delta and United are decreasing their intra-Asia flights, mostly from Japan. Some flights are being replaced by partners, with United cancelling Tokyo-Bangkok in favour of an All Nippon Airways codeshare.

Delta is winding down flights as it adds non-stops to Asian cities outside Japan. The numbers are still small, but the direction is clear. Xiamen Airlines is expected to add a secondary route to North America and if that eventuates, Hong Kong Airlines, MIAT Mongolian

Airlines and TransAsia will be the only North

Asian widebody operators not flying the Trans-Pacific route.

CAPA said the North Atlantic to Europe market is the largest long-haul segment for North American airlines, but it is the Pacific to Asia routes that offer the most opportunities for growth. In 2010, there were 392 daily flights between North America and Western Europe, according to OAG.

In 2015, this is forecast to be 441. Between North America and Asia, there were 124 daily flights in 2010, but in 2015 it is forecast it will be 178. The numbers highlight the fact that for many airlines, flying the North Pacific has been unprofitable.

In June last year, on the eve of launching services from Dallas to Shanghai and Hong Kong, chief executive of American

Korean Air declined a Delta Airlines approach to broaden the relationship beyond a single code-share



Airlines, Doug Parker, said Asian routes were “investments for the long term”. Fast forward to January 2015. The airline’s president, Scott Kirby, said: “with fuel prices where they are today, we’d expect even our Asian routes to be profitable in 2015”.

The report also draws attention to a spat between SkyTeam alliance partners, Delta and Korean Air (KAL). They have a code-share agreement on a single route, but Delta has sought a more comprehensive joint venture with KAL. The Korean flag carrier, the largest Asian airline operating across the Pacific, rebuffed the approach.

In response, Delta cut earning rates for frequent flyers travelling on KAL. Incheon airport, which carried fewer transit passengers in 2014 than in 2013, is lobbying for Delta to move its Japan hub to Korea’s

Chief executive of American Airlines, Doug Parker, said Asian routes were ‘investments for the long term’. Fast forward to January 2015 and president, Scott Kirby, remarked that with fuel prices where they are today, we would expect even our Asian routes to be profitable in 2015

flagship gateway but it appears Delta has opted for China instead.

“The Delta-Korean Air spat has its origins in Delta believing Korean Air has ‘unfairly’ used its Seoul hub to carry China-U.S. traffic. The China-U.S. market has been big, but until recently was largely neglected by Chinese and American carriers, leaving it to airlines in Hong Kong, Japan and Korea,” said CAPA.

Sixth freedom traffic accounts for 20%-40% of the

China-U.S. market. Chinese and American airlines, the end-to-end operators, are now fighting back against the intermediate operators.”

The decision by Delta to set up a Shanghai hub followed a recent partnership deal with China Eastern (CEA) and a code-share agreement with Shanghai Airlines (a wholly owned subsidiary of CEA).

It plans to use its Shanghai Airlines relationship to offer connecting flights to nearly 30

destinations in China. Among them will be Guangzhou, Shenzhen and Nanjing and would also include four new destinations: Zhengzhou, Guiyang, Nanning, and Tianjin. The Atlanta-based airline has co-located with CEA inside the Shanghai Airport, shifting its passenger operations from Terminal 2 to Terminal 1.

It offers its website and airport kiosks in the local language, to create a customer-friendly image in the Chinese market and will employ Chinese-speaking flight attendants on every flight to and from China.

Inflight food and beverages will include Chinese cuisine, already a long held practice by most non-U.S. international airlines. As well, Delta has started accepting payments from Alipay, a leading third-party online payment company in China. ■

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Gulf carriers mount assault on U.S. White Paper allegations

Gulf airlines are no strangers to allegations their success is down to government subsidies. Last month, the chief executives of two of the “big three” Middle East carriers took to the global stage to argue their case against the most recent broadside, this time from American carriers.

By Tom Ballantyne

Etihad Airways president and chief executive, James Hogan, is no shrinking violet. In London last month he made clear his view the latest attack on the Gulf carriers: “The dark clouds of protectionism are gathering,” he declared. “Five mega-carriers are trying to pull the ladder up after years of having it their own way.”

Emirates Airline president, Tim Clark, also in London, told a press conference: “We are an unsubsidized carrier, always have been. We operate on a commercial basis. We are required to. We have no access to cheap funding from the government of Dubai. We have no access to free fuel... all the things that are thrown (at us) we will deal with reasonably and fairly. I hope (after that) it will be put to bed once and for all.”

Clark was commenting on a 55-page White Paper submitted to the White House and Congress in the U.S. by three American headquartered global carriers, Delta Airlines, United Airlines and American Airlines. They have claimed Emirates, Etihad and Qatar Airways have benefited from more \$40 billion in state subsidies in the past decade. These funds, the American carriers alleged, are in breach of open skies agreements.

Clark said Emirates has invited the U.S. government to look at the airline’s books to prove true



Emirates Airline has invited the U.S. government to examine its books to counter U.S. airlines’ allegations said the Dubai carrier’s boss, Sir Tim Clark

his statements. Clark, Hogan and Qatar Airways chief executive, Akbar al Baker, have consistently and strongly denied claims of “state aid” from their respective governments.

Hogan said while the U.S. carriers mentioned the issue of subsidies 42 times in their report, the customer was mentioned only once. “The people who will really lose if these giant legacy airlines are successful are the millions of travellers benefiting from new choices in the global air travel market,” he said.

In Europe, major airlines, particularly Germany’s Lufthansa and Air France, have been lobbying against the Gulf carriers, protesting at their increasing penetration of markets by their investments in local operators, mainly Etihad’s. The Abu Dhabi flag carrier has equity in Alitalia, airberlin and

the Swiss regional, Darwin Airline (now Etihad Regional).

At a meeting of European Union transport ministers in April, the French and German representatives asked the European Commission to address the subject of government subsidies in its negotiations for a new commercial aviation agreement with the Gulf states. Lufthansa and other European carriers have called for a halt to approvals of new routes for Gulf airlines into Europe.

Etihad’s Hogan warned the ultimate price of any action taken against Gulf airlines would be the impact on the growth of the global aviation industry. While in Europe he met the European Commission Transport Commissioner, Violeta Bulc, he said Etihad contributes multi-billion Euros to European economies.

Research conducted by Oxford Economics verified that Etihad’s core operations in the EU contributed \$1 billion to the combined GDP (Gross Domestic Product) of the 28 EU member nations and supported more than 11,000 jobs last year, said Hogan.

Additionally, the airline’s 2014 capital spending on aircraft and other aviation equipment contributed \$2.6 billion to the EU’s GDP and supported more than 28,100 jobs. The research showed that during the past decade, the

airline’s operations contributed approximately \$6.1 billion to the EU GDP, while its capital spending on aircraft and aviation equipment exceeded US\$11 billion.

“Etihad Airways is not just another foreign airline flying to Europe to poach local traffic,” he said. “We are a sophisticated partner and investor in Europe for long-term mutual benefit.

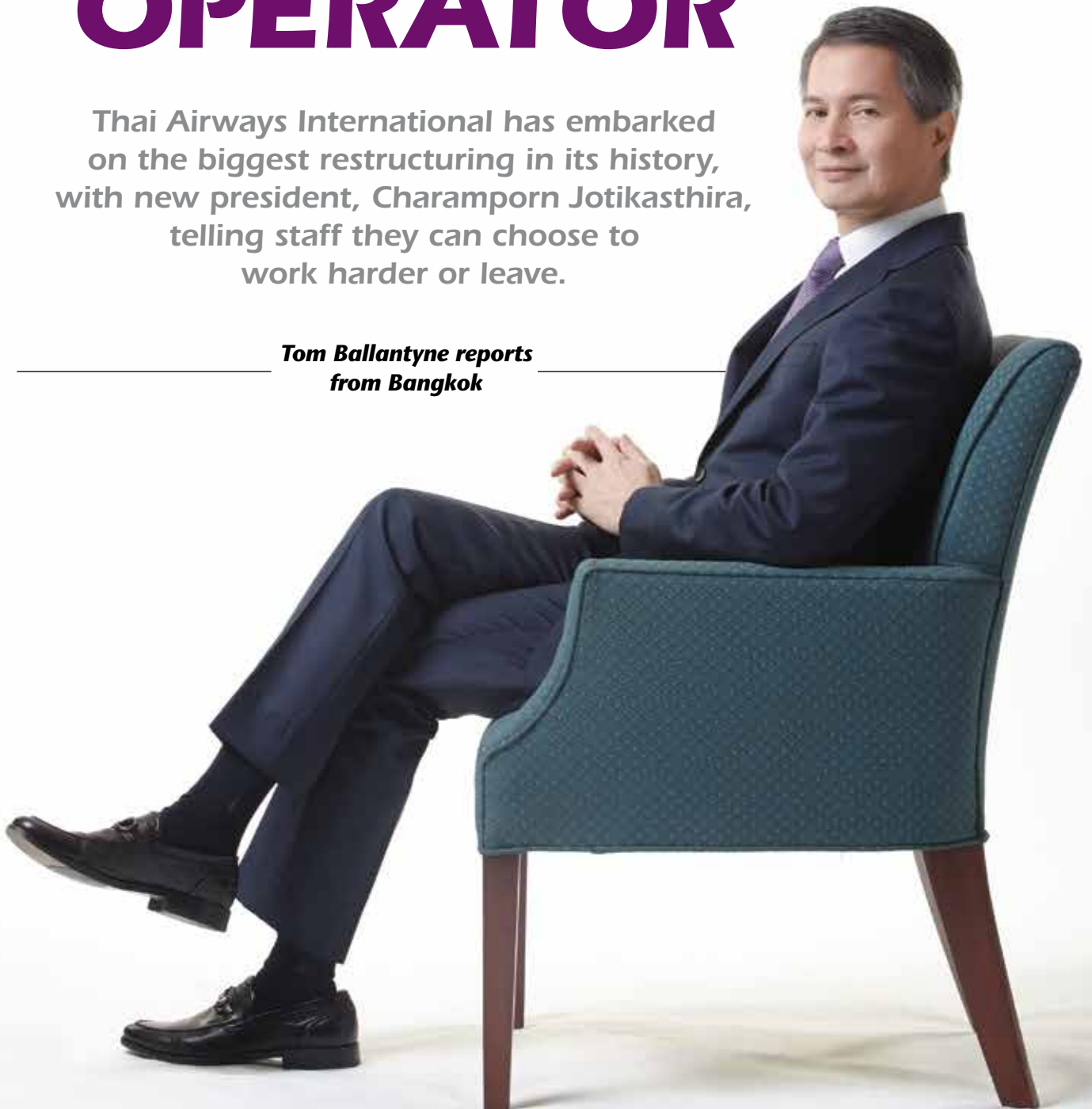
“Through our own flights, our 21 European codeshare partnerships and our minority investments in five European airlines, we are adding value to Europe in a way that no other foreign airline is. We also operate one-stop services between Europe and 19 destinations not served by any EU carriers. And we provide codeshare access to many of these markets for European airlines, including connections to Australia for 11 carriers, five of which ceased operating their own services on these routes before we entered the market.”

Hogan warned “growing resistance to us from a handful of protectionist competitors could have unintended consequences well beyond limiting our development. If our growth is curtailed or our investments in airlines are compromised, the real damage will be to Europe in lost jobs, lost flight connectivity, lost investment in local and national economies and lost consumer choice,” he said. ■

THAI'S COOL OPERATOR

Thai Airways International has embarked on the biggest restructuring in its history, with new president, Charamporn Jotikasthira, telling staff they can choose to work harder or leave.

*Tom Ballantyne reports
from Bangkok*





When Charamporn Jotikasthira (57), a former president and chief executive of the Stock Exchange of Thailand, took charge of Thai Airways International (THAI) last December, he chose as his first task to deliver a sobering message to the carrier's 25,000 plus employees.

The airline was in "a critical situation", he told them last December and its government owners would not be bailing out the carrier this time around. His message was pressed home with the screening of a 90-second video featuring the country's prime minister, Prayut Chan-o-cha, a retired army officer and head of the Thailand's National Council for Peace and Order (NCPO), who added political heft to Charamporn's speech.

"The prime minister said: 'if the staff or the union did not take heed of the need for change, the government would close down the airline, like any other airline in any other country or sell Thai International to foreigners,'" Charamporn told Orient Aviation. It brought the reality of the airline's business home, he said.

There is no doubt that the new president, who has spent most of his working life in the private sector, and the junta government, are not making idle threats. They are fully aware of THAI's fragility so they are insisting that THAI's staff understand that the carrier's radical management and operational strategy must succeed.

For the fiscal 2014 year, THAI reported an after-tax loss of \$482 million, which followed losses of \$392 million in 2013. Revenue has declined by 10%, with much of the drop the result of Thailand's months-long political upheaval. As the country's vital tourism industry stuttered and budget competition increased, THAI reported seven consecutive quarters of losses. Four months into this year, it is still not making money.

In April, the carrier took a significant step forward in its recovery. It commenced offering voluntary early retirement packages to some 2,000 employees. To be eligible for the package, airline staffers must have worked for the airline for at least 15 years and be older than 50. To date, the package excludes cockpit and cabin crew.

The eventual goal is to cut staff by 20%, to 20,000 workers, by 2017. The other critical elements of the re-structuring are the downsizing of the fleet by 22 jets in 2015, introduction of a network rationalization plan that will cut out the deadwood in the route network and a cost reduction program across the entire airline.

Charamporn told Orient Aviation in an exclusive interview, he is confident that by sticking to the plan his goal of a recovery by 2017 will be achieved. There is no questioning the new president's financial credentials for the task at hand. Aged 57, he holds an MBA from Harvard University in the U.S. and is a graduate in electrical engineering and computer science from the Massachusetts Institute of Technology.

Before taking charge of the Stock Exchange of Thailand, he was the president of leading securities and asset management firms and served as chief information officer of the Siam Commercial Bank.

As a result, Charamporn is unfazed by THAI's recent management history. It has had six presidents and five chairmen in the last decade and has frequently suffered from political interference. He has been given carte blanche by the country's military rulers to run the company as a commercial enterprise.

"That is part of the reason I took the job," he said.

"The government had a clear mission. Its support for the restructuring was approved on January 22 on the condition we followed the transformation program strictly. This is pretty much what a commercial private entity would do. Basically, we have to be strictly on this road only and not wander off.

"There are several fundamental things that we haven't done properly. For example, we were still flying on non-profitable routes without making quick decisions. The first thing we did was identify loss-making routes with the aim of cutting capacity about 15%, to 20%.

"So far, we have reduced it by 10% compared with last year. Some of our routes have been losing money for 10 years. They were kept flying in the hope they would turnaround rather than make the tough decision to let them go.

"If we cannot turn them around within the next 12 months, we will turn them off for the time being. We have cut about a dozen routes and by doing that alone, you stop the

There is a lot of fat everywhere and some of it will touch on the headcount. That will have to be done carefully

Charamporn Jotikasthira
President Thai Airways International

bleeding."

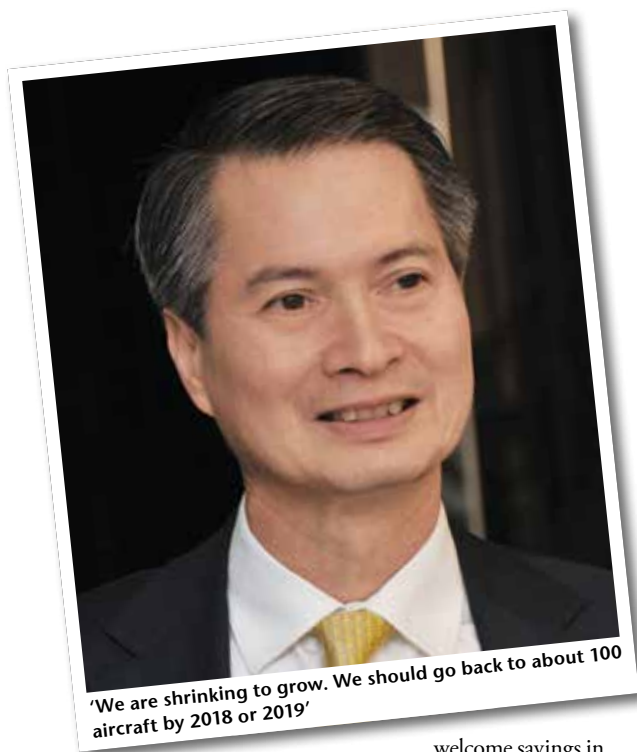
An illustration of how quickly Charamporn is moving was the decision to terminate the Johannesburg service in January, a month after he arrived at THAI. Moscow followed in March. London and Frankfurt will be reduced from two daily flights to one in July and Madrid will be suspended in September. If THAI can make them profitable they will be re-activated, he said.

Another mistake at THAI has been the operation of a diverse fleet of aircraft types. "A lot of THAI's costs come from our decision to have so many types of aircraft. We have 101 aircraft and 11 types," he said.

"We already have 20 aircraft on the ground and we are decommissioning another 22 this year. As a result, the number of types will drop to eight. Towards the end of next year it will be six - easily. That will be a more reasonable fleet for us."

The end result will be a THAI wide body fleet of 69, rather than 100, with 20 narrow bodies flying its budget subsidiary, Thai Smile. Also grounded in March was the carrier's B747-400F freighter. THAI will continue to carry cargo in the bellies of its passenger fleet.

But fleet renewal remains part of the re-structuring plan. Two more B777s will arrive at the carrier this year and 12 A350s will be delivered from 2017. The new aircraft will bring



welcome savings in operating costs, particularly fuel, but orders for more aircraft are not planned for now.

"I would want to see a lot of financial stability at THAI before we write more orders. We are shrinking to grow. We should go back to about 100 aircraft by 2018 or 2019, but we don't have to think about it now. Sometimes the opportunity comes earlier or later than you expect so you must keep a close watch on the situation," he said.

Charamporn also believes the airline has not been sufficiently aggressive in selling its product. "Our cabin factor was 68.9%. That was our target. It was never planned to be higher. The commercial team has a new target, in the 80s, like the rest of the industry," he said.

"It's not a magic thing. If anyone can do it we can do it. It's just that we did not focus on it at all. There is still a long way to go, but as a result of a new commercial strategy, it's already up to 76% and that's in three months. It proves we can do it if we want to." The airline's sales unit is being revamped to achieve the new load factor targets.

Costs are being cut in every department and all supplier contracts are being renegotiated. "Some will be quick wins, some we will have to do long-term, but the cost reductions will be across the board," he said.

"Compared with others [airlines] our costs are at least 20% to 30% higher on a same department basis. There is a lot of fat everywhere and some of it will touch on the headcount. That will have to be done carefully."

In March, Charamporn launched the Mutual Separation Program (MSP), which gives staff the option of leaving voluntarily. How many will go is problematic because under regulations covering state-owned enterprises you can't simply sack staff.

"We cannot point a finger and fire someone. It has to be mutual. We'd rather not put a number there and instead put a

cost reduction target on non-fuel costs of 20%. Whatever the headcount (of those agreeing to leave) that comes out, so be it."

In essence, 2015 is a year of consolidation. It won't be profitable because there will be severance pay for down-sizing staff, renegotiating contracts, closing down some overseas stations and selling aircraft.

"We are stuck with an asset, which is 42 aircraft to be sold. The 20 on the ground since the end of last year are pretty much impaired. All the impairment was done since last year so we don't expect much loss from selling them.

"However, the 22 that we will begin decommissioning in April - 14 initially and eight more in October - still have some book value. If the market price is not too good we'll take a hit. So this year, there could be a loss according to this as well as losses from the MSP program. About 5.5 billion baht, or \$169.5 million, has been budgeted for it.

"It will be a one-time hit, but we will recover that one time hit easily in the next year. Towards the end of this year, it should all be done, which is why there will be more profit after one year. You have to go over a few potholes to get these things out of the way."

Charamporn said towards the end of the two-year plan, month-on-month from January 2017, THAI should be achieving at its full potential. "This year is a year of change. We are moving from a negative position month-on-month to a positive one."

He added there has been "a tail wind" in recent times with the fall in the fuel price. "In 2015 alone the benefit from the fuel price will be around 20%, which is about 16 billion baht (\$493 million)," he said.

"In 2014, our losses were about 15 billion baht (\$462.2 million). So while we are changing the fundamentals of our business, which will take a year at least, the fuel price has been helping. From January 2016 the figures should be in the black."

The THAI president is not losing any sleep over the possibility of being short of cash, despite the government's stance on a bail-out if the re-structuring goes wrong. THAI is issuing hybrid bonds to raise seven billion baht (\$215.7 million).

"There are other options. "We own property in London, Sydney, Copenhagen and elsewhere. We could sell them all and the unrealized gain would be at least 15.5 billion baht (\$477.5 million). That offsets the loss of selling aircraft if we need to. "Capital-wise, we are not worried about it. All the money we need this year is already in place," he said.

As he deals with the complexities of the restructuring, Charamporn must also pay attention to the competitive threats the carrier faces. It has steadily lost market share to budget operators, which last year accounted for 35% of passengers in the Bangkok market, up from 28% a year earlier. The combined market share held by THAI and Thai Smile dropped from 31% in 2013 to 28% in 2014.

Part of the re-building strategy will be to hand over loss-making regional routes to low-cost Thai Smile. "First of all, I'm glad I'm in this part of the world because this is where the most competition is. If you really want to manage the airline properly you have to be in this environment,"



said Charamporn.

“This is the toughest competition. You will learn the best management you will ever need right here. Strategically, Thai Smile is an extension of THAI for domestic and short regional routes. Its cost base is designed to be much less than us.

“Commercially, if they can sell better with a cabin factor of 70% to 80%, with the same yield, then by giving them the route, the whole cost of the operation is reduced. The costs will go down and the profits will go up. If THAI’s costs are high and Thai Smile’s are low, then instead of cutting a route, we can continue to fly it with Thai Smile. That’s the benefit of having a low-cost affiliate.”

On another front, the competition from Gulf carriers, Charamporn said: “They have a reasonable advantage location wise with existing plane technologies. They can fly anywhere in the world from that geographical location.”

To combat the threat, the THAI president said the airline has to deepen its collaboration with its Star Alliance partners so network access is increased for the airline’s customers.

“Thailand is always going to be a regional hub to connect to anywhere in Indo-China, Southeast Asia and southern China. We have to make better use of our advantages, which we haven’t done that much. We kept selling point-to-point and have been happy with that, which is why our cabin factor is so low,” he said.

“We haven’t been selling our network. We need more affiliates in Europe so anyone from this region wanting to go to any secondary city in Europe will have to come through our network and vice versa.”

While opportunities to grow THAI through Star offer a “quick win” solution, he said options are available to co-operate with non-alliance carriers, especially when the airline is reducing its fleet and network.

“The more partners we have, the more we will solve our problem in the short run. Our loyal customers are still going everywhere in the world. We have to have a solution for them,” he said.

THAI has identified China and India, like most other carriers, as major growth markets.

How important is China? “Massively,” said Charamporn. “This year alone there has been a 25% increase in tourists from China on our flights. It’s very good business. I must say they find full-service is very attractive because Chinese tourists have money.

“They may make their first flight on

Changing THAI’s world

Three months into restructuring Thailand’s flag carrier, THAI president Charamporn Jotikasthira said the staff have realised they cannot do the same work with the same routine as they did three months ago. They know they will not survive.

“They are ready for change. The work from now on will be much tougher. Everyone will be more tired than they are today. But the amount of efficiency must be similar to top class competitors. They have to be as efficient as their competitors down south and up north.

“So they can decide if they want to work harder or just get an easy way out,” he said. “The plan is there. The team is there and what is now required is execution and discipline.”

an LCC, but after that they want to experience good service. I strongly believe the more low-cost airline penetration there is, the better for us because there’s an upsell,” he said.

He sees India as a big opportunity because the easiest way for anyone flying from the sub-continent to China or North Asia is via Thailand.

Three months into the restructuring, Charamporn said the staff realise they cannot do the same work with the same routine as they did three months ago. They know they will not survive.

“I believe this is not a dream. The mission is possible. THAI’s business is not that bad. We are still able to compete, even with those strong Middle East players, but we have to do what we have to do immediately,” he said.

For Charamporn, the ultimate target is to make THAI “the first choice carrier”, rated in the top three airlines in the world. “Even while shrinking we are not lowering standards of service. We are embarking on an improvement of Business Class. We should finish the project by the first quarter of next year,” he said.

And does he expect to be there longer than some of his predecessors? “Well, my term is only two years and two months, which is slightly longer than the transformation plan so this is my focus,” he said.

“My aim is to get the transformation done. It’s an exciting industry, especially in this part of the world. Quite dynamic. But if we have slightly fewer surprises it would certainly be better.” ■



Some shippers skirt safe shipping of lithium batteries

By Tom Ballantyne

Airlines and aircraft manufacturers are intensifying their lobbying for tighter regulations, or even a ban on the transportation of lithium batteries aboard passenger jets.

The International Coordination Council of Aerospace Industry Associations (ICCAIA), which represents companies such as Boeing and Airbus, wants stronger packaging and handling regulations for batteries shipped on air freighters.

International Air Transport Association (IATA) director general and CEO, Tony Tyler, in an address to the Beijing International Forum on Civil Aviation last month said: China is a major production centre for lithium batteries.

"Ensuring safe carriage of this cargo is a major concern for the Chinese Air Transport Industry.

Because of the complex supply chains involved, it is crucial that all stakeholders are aligned."

Tyler's comments in April followed a similar warning at the World Cargo Symposium in Shanghai in March where he said the rise of e-commerce and the ability of small businesses to export to a global audience had created a significant new market of shippers not necessarily familiar with the rules of shipping dangerous goods.

He said airlines are seeing some willful non-compliance. "For example, there is a supplier on Alibaba who claimed 300 Watt hour batteries would be re-labelled as 100 Watt hours and that the goods would be shipped by the standard postal service. We are pressing regulators and the e-commerce sites to be more diligent in making sellers aware of regulations and, as importantly, taking action to address non-compliance," Tyler said.

To improve awareness IATA has released its Lithium Battery Shipping Guidelines, which is a step by step guide for the shipping process, in Chinese.

In the last year, Lithium batteries have burst into flames several times while being stored in air cargo warehouses. There was speculated that a shipment of batteries aboard Malaysia Airlines flight MH370 may have had something to do with its disappearance, although there is no definitive proof this was the case. A report on the disappearance released last month claimed the shipment of lithium-ion batteries had not been properly screened it was loaded onto the B777.

However, MAS said the Motorola Penang battery cargo had been inspected in line with procedures "defined by the International Civil Aviation



Organization (ICAO)". The batteries were not considered dangerous goods because they were packed in accordance with ICAO regulations.

Nevertheless, there is increasing industry concern about the battery issue, particularly when they are shipped in bulk. An industry position paper, produced by the ICCAIA and became public in March urged a total ban on bulk lithium battery shipments on passenger planes, and said the threat of fires is "an unacceptable risk".

It cited recent testing by the U.S. Federal Aviation Administration (FAA), which showed the batteries emit explosive gases when overheated. It is common for thousands of batteries to be packed into a single shipping container. During tests a buildup of gases inside the containers led to explosions and violent fires.

The call for a ban applies to lithium-ion and lithium metal batteries. Lithium-ion batteries are rechargeable and used in products ranging from cellphones and laptops to power tools. Lithium metal batteries are not rechargeable and are often used in toys, watches and other products. The proposed ban is only aimed at cargo shipments, not batteries that passengers take on board planes in their personal electronic devices or carry-on bags.

In a presentation last year Airbus engineer, Paul Rohrbach, said an aircraft might be able to withstand a fire generated by

a small number of lithium-ion batteries, but a fire involving lots of them could destroy a plane.

At the Shanghai conference, Tyler said the safe handling of dangerous goods remained the number one priority of the air cargo industry. "Nothing comes before ensuring the safety of our passengers and crew. The ICAO Dangerous Goods Panel does excellent work keeping ahead of potential threats and challenges. The IATA Dangerous Goods Regulations ensure that airlines and the wider industry are able to take the practical steps to secure their shipments appropriately," he said.

"So the challenge is not that our regulations are inadequate. The challenge is to ensure that the regulations are understood and followed by shippers across the world."

Last December, IATA released a free online guide to lithium battery risk mitigation for air transport. The "Lithium Battery Risk Mitigation Guidance for Operators" is for operators involved in transporting lithium batteries and provides best safety practices and clear guidelines for their shipping. It also provides guidance for educating passengers about the risks associated with packing lithium batteries in checked baggage.

"Safety is a shared responsibility. Above all, regulators need to step up and not assume that airlines will do the job for them," Tyler said.

"They are the key to regulations being followed. The industry is doing what it can, but without oversight, surveillance and, where necessary, enforcement, compliance at the source of the shipment will be limited."

More than five billion lithium-ion batteries were produced last year. The number is expected to reach more than eight billion annually by 2025. ■

Rapid reaction

Advanced IT systems are at the heart of better airline communications and safety systems. Since the loss of MH370 last year, aerospace communications companies have accelerated IT systems research, so airlines can track their fleets 24/7.

Tom Ballantyne reports

It is hardly surprising, given the still unresolved disappearance of its MH370 flight 14 months ago, that Malaysia Airlines will be the first carrier to incorporate upgraded global flight tracking into its operations.

The Malaysian flag carrier has conducted extensive testing on the AIRCOM® FlightTracker, which has been developed by communications conglomerate, SITA, and its subsidiary, OnAir.

The system uses existing equipment and re-purposes air traffic control data, making it a cost effective solution for airlines.

Since the disappearance of MH370 on March 8 last year, communications and information technology vendors across the globe have rushed to develop tracking systems that will meet the standards of the International Civil Aviation Organization's (ICAO) Multidisciplinary Meeting on Global Flight Tracking.

After the meeting, in May last year, ICAO called for "global tracking of airline flights... to provide early notice of and response to abnormal flight behavior".

The meeting also concluded that airlines "will be encouraged to use existing equipment and procedures to the extent possible to support flight tracking". The same principles were repeated by the International Air Transport Association's (IATA) Aircraft



SITA OnAir's system allows airlines straightforward access to ATC-like tracking data said Ian Dawkins, chief executive of SITA OnAir.

Tracking Task Force in its report and recommendations last November and were reinforced at ICAO's Second High Level Safety Conference in Montreal in February this year.

In March, ICAO secretary-general, Raymond Benjamin, told an ASEAN Aviation Summit in Langkawi, Malaysia the organization expected airlines to adopt a 15-minute global flight reporting standard by November next year.

"Despite a one in a hundred

million chance of MH370 happening again, we must react rapidly when public trust is involved," he told delegates.

The new tracking measures are initial steps in the development of a Global Aeronautical Distress and Safety System (GADSS) that has been endorsed by ICAO.

From 2021, new aircraft entering service must to report every minute when they are "in distress or under abnormal flight conditions". "These proposals are performance-based, so that

airlines can choose the technology to implement them," Benjamin said. A trial of the 15-minute reporting rule will be done mid-year in the Asia-Pacific. Benjamin expected 12 airlines to participate, along with ARINC, Inmarsat, SITA and other communications providers that are coming forward with tracking solution packages.

The GADSS includes recommendations for search-and-rescue procedures and the retrieval of flight recordings. Cockpit voice recorders should have a 25-hour capacity.

The director general of the Association of Asia Pacific Airlines (AAPA), Andrew Herdman, said the industry would use the trial to establish a time line for upgrading global flight tracking.

"If you look further ahead, with Iridium and others putting up satellite constellations that would give us truly global coverage, then that will be a very comprehensive solution for aircraft that are properly equipped." In the shorter term, he pointed out, there are gaps in tracking systems and a variety of technologies have to be used.

"This is why discussions at the ICAO High Level Safety meeting were focused on performance-based requirements. Airlines are saying tell us what you want us to do, don't tell us how to do it because that's second guessing about the most appropriate technologies?" he explained.

"And there's no shortage of vendors trying to be part of these solutions. There's a lot of activity going on, but it is complex," Herdman said.

The word "tracking" engenders many different topics, the AAPA director general explained. "Tracking of aircraft in distress and trying to identify where the aircraft was lost for search-and-rescue, that's one thing. It is very different from regular routine tracking of ordinary aircraft.

"We've got to be careful. What's the motive for improving tracking? It's mostly focused on aircraft that are getting into distress or may be in distress. We must ask how could we improve the accuracy of information in that phase? There is a very small number of aircraft that get into that situation. The question of how to track 100,000 flights a day is a different one."

Herdman said there are big improvements ahead, but they won't happen tomorrow. "Once the satellite constellations are up and running, in the next three to five years, then we can routinely track flights using global satellite coverage," he said.

"At the moment, the odd fact is we can track [flights] when they are over land because the ADSB receivers can pick up signals. But when you are over oceanic airspace existing satellite capabilities are very limited. The aircraft can tell the satellite where it is, but the satellite can't relay it back to the ground where the information can be used.

"This is why we are still reliant on radio, VHF and HF, as part of that tracking."

While the industry awaits full satellite coverage, upgraded systems are coming on to the market to meet airlines' interim requirements. SITA OnAir announced its deal with Malaysia Airlines at the Aircraft Interiors Expo in Hamburg, Germany.

"We have designed the solution so airlines have straightforward access to ATC-like tracking data," said Ian Dawkins, chief executive of SITA OnAir. "For those airlines already using our ACARS messaging, we can deploy it very quickly. Following the recent ICAO discussions, we are also working on the definition and development of a new system to detect and report unusual situations. We are also investigating new aircraft solutions that are independent of

aircraft power or systems."

Also in Hamburg, Inmarsat announced its second Global Xpress (GX) satellite, part of a constellation that will provide global coverage. It completed its orbital deployment stages on schedule, followed by three weeks of payload testing.

"These were the final deployments to be performed, signalling the last significant mission risk for the I-5 F2 spacecraft," said Michele Franci, chief technology officer at Inmarsat.

The company's third satellite, I-5 F3, is to be launched by next month. Together with I-5 F1 and I-5 F2, the three satellites will link up to become the world's first globally available Ka-band mobile broadband satellite network, provided by one company, over land, sea and in the air.

Honeywell Aerospace, Inmarsat and Kymeta, a company that develops innovative flat-panel antennas for satellite communications, chose Hamburg to announce they are working together to create a new, higher-speed Ka-Band wireless antenna for business and commercial aircraft.

They said the system will provide faster connectivity and a higher quality broadband service to the aircraft. The smaller and more compact design will allow the antenna to be installed on a wider variety of aircraft, including private business jets. The flat-panel design is lighter and will reduce weight and drag on the aircraft, in turn reducing fuel and maintenance costs.

"Honeywell's work with Inmarsat on GX Aviation is at the forefront of bringing high-speed, global connectivity services to airlines and operators," said Jack Jacobs, vice president of marketing & product management at Honeywell Aerospace.

"Having Kymeta and Inmarsat aligned with us ensures

we stay forward-looking with new antenna technology that will be more efficient and compact, providing customers with even faster global in-flight connectivity."

While all of those developments are critical to improving aircraft in trouble, improving air safety is only one outcome. These systems offer high speed global Wi-Fi access for passengers. Wi-Fi in the sky is taking off, with the number of commercial aircraft worldwide equipped with Wi-Fi, cell service or both forecast to more than triple in the next decade, from 4000 to 14,000.

Much of this growth will be in the Asia-Pacific, according to research consultancy, IHS. Even with a tripling in demand, only half of the worldwide fleet will be wired for Wi-Fi by 2022,

However, with rival systems

and standards such as Ku band and Ka band evolving at a fast pace, airlines face the dilemma of choosing the right system.

Equipping fleets costs hundreds of millions of dollars, and airlines and fear their investment may quickly become obsolete. An example is Germany's Lufthansa. A decade ago, it bought into Boeing's Connexion in-flight Wi-Fi. The system did not sell and was shelved after the German flag carrier had spent millions equipping its planes with the service.

Demonstrating the GX system at the Hamburg show, Honeywell said it can deliver up to 50 megabits per second consistently around most of the globe. It plans to run tests on its own plan in mid-year, while Air China is expected to start trials with it in late 2014 or early 2015. ■

Going with the flow

The International Air Transport Association (IATA) has engaged Airbus ProSky to help educate Asia-Pacific stakeholders about Air Traffic Flow Management (ATFM) implementation.

ATFM systems increase air traffic management efficiency by employing the up-to-date flight information to anticipate future air traffic demand. The systems allow air navigation operators to strategically control aggregate route operations with greater safety and more efficient management.

Improved air traffic management is essential in the Asia-Pacific because many countries experiencing the largest air traffic expansion have the most inadequate airport and air traffic management infrastructure.

IATA's efforts to intensify collaboration between countries in the region come at a time when Asia-Pacific air traffic is forecast to increase by 5.7% a year until 2024, with more than 50% of new routes connecting to the region, Airbus said.

The year-long project will be led by workshops that will target air navigation service providers (ANSP), with the goal of developing a common understanding of cross-border ATFM implementation and spread the ATFM "faith" to all countries in the region.

"This stage of the project complements the excellent work done by many Asia-Pacific organisations and states. It will ultimately provide a global model for cross-border ATFM within a seamless airspace block," said Blair Cowles, IATA's regional director, safety and flight operations, Asia-Pacific.

Peter Cabooter, vice president, customer affairs for Airbus ProSky, said: "Enhanced regional collaboration will result in efficiency benefits and enhanced capacity for a region that continues to see tremendous growth."

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