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Welcome



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The grounding of Russia's second biggest operator, Transaero Airlines in late October (see News CIS) sent shockwaves around the international community. Many observers viewed the carrier as being too big to fail but, with a fleet of more than 100 aircraft and debts in excess of \$4 billion, it was also ultimately too big to support.

Transaero's grounding has left the country reeling and it places Russia's civil aviation sector at a crossroads. With Aeroflot set to inherit international traffic rights to almost 60 former Transaero routes, it could increase its already significant stranglehold on the market. However, this near-monopoly may be challenged by S7 Airlines which, if it follows through with a proposed bailout of the ailing Transaero, could create a genuine alternative to the state-owned flag carrier and its subsidiaries.

There is little doubt consumers would welcome a duopoly but what is less clear is whether such consolidation would be enough to salvage the country's troubled industry. According to Vladimir Tasun, President of the Air Transport Operators Association, Russia's airlines lost a combined \$500 million during the first

six months of 2015 alone, three times more than the same period last year. This was attributed largely to a 45% hike in the cost of aircraft leases but the nation's once vast aerospace industry is now a shadow of its former self and is simply unable to meet the demand.

As such, Russia's carriers continue to turn to Western suppliers but, with business generally conducted in dollars rather than roubles, a falling exchange rate is creating a significant financial burden on airlines where profit margins are already slim.

Transaero is the highest profile casualty to date, but if the nation's economy continues on its current trajectory, it's likely the carrier won't be the only one to fail...

Craig West
Editor



COVER PHOTO: **Scoot Boeing 787-9**
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Irish Expansion

IRISH FLAG carrier Aer Lingus will add three new routes to North America in 2016 as part of a wider-reaching expansion programme. The airline currently serves nine destinations in the US and Canada but has confirmed plans to launch links to Los Angeles (five flights a week from May) along with daily flights to Newark, New Jersey and Hartford, Connecticut (both from September). Aer Lingus, which was recently acquired by British Airways and Iberia parent International Airline Group (IAG), said the new routes represent the single largest expansion of its transatlantic network since 1958.

The carrier's CEO Stephen Kavanagh commented: "We are delighted to be delivering on the growth opportunities that being part of IAG presents. The introduction of these three routes will open up new tourism and business opportunities with improved connectivity through our Dublin Gateway. We look forward to welcoming guests on board our new services in 2016." As part of its expansion, the Irish carrier will increase its long-haul seat capacity by more than 17% next year, representing the fourth consecutive year of double-digit growth.

U2 on Tour

Air X Charter's specially marked Boeing 737-505, 9H-OME (c/n 24274), visited a host of European cities during September and October. The jet is being used to transport the Irish rock band U2 on the latest leg of its 'Innocence + Experience' tour. PAUL DOYLE



Trouble for ATC Lasham

BRITISH AIRCRAFT maintenance provider ATC Lasham has laid off almost all of its near 400-strong workforce after entering administration. The firm, which was founded in 1994, operates facilities at Lasham, Hampshire and London Southend Airport but has reportedly struggled with financial difficulties over the last 18 months.

Nigel Morrison, an advisory partner to administrators Grant Thornton, said: "[ATC Lasham] is long standing with a highly skilled workforce and strong reputation in the industry. However, given the losses and lack of future orders, the directors reached the conclusion they had no option but to proceed with the appointment of administrators."

A Double Hat-trick

UK CONSUMER body *Which?* has ranked London Southend as the 'Best in Britain' in its annual airport passenger survey. The poll asked 11,226 travellers to rate airports on categories including the check-in experience, security and passport control, quality of food outlets and seating. London's newest airport topped the poll for a third consecutive year with

a customer score of 86% – a 1% increase on last year – and a maximum five star rating in four of the seven categories assessed. Newcastle scored 72% in the same survey, placing it top of the large airport (more than 4 million passengers a year) category, also for the third consecutive year. "Our aim is to be the most welcom-

ing in the UK, so we are delighted to once again place top among the larger airports," Newcastle's CEO Dave Laws said. Southend's high-flying performance was in stark contrast to its London rivals Stansted and Luton, where queues, overcrowding and a lack of seating led the airports to rank joint-bottom with satisfaction scores of just 40%.

Wizz Air Milestone



More 787s for Norwegian



OSLO-BASED LOW-COST carrier Norwegian has finalised an order for further 19 Boeing 787-9 Dreamliners. The deal, valued at more than \$5 billion at list prices, also includes options for a further ten examples and is the largest single order for the stretched -9 variant from a European customer. Norwegian CEO Bjørn Kjos said: "This order for 19 new Dreamliners is a

major milestone and enables us to offer a wide range of new routes to consumers worldwide. After two years of operating low-cost long-haul flights, our load factors have averaged [above 90%], which proves the demand for affordable flights between Europe and the US, and Europe and Asia. Future growth and competitiveness in the long-haul market depends on the fuel-effi-

cient, state-of-the-art 787 Dreamliner. Not least, the [aircraft] offers the best passenger experience." The 19 new jets will join 11 787-9s which will be acquired through lease deals and, when combined with Norwegian's existing fleet of eight 787-8s, will expand the carrier's Dreamliner fleet to almost 40 aircraft. (Photo Boeing)

WIZZ AIR has reached a major milestone after transporting its 100 millionth passenger. The Hungarian low-cost carrier hit the landmark on October 20 on a service from London Luton to Warsaw.

"We operated our first flight in 2004 between Poland and the UK, and today, 11 years later, we celebrate a total of 100 million passengers carried from over 110 airports across 38 countries," the carrier's CEO József Váradi said. Since launching services, Wizz Air has carried 245 different nationalities of passengers, 5.87 million children and has flown 523,721,018 miles (842,847,278km), made 657,121 take-offs and its fleet has spent the equivalent of 138 years in the air. (Photo Wizz Air)

CityJet Goes Superjet



CITYJET HAS selected the Sukhoi Superjet 100 to meet its fleet renewal requirements. The provisional deal, signed with an unnamed lessor, includes 15 aircraft plus ten options which, if converted, will increase the value of the order to \$1 billion.

The first 98-seat jet is due for delivery to the Irish regional carrier in the first quarter of 2016 with a further three examples following later the same year. The remaining aircraft will be handed over in 2017.

"We are very excited to be the very first airline in Europe to choose this game-changing aircraft that delivers a level of comfort, plush interior design and cabin capacity that is far superior to all of its competitors,"

CityJet's Executive Chairman Pat Byrne said. "This is a very versatile new-generation jet which will fulfil our requirements with a capability to operate at smaller airports, such as our hub at London City Airport and offer significant advantages in fuel efficiency, emissions ratings and noise reduction."

The Superjet, which will replace the airline's existing fleet of BAE Systems Avro RJ85s, is expected to receive its steep approach certification to enable operations at London City by the end of next year.

Byrne added the airline will initially deploy the SSJ100 "on charter activity in 2016 and will place it on our London City route network in 2017." (Photo CityJet)



First 787-9 for BA



BRITISH AIRWAYS (BA) has taken delivery of its first Boeing 787-9s. The maiden example, G-ZBKA (c/n 38616), arrived at the carrier's London Heathrow base on the morning of September 30 and has since been joined by a further two examples – G-ZBKB (c/n 38617) and 'KC (c/n 38621). The 787-9 is 20ft (6.1m) longer than the 787-8 and features 216 seats in a four-class layout. This includes 127 in World Traveller (Economy), 42 in World Traveller Plus (Premium Economy), 39 in Club World (Business) and eight in First. Mitch Preston, BA's Flight Technical Manager for the 787 fleet and the pilot who flew the aircraft to Heathrow, said: "It's always a privilege to be the first pilot

to fly an aircraft on its delivery flight. I was lucky enough to bring our first 787-8 to Heathrow in 2013 too. Flying with just the small delivery team on board is a very different experience to a normal flight with customers on board. I'm really looking forward to the first one of those – I think our customers will really enjoy the latest addition to our fleet." The new type operated its inaugural service – to Delhi – on October 25 and was expected to have been introduced on BA's Abu Dhabi/Muscat route on November 5. This will be followed by Kuala Lumpur (in December) and Austin, Texas (in February).

(Photo British Airways)

Scottish Control

NATS HAS secured a new contract to provide air traffic control services for helicopter operators in the East Shetland Basin area of the North Sea. The five-year deal, which will run until 2020, was signed with the four companies that support oil and gas exploration and extraction work in the region – Bristow Group, CHC Helicopter Services, NHV and Bond Offshore Helicopters.

John Millar, NATS General Manager Aberdeen Airport, said: "I believe this

may be the only ATC contract of its kind, as we've engaged with the helicopter companies directly, rather than with an airport or national agency."

The firm has also secured a five-year renewal with Highland and Islands Airports Limited (HIAL) to provide ATC services to Sumburgh Airport. Under the terms of the agreement, HIAL will continue to perform the aerodrome functions, while NATS will supply an approach radar service remotely from Aberdeen.

Air Malta Predicts Turnaround



FIGURES RELEASED by Air Malta show the carrier is on track to return to profitability. The Luqa-based airline has revised its projected loss for the year ending March 31, 2016 to €4 million, down from €16.4 million in 2015 and from €78 million when the carrier launched its restructuring plan in 2012.

Commenting on Air Malta's improving financial position, Chairperson Maria Micallef said the turnaround was being achieved "despite, the closure of the Libya route and the drop in the number of passengers from Russia, which contributed to a loss of circa €10 million, increased competition in summer 2014 and an airline with a virtually depleted management structure."

(Photo Air Malta)

A Whale of a Time



Azores Airlines (formerly SATA Air Azores) has taken delivery of former Royal Jordanian Airlines Airbus A330-223, EI-EJY (c/n 970). The jet, which will be re-registered CS-TRY, was repainted into this striking Whale-themed colour scheme by Air Livery at Manchester and is the first to wear the carrier's new branding. JOSEP GONZALEZ

Craiova Delays

WIZZ AIR was forced to postpone the re-start of flights to Craiova after upgrade work on the Romanian airport overran. The facility was closed on June 1 to undergo a major renovation, including resurfacing its runway and taxiways, and had been due to re-open on October 25. However, as *Airliner World* went to press, the airport was still awaiting approval from Romania's civil aviation authorities. Wizz Air switched its flights to Bucharest Henri Coandă, which lies 110 miles (178km) to the east, for the duration of the closure and was offering passengers a complimentary coach transfer to Craiova. It was expected to have resumed services on November 9.

New Links for Scotland

EDINBURGH AIRPORT is set to gain several new services to mainland Europe. Outlining its route expansion programme for 2016, Spanish low-cost carrier Vueling, part of the International Airline Group (IAG), has confirmed plans to add three new links from the Scottish capital – to Rome Fiumicino, Paris Orly (both from March 29) and Alicante (from June 16). Announcing the services, Edinburgh Airport CEO Gordon Dewar said: "It is tremendous that we have two new routes to Rome and Paris and we have increased our links to Alicante – this offers our passengers even greater choice and is further confirmation of Edinburgh Airport's position as a key driver for Scotland's economy."

Croatian neos

CROATIA AIRLINES revealed it has converted an outstanding order for four Airbus A319s into A320neos. The aircraft were due to have been delivered in 2013 under the terms of the original agreement signed in 2008, but the airline delayed their handover on several occasions. The flag carrier confirmed its will now receive its first two new-engine option examples in 2021 with the last two following a year later. "The negotiations with Airbus, who showed great understanding, took more than two years but we have concluded them in a mutually satisfactory manner," the carrier's President and CEO Krešimir Kučko said. "We are very glad that we have come to an agreement with Airbus that fits perfectly with our ambitious future business plan."

in brief

Air Iceland has outlined plans to switch several of its services from the domestic Reykjavik Airport to nearby Keflavik. The move, which will impact the carrier's routes to Kangerlussuaq and Narsarsuaq in Greenland, are part of an initiative to improve links for transit passengers using parent Icelandair.

Air Greenland has retired its last de Havilland Canada Dash 7, ending more than 35 years of service with the type. The carrier placed its three-strong fleet on the market in 2014 and, earlier this year, brokered a deal with Canadian operator Trans Capital Air for the turboprops. The first two examples, OY-GRE (c/n 106) and OY-GRF (c/n 113), were ferried to Toronto in March, with the final aircraft, OY-CBU (c/n 20), following in mid-October.

LOT Polish Airlines will codeshare with airBaltic on services between Riga and Warsaw after signing a new co-operative agreement. The deal increases the number of operators codesharing with the Polish flag carrier to 20.

Romanian carrier **Blue Air** confirmed it will introduce flights from Bucharest to Hamburg on March 29. The twice-weekly connection, which will operate on Tuesdays and Fridays, will be served by the carrier's fleet of Boeing 737s. (Photo Blue Air)



British Airways (BA) has introduced its Airbus A380s onto its London Heathrow to Miami route. Commenting at the inaugural service on October 25, BA's Senior Vice President Americas Simon Brooks said: "We have been flying [this route] for more than 40 years and this week we are reinforcing our commitment by introducing an incredible new aircraft onto the route." The carrier's second daily service to the Floridian city is operated by a Boeing 747.

Spanish low-cost carrier **Volotea** confirmed it will open a base at Toulouse Blagnac, its fourth in France. The new hub will be opened on March 25 with a single aircraft initially linking the city to Brest and Prague. This will be followed a month later with new services to Malaga and Split – these are in addition to the eight routes Volotea already operates from Toulouse.

Pegasus Airlines will increase the number of destinations in its network to 101 after confirming plans to launch services from Istanbul to Eilat in Israel. The thrice-weekly flights will commence on December 1.

TAV Airports has been awarded a 20-year contract to operate Milas Bodrum Airport. The deal, which came into force on October 22 and runs until the end of 2035, increases the Turkish firm's portfolio to 14 domestic and international facilities, including Istanbul Atatürk, Izmir, Zagreb, Riga and Tbilisi.

Links Air Grounded

Following Links Air's grounding, the Welsh PSO contract was initially being flown by Danish carrier North Flying using Fairchild SA-227DC Metro 23, OY-NPF (c/n DC-880B), until a longer-term arrangement can be found. PHIL WOODS



DONCASTER SHEFFIELD-BASED Links Air has been temporarily grounded amid concerns over the carrier's safety protocols. A statement released by the UK CAA said it had "suspended the safety cer-

tificate for UK airline Links Air." It added "Safety is always our first priority and we will always take action when necessary to protect the travelling public." The carrier, which owns a fleet

of BAE Systems Jetstreams, specialises in ACMI charter work but was also contracted by the Welsh Government to operate the twice-daily Public Service Obligation (PSO) route from Cardiff to Anglesey.

Baby Boeing Bows Out



BRITISH AIRWAYS (BA) has retired its last Boeing 737, marking the end of more than 35 years of unbroken service with the type. The final flight – from Turin to London Gatwick – was flown by 737-426, G-DOCX (c/n 25857), on September 30 and marked the last step of a low-key retirement for the type.

The real celebration was held the previous day when the airline flew members of Flying Start, BA's charity partnership with Comic Relief UK, and Olympic gold medalist Sally Gunnell on a 90-minute round trip from Gatwick.

The carrier's affiliation with the Boeing twin jet started in September 1978 when it acquired the three examples on trial from Transavia. It took delivery of the first of its own aircraft, 737-236Adv G-GBDC

(c/n 21792) on February 7, 1980 while its maiden -400 series example arrived on October 18, 1991. The type served as the backbone of BA's domestic and European fleet for almost two decades but was gradually transferred out of the airline's Heathrow base as it took delivery of new Airbus A320 Family aircraft.

British Airways operated 123 737s in all, including the -200, -300, -400 and -500 series, but by late September this had dwindled to just two examples, G-DOCW (c/n 25856) and G-DOCX.

A Double Celebration

The honour of operating BA's final scheduled passenger service with the 737 fell to Captain Christine Scott and First Officer Gillian Tunley. It proved to be a particularly

poignant trip for the former, who was also retiring after serving 19 years on the venerable Boeing twinjet. Captain Scott was given one last opportunity to fly the jet, as part of the crew ferrying BA's last two 737s to Victorville, California where they were placed into storage.

Reflecting on her career flying the 737, Captain Scott said she had "loved every moment", adding: "It's a terrific aircraft to fly and has proved incredibly safe, comfortable and reliable for our customers over the past four decades... I can't think of a better way to end my British Airways career."

After a short taxi to Turin Caselle's Runway 36, the near-full 737 lifted off at 1659

bound for London.

Captain Scott provided a running commentary during the flight, which routed on a northwesterly heading across the western Alps to Geneva and Dijon and then skirting the eastern side of Paris and Charles de Gaulle airport. The jet then headed for Le Touquet before crossing the English Channel and coasting in over Hastings. Flight 2579 touched down on Gatwick's Runway 08R at 17:23, seven minutes ahead of schedule – including this trip, G-DOCX had completed 36,515 flights since entering service with BA on March 29, 1993, and accumulated 52,343 flying hours in the process.

(David Ransted)



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Transaero Saga Continues...

TRANSAERO AIRLINES has ceased flying after Russia's Federal Air Transport Agency, Rosaviatsia, revoked the troubled carrier's Air Operator Certificate (AOC).

The decision, which was announced on October 26, followed an in-depth inspection by the authority that was prompted by the Moscow-based carrier's

deteriorating financial position.

Rosaviatsia concluded Transaero does not have the ability to service its debts and fully fund its continuing operations and, as such, "does not meet" Russia's certification requirements. The authority added it had sufficient grounds – including safety and consumer-rights concerns – to revoke the airline's AOC.

The news comes just weeks after a bid to sell the ailing airline to Aeroflot fell through. The two companies had reached a provisional agreement on September 1 under which the flag carrier would acquire

75% (plus one share) of Transaero for the nominal sum of one rouble (\$0.01) (see *Airliner World*, November 2015). However, the state-brokered deal subsequently collapsed after Transaero failed to submit a formal proposal for the acquisition by the October 1 deadline. The Russian Government said it would continue to investigate rescue packages for the carrier, but noted that its debts, which are understood to be around RUB260 billion (\$4.15 billion), made a bailout unviable. It also refused to rule out allowing Transaero to file for bankruptcy.

The carrier may yet gain a last-minute reprieve after S7 Airlines revealed its CEO Vladislav Filiev had signed a letter of intent with Transaero founder and majority shareholder Alexander Pleshakov to acquire "at least 51%" of the ailing operator. Filiev and S7 declined to provide further details and, as *Airliner World* went to press, the government was making provisions to transfer Transaero's passengers to alternative airlines while Aeroflot will re-employ up to 6,000 of the carrier's 10,000-strong workforce. (Photo Boeing)



Aeroflot Pounces

AEROFLOT HAS been given temporary access to a host of new international routes following the grounding of Transaero Airlines in late October (see related story). Russia's ministry of transport said the emergency measures, which see the flag carrier assume control of 56 of the failed airline's 156 services, would ensure air traffic continuity and prevent "large-scale failures to carry passengers who bought tickets [for] Transaero flights".

The arrangement will initially remain in place for 12 months, but may be extended by the authority where routes are proven to be financially viable. Russia's Transport Minister Maxim

Sokolov added that the remaining services will be freely distributed among the country's other airlines. Elsewhere, the Moscow-based flag carrier's CEO Vitaly Savelyev has told local media the airline is still trying to cancel its \$4.8 billion order for 22 Boeing 787s. Aeroflot has been pursuing compensation for the much-delayed jets for several years and suggested in June that it would terminate its deal with the US manufacturer. However, the airline is understood to be in advanced talks with lessors over the potential acquisition of up to 34 former Transaero jets. The deal is believed to include 737-800s, 747-400s, 767s and 777s. (Photo Boeing)



Ban for Saratov

RUSSIA'S FEDERAL Air Transport Agency, Rosaviatsia has banned Saratov Airlines from operating international services after the carrier was found to have violated safety regulations. Confirming the ban, which was imposed on October 26, the authority said an inspection revealed the airline had carried an unauthorised person in the cockpit during a commercial flight from

Saratov to Antalya, Turkey, on July 19. The airline employee, who was neither cabin nor flight crew, was later found to be a "close relative" of the carrier's general director Igor Tretyakov. Saratov Airlines said it is conducting an internal investigation and has already reprimanded several employees, including Tretyakov. It has also launched an appeal over Rosaviatsia's decision.

Russian Q400



Aeroflot's Russian Far East subsidiary Aurora has taken delivery of its first Bombardier Dash 8-Q400. The former Eznis Airways aircraft, C-GSXA (c/n 4106), was ferried to Moscow Domodedovo via Toronto, Goose Bay, Reykjavik and Bergen in early October. DAVE BROOK

New Armenian Carrier

ARMENIAN START-UP Alliance Air confirmed it will launch services from next March. The Yerevan-based carrier, which secured its Air Operator Certificate (AOC) in early October, said it will initially lease two Sukhoi Superjet 100s (which are currently stored at Moscow

Zhukovsky) with four more examples due by 2017.

Alliance Air's founder and CEO, Ararat Sargsyan, told local media the carrier intends to link the Armenian capital to Beirut, Tehran and Ashgabat along with several destinations in Russia.

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12/19/15

Half century for flydubai

DUBAI-BASED low-cost carrier flydubai has received its 50th aircraft, completing an order made the Farnborough Air Show in 2008. Commenting on the delivery, CEO Ghaith Al Ghaith said: "In the six years since we were launched, we have built a network of 94 destinations with new cities joining all the time. We have benefitted from being located in Dubai, and have supported the city's commercial and tourism

sectors by opening up 67 new routes that did not previously have direct air links. This latest aircraft represents the fulfilment of the vision set for the airline in 2008. It has been a remarkable journey." Further orders since 2008 mean the carrier can expect 11 more Next-Generation Boeing 737-800s between 2016 and 2017, followed by 100 737 MAX between 2017 and 2023.

Airport Improvement in Iran

IRAN INTENDS to develop 27 of its 51 civilian airports with new terminal projects once international restrictions are formally lifted on the country. It is also planning \$8 billion worth of new airport construction in the Araz, Qom and Isfahan regions. The head of Iran's Civil Aviation Organization (CAO), Ali Reza Jahangirian, has called for the private sector to partner in aviation development projects. These will include a new terminal at Imam Khomeini International Airport in Tehran, which has a current capacity

for six million passengers annually, to increase to 20 million passengers a year. According to the ICAO, the country will need to acquire up to 500 aircraft over the coming decade to renew its ageing fleet, which, according to Irish leasing company Avolon, has an average age of 26 years. Avolon reported the first stage of the re-fleeting programme will fall to lessors, both in terms of new and used equipment, as manufacturers have full order books for the next five years.

Extra Riyadh Terminal

A NEW Terminal 5, which is being built at King Khalid International Airport in Riyadh, Saudi Arabia, is scheduled for completion by the end of this year. The overall size of the building covers 1.07 million sq ft (100,000m²) and the facility can cater for passengers on eight large or 16 medium-sized aircraft, with a capacity for 12 million passengers a year. It has 60 counters for luggage check-in; 20 self-service counters; five new baggage belts; 30 lifts and 19 escalators.

First Service

During the World Routes conference in Durban – see pages 24-27 – Proflight Zambia operated its inaugural Bombardier CRJ100 service to the city's King Shaka International Airport. PROFLIGHT ZAMBIA



A Good Year for Comair

SOUTH AFRICAN carrier Comair has announced a strong profit in the first half of the financial year, supported by the low cost of oil. Comair's CEO Erik Venter said despite new capacity in the market, the airline maintained its passenger volumes, largely due to the strength of its (low-cost) kulula and (full service) British Airways brands and the company's

ongoing attention to service. "We continue to focus on our customers through the feedback surveys, customer journey mapping, and extensive investment in training programmes for frontline staff. Operating performance therefore remained good, with on-time performance exceeding our threshold target of 85%."

Boeing Freighter

Texel Air Boeing 737-33A(SF), A9C-APC (c/n 27459), was delivered from Boumemouth in October after it was painted by Airbourne Colours. TONY BEST



Libyan Fokker

Ghadames Air Transport Fokker 100, YR-CRY (c/n 11493), was an interesting visitor to Malta in September. MALCOLM BEZZINA



First Dreamliner for Oman Air

OMAN AIR has received its first Boeing 787-8 Dreamliner. It is the first of an order for six placed in November 2011 as part of the airline's expansion plans.

"We are delighted to receive our first

Dreamliner which, combined with our award-winning service, will provide an excellent travel experience for our customers," said Paul Gregorowitsch, the carrier's Chief Executive Officer. "Our decision

to invest in this game-changing aircraft underlines our confidence in the 787 and the value it will add in terms of reliability, operational efficiency and comfort." (Photo Boeing)



Records at Dubai and Abu Dhabi

BOTH ABU Dhabi International Airport (ADIA) and Dubai International Airport set new records for passengers handled at the hubs in August. Numbers at ADIA grew by 17.4% to 2,254,809 which is the highest in one month in the airport's history. There was also an increase in aircraft movements to 15,277, a 14.1% increase compared with August 2014 figures, while cargo activity rose to 70,857 metric tonnes –

a 7% growth over 2014.

The top five destinations served were London, Bangkok, Doha, Manila, and Bombay and these accounted for 15% of all traffic.

Meanwhile, traffic at Dubai in August alone reached 7,282,256 – up 9.5% from 2014 – with the year-to-date passenger numbers totalling 52,264,223 – a 12.4% increase. The Indian sub-continent topped the list of regions with

highest growth in passenger numbers followed by Western Europe and the Gulf region. Eastern Europe was the fastest-expanding market in terms of percentage growth (67.9%), followed by North America (24.8%). India remained the top destination country with its financial capital Mumbai as the busiest destination. Aircraft movements totalled 34,773 during the month – an increase of 11.4%.

Egyptian Charter

FlyEgypt Boeing 737-800, SU-TMH (c/n 34903), was delivered in July having been stored at Lasham, UK since the end of last year. MARCUS STEIDLE



New Airport in Bahrain

BAHRAIN IS planning to build a new airport on a man-made island off the north coast to accommodate predicted passenger growth, according to a government announcement. The construction would be in addition to the current Bahrain International Airport, which is undergoing a \$1 billion expansion to increase its capacity from four million passengers per year to 14 million. The latter includes a

new passenger terminal, 24 air bridges, new arrival and departure lounges and loading bays and is scheduled for completion in 2019.

However, Bahrain's minister of transportation and telecommunications Kamal Bin Ahmed Mohammed said in addition to this work, his ministry had commissioned a technical study to determine the exact location of a second airport.

WawJet in West Africa

A PROPOSED start-up carrier in West Africa was revealed during the World Routes conference in September. WawJet is likely to be based at Gbessia International Airport in Conakry, the capital of the Republic of Guinea. According to its founder and chief executive officer, Alpha Diallo, it "will fly in West Africa" using Boeing 737-300s and -400s although its "proposed network and city destinations are not finalised yet".

in brief

fastjet Kenya has been granted an Air Service Licence by the Kenyan Civil Aviation Authority. This clears the way for the carrier to start the application process for an Air Operator Certificate to allow it to operate domestic flights within the country.

Thales has been awarded a contract to supply one instrument landing system with distance measuring equipment (ILS/DME) and all related services for **Najaf Al-Ashraf International Airport** in Najaf, Iraq. The contract is part of the country's continuing efforts to modernise current navigation and surveillance capabilities, enabling a significant improvement in safety and efficiency.

A Beech King Air 200 of South Africa's **Flight Calibration Services** has become the first aircraft ever to land on the island of St Helena in the South Atlantic. This follows progress on the construction of its new airport, which will eventually have a 6,400ft (1,950m) runway. South African airline Comair plans to operate a weekly Boeing 737-800 on the route from Johannesburg, with services due to start in February 2016. (Photo via St Helena Airport)



South Africa's low-fare airline, **kulula** has signed an interline agreement with **Virgin Atlantic Airways** providing travellers with a seamless interchange between the flights of the two carriers. "We continue to look for opportunities to unlock new markets and are excited about the potential opportunities that exist to expand our airline partner network though the inclusion of Virgin Atlantic," said Brian Kitchin, Executive Manager, Sales and Distribution at kulula.

East African carrier **Ethiopian Airlines** will launch a new link to Durban's King Shaka International Airport from mid-December. The thrice-weekly flight, operated by a Boeing 737-800, will complement the carrier's existing services to Cape Town and Johannesburg and see it return to a market last served in March 1998.

South African regional carrier **Airlink**, has become the first BAE Systems Regional Aircraft customer to sign up for the new remodelled JetSpares Rate-Per-Flying-Hour programme. The new three-year agreement, valid to the end of 2018, covers the fleet of 12 Avro RJ85 regional jetliners providing scheduled passenger service to more than 30 destinations in southern Africa.

Dedicated African flight support company, **Astra Aviation**, has signed a new ground handling agreement with airport services provider National Aviation Services (NAS), at Felix Houphouët Boigny Airport, Abidjan, Cote d'Ivoire. Astra, via its local company and offices, will handle and co-ordinate the customers' requests, along with managing the administration of payments for airport, handling, navigation and crew costs.

New Colour Scheme for Copa

COPA AIRLINES has unveiled its latest logo jet, Boeing 737-8V3, HP-1849CMP (c/n 41449), in a special ConnectMiles.com livery, a mileage loyalty pro-

gramme that it launched in March. The aircraft was delivered direct from Boeing Field, Washington to San José, Juan Santamaría International Airport

in October. This is the first of two 737-800s that will be delivered in the ConnectMiles.com colour scheme. The aircraft are being ferried from Boeing and

fitted with Split Scimitar Winglets and an in-flight entertainment system by Costa Rica-based company, COOPESA. (Photo Andy Cline)



Alaskan Deploys Space Bins

ALASKAN AIRLINES has taken delivery of its first Boeing 737 equipped with the US manufacturers new Space Bins, which will increase capacity for carry-on baggage by 48%.

The company's Vice President of Marketing, Sangita Woerner said: "We've been on a mission to improve our cabin experience for several years and Space Bins are part of a \$150 million investment

we've made to make flying more comfortable and enjoyable. By the end of 2017, nearly half of our fleet will have larger bins to accommodate a carry-on bag for virtually every customer."

Alaska will take delivery of 34 Next-Generation 737s and one 737 MAX in the next two years and will also begin retrofitting 34 aircraft with the Boeing Sky Interior in 2016. (Photo Boeing)



South American Investment

AIR NOSTRUM has acquired a 40% stake in Argentine domestic operator Sol Líneas Aéreas after reaching an agreement with the airline's owner, Transatlántica.

Sol's Vice President Juan Nyffenegger said: "The entry of Air Nostrum will allow us to move forward with the expansion of the fleet. This year we are adding three Bombardier CRJ-200s and in the first half

of 2016 we expect to add three more." Sol has launched flights on routes along the Argentine Atlantic coast, as well as to the Uruguayan city of Punta del Este this summer. The start-up has begun domestic flights using a leased Air Nostrum CRJ200, LV-GIH (c/n 7915) ex EC-IVH, on daily rotations between Buenos Aires, Córdoba, and Neuquén via

Rosario. A second aircraft is expected to start operations in November and will be used to add two daily flights to Santa Fe. A third airframe will arrive in December and will be deployed on seasonal sectors across the carrier's network during the busy summer months. The flights are operated as codeshares with Aerolíneas Argentinas. (Photo Rafael A Reca)



New Jet for Gama Aviation

AIR CHARTER COMPANY, Gama Aviation has taken delivery of its first Learjet 75 from Bombardier Aerospace. The aircraft will be operated on behalf of one of its long-standing US customers and is expected to be based in Central America. The new type will be added to the company's fleet of Learjet 45, 45XR and 60 jets, as well as aircraft from Bombardier's Challenger and Global series, which Gama Aviation operates for its clients across the US, Europe and China.

KC Ihlefeld, VP Aircraft Management of Gama Aviation said: "As a business we pride ourselves on being able to offer our customers expert support across a wide range of aircraft types and we're delighted to add the Learjet 75 to our stable. We have hands-on experience with aircraft from all the major OEMs and this enables us to provide clients with a consistent level of service, no matter what the aircraft type or their mission requirements."

Frozen 737

WESTJET, in collaboration with Walt Disney Parks and Resorts, unveiled its latest livery, Boeing 737-800, C-GWSV (c/n 37158), at Toronto Lester B Pearson International Airport on October 18.

The new colour scheme features characters from the 2013 Disney animated movie *Frozen* to promote the forthcoming sequel. A team of six painters spent 21 days, working 12-hour shifts and used 170

US Gal (643.5 lit) of paint in 23 colours to produce the final scheme. The aircraft undertook its first flight in its new look on a service from Toronto to Orlando the following day. (Photo WestJet)



Hawaiian Cabin Upgrades

HAWAIIAN AIRLINES plans to introduce new 180-degree lie-flat seats in its Airbus A330 premium cabins. The first aircraft is expected to enter the carrier's long-haul network in the second quarter of 2016 and will begin installing lie-flat seats in its remaining 22 A330s in September next year.

President and CEO of Hawaiian Airlines, Mark Dunkerley, said: "We have designed an experience that will usher in a new era in premium service to Hawaii, one that resulted from a thorough review of [passenger] feed-

back and intensive research to develop a best-in-class product for our long-haul aircraft. Together with our partners at Optimares and paulwylde, we have created a truly bespoke design that delivers world-class comfort and style, while staying true to our island roots.

Whether travelling for business, with family or on a romantic retreat, the new premium cabin evokes an engaging bold, contemporary sense of Hawaii, complemented by the warm aloha spirit of our cabin crew."

The 180-degree seats fold into 76in

(193cm) beds, and will feature an advanced in-flight entertainment experience powered by the next generation of large-format tablets, equipped with a telescoping arm that adjusts to optimise the viewing angle and comfort.

As part of the cabin redesign, the carrier said it will fit 28 additional extra comfort seats on each A330 in response to growing demand for its premium economy service, which features 36in (91cm) seat pitch; priority boarding, complimentary on-demand in-seat entertainment and a personal power outlet.

Orange Air Upgrades Fleet

FLORIDA-BASED Orange Air is planning to replace its McDonnell Douglas MD-82 and MD-83 with Boeing 737-800s ahead of resuming scheduled operations in autumn 2016. The airline ended regular services between Cincinnati, Branson,

New Orleans and Cancún in October following the expiration of a partnership with the City of Branson, Missouri and Branson Air Express. Its President Bert Rivero, said: "We remain very excited about the future of Orange Air as we begin our plan to build

an ultra-low-cost airline that will [ultimately] serve 40 domestic and 50 international destinations." The company will continue to operate domestic and international charter flights from its base at Sanford Orlando International Airport

First A321 for Frontier

FRONTIER AIRLINES has taken delivery of its first Airbus A321neo from an order for 19 of the type placed last year. The aircraft is powered by CFM56-5B engines and equipped with Sharklet

wing-tip devices. The cabin will be configured in a 230-seat single-class layout. Initially it will be deployed on routes from Orlando to Philadelphia, Denver, Cleveland and Detroit.

President of Frontier Airlines, Barry Biffle said: "The A321 is the perfect complement to our fleet as we continue to seek areas of growth and offer our customers low fares." (Photo Airbus)



in brief

SKY Airline plans to end its service between Santiago, Chile and São Paulo, Brazil from January next year. The company said the current economical situation in Brazil and low profits on the route that was launched just over a year ago, barely achieved 4% of the airline's income, with just 120,000 passengers per year.

SeaPort Airlines will start scheduled flights to Moses Lake and Port Angeles, Washington in the first quarter of 2016. The Oregon-based carrier will operate a six-times weekly service from Moses Lake to Portland, Oregon, and an 18-times weekly rotation to Seattle Tacoma from March next year. It has a fleet of 14 Cessna Grand Caravans on scheduled passenger flights to 27 destinations across the US as well as Mexico from bases in Portland, Memphis and San Diego. (Photo SeaPort Airlines)



TAM Linhas Aéreas is planning to launch its inaugural scheduled passenger flights to South Africa later next year. Once regulatory approval is in place, the Oneworld member will fly between São Paulo Guarulhos International Airport and Johannesburg Tambo International Airport which is dominated by South African Airways. Varig was the last Brazilian carrier to service the route, but it ceased operations in 2006.

Brazilian-based **Flyways Linhas Aéreas** is planning to launch domestic operations later this year after securing an Air Operator Certificate from the Brazil's National Civil Aviation Agency. The start-up plans to use its sole aircraft, a former Azul Linhas Aéreas Brasileiras ATR72-500, PR-TKN (c/n 580), to serve São Paulo Guarulhos, Belo Horizonte Pampulha and Juiz de Fora Francisco de Assis from its hub in Rio de Janeiro.

US Airways passed into history following the last commercial flight using its own flight code (US1939) on October 16. The rotation from Philadelphia to Charlotte, Phoenix Sky Harbor, San Francisco and back to Philadelphia was flown by an Airbus A321-200, N152UW (c/n 5588). All US Airways services will now be operated under the American Airlines (AA) flight code following the merger of the two carriers. (See *Airliner World* September 2015).

PAWA Dominicana is to acquire its first Boeing 757-200 (c/n 24402). The jet has been sourced from sister company SBA Airlines where it was registered as YV288T. The Dominican carrier resumed services in August after securing an Air Operators Certificate in May.

A Rebrand for Airlines PNG

The first ATR 72-600 for PNG Air, F-WWEQ (c/n 1287), on final approach to Toulouse-Blagnac Airport after a pre-delivery test flight. It will become P2-ATR when it is handed over to the carrier. EUROSPT



PAPUA NEW Guinea's Airlines PNG is set to rebrand under the name PNG Air when the carrier takes delivery of its first new ATR 72-600 before the end of this year. The company says its decision to rebrand will help to reinvigorate its image, while modernising the fleet with new, larger and more comfortable aircraft will improve public perception of its safety and service. The airline placed an order for six ATR

72-600s plus 14 options at the end of 2014 including the milestone 1,000th order for an ATR 72. It is planning to replace its ageing de Havilland Canada Dash 8-100 fleet with the new generation turboprops. Murray Woo, PNG Air's Chairman commented: "We have restructured the airline, it is now fully Papua New Guinea owned and a permanent part of the country's

infrastructure and economy. We also made the decision to modernise our fleet with ATR 72-600. This will allow us, for the first time, to offer our customers a clearly premium product on all domestic routes." The airline expects to have taken delivery of three ATR 72-600s by next February with an increase to seven by December 2017. It expects to become a 100% ATR operator by 2020.

Safi Airways Expansion

AFGHAN CARRIER Safi Airways has outlined plans to acquire between ten and 20 narrowbody airliners over the next couple of years. It is also looking to expand its network within three to four hours' flying time from the Afghan capital, with services to Kuwait, Beirut, Kazakhstan, Iran and India high on its priority list. Currently it flies three domestic and four international rotations. Speaking at a conference in Dubai, Safi Airways CEO Joshua Bustos said that he was primarily looking at the Airbus A320 or Boeing 737 families. Expansion has been thwarted by a ban imposed in 2010 by the European Commission that stopped all Afghan carriers from flying in European airspace. The commission demanded Afghanistan develop its own civil aviation authority to function in accordance with ICAO standards. Safi Airways has continued to argue that because its aircraft are maintained by Lufthansa Technik they are safe to continue operating in European airspace, but to date has been unsuccessful in changing the ruling.

Air Force 01 in Europe

Boeing 737-8U3 BB-J2, A-001 (c/n 41706), arrived at Amsterdam Schiphol Airport early on the morning of October 25 for a technical stop. The aircraft, using the callsign 'Indonesian Air Force 01' arrived from Abu Dhabi International Airport and later continued onto Washington Dulles International Airport carrying Indonesian President Joko Widodo on his first state visit to the US. RALPH BLOK



Manchester Link to Beijing

CHINESE PRESIDENT Xi Jinping visited Manchester Airport during his recent state visit to the UK, during which a plan was unveiled for the launch of new direct flights from the city to Beijing operated by Hainan Airlines. The new route will start on June 10 next year and offers the only direct schedule services to mainland China from a UK airport outside of London. According to British Government figures the route is estimated to be worth £250 million in economic benefits to the UK over the next decade, with two-thirds of this directly felt by the economy in the North through increased

jobs, economic activity and tourism. During the President's visit, he was shown plans for the £800 million Airport City Manchester development, one of the UK's most significant examples of collaboration between the two nations in infrastructure development. He also attended the launch of Airport City Manchester's 'China Cluster' – a £130 million project that will provide a commercial base for Chinese businesses arriving in the UK. It will be based around two campuses within the – Wuhan Square and Shenzhen Gardens – together totalling 484,376sq ft (45,000m²) of space.

Kiwi Regional Is Go!



After securing its Air Operator Certificate Kiwi Regional Airlines' Saab 340A, ZK-KRA (c/340A-065) visited Christchurch. The airline was due to launch double daily return flights between Dunedin and Queenstown, and a Dunedin-Nelson-Hamilton daily rotation, on October 27. GRAHAM WEATHERBY

Success for Thales



CHINA SOUTHERN Airlines has selected Thales' dual head-up display (HUD) configuration for 30 of its new Airbus A320s. The French multinational developer reports that the system, certified by Airbus earlier this year, is a clear step forward compared with a single HUD operation as it allows both pilots to share the same information. The contract, which also includes the Thales flight management system and low-range radio altimeters, represents the first time the dual

configuration has been sold to a Chinese airline since the 2011 decision by Civil Aviation Authority of China (CAAC) making it mandatory for all registered aircraft to be equipped with HUDs – single configuration as the minimum requirement – by 2025.

Daniel Malka, Thales VP, Avionics Services Worldwide, commented: "As skies become more congested, head-up displays are becoming a mainstay for pilots. China is leading the world in adopting this

technology and Thales has invested considerable effort in bringing this system to the market." Under CAAC guidelines the deployment of HUDs on Chinese aircraft started in 2011/12, with up to 10% of a carrier's fleet operating domestic services having to be fitted with HUDs by the end of 2015. From 2016 to 2020, 50% of an airline's fleet needs to be so equipped and by 2025 all civil aircraft operating in China will have to conform to the requirement. (Photo Airbus)



Cathay Pacific Celebrates

HONG KONG-BASED Cathay Pacific Airways has taken delivery of its 70th Boeing 777. The milestone aeroplane, B-HNR (c/n 60724), was handed over at a ceremony at the US manufacturer's Everett facility on September 28. With this delivery, Cathay Pacific's fleet now consisting of 53 777-300ERs, 12 777-300s and five 777-200s making it the largest operator of the type in Asia.

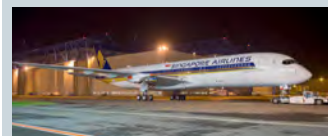
Speaking at the handover, Ivan Chu Cathay Pacific's Chief Executive, said: "The 777s have played an important role in our fleet modernisation and network expansion strategy. The aircraft offer the range, reliability and flexibility to build multiple daily frequencies on trunk routes, both within the Asia-Pacific region and on long-haul routes." (Photo Boeing)

in brief

EVA Airways has announced intentions to purchase up to 24 Boeing 787-10 Dreamliners and two more 777-300ERs. The potential deal, valued at more than \$8 billion at list prices, will see the Taiwanese carrier joining the 787-10 launch customer team. Final contract negotiations will now lead to the signature of a firm order.

Air Tahiti has appointed UK-based lessor Falko Regional Aircraft to remarket six ATR 72-500s as it continues its fleet renewal programme. The aircraft involved: construction numbers 719, 731, 751, 806, 829 and 862, will be available to prospective operators before the end of this year. The carrier is in the process of replacing the aircraft with seven of the latest generation turboprops (three ATR 42-600s and four ATR 72-600s) ordered in August 2010 and December 2012.

Singapore Airlines (SIA) will take delivery of its first Airbus A350-900 next January. The aircraft has just been painted in its livery at Toulouse, will now undergo final assembly and flight testing. SIA is planning to use the aircraft on crew familiarisation flights to the Indonesian and Malaysian capitals Jakarta and Kuala Lumpur respectively, before launching direct long-haul flights to Amsterdam. (Photo Airbus)



Malaysia Airlines has announced plans to replace its Airbus A380 fleet with four A350-900s on its Kuala Lumpur to London Heathrow rotations when the new aircraft start arriving in the last quarter of 2017. The carrier signed long-term leases with Air Lease Corporation for four A350-900s, plus options for two more and two A330-900neos. It is also planning to dispose of all six A380s in a 2017/18 timeframe and could explore wet-lease options for customers looking for a single A380, but who do not want the complexity of owning just one.

The first Airbus A320-216 for **AirAsia Japan**, JA01DJ (c/n 6702) was handed over to the carrier on October 15. The aircraft was flown from Toulouse to Chūbu Centrair International Airport, Nagoya where it will initially be used for crew training. The AirAsia subsidiary plans to operate six aircraft by the end of next year and will add five more aircraft to its fleet each year until 2020. Services will be launched next April to Sapporo, Chitose, Sendai and Taipei.

Biman Bangladesh Airlines has told the *Dhaka Tribune* newspaper it will stop flying its Airbus A310-300s by November 2016. The national carrier maintains a pair of A310s, S2-ADF (c/n 700) and S2-ADK (c/n 594), but poor fuel economy and a growing lack of spare parts has forced the decision with the first due to be retired next June followed by the second example five months later.

Virgin Australia to Dispose of Fokker 50 Fleet

VIRGIN AUSTRALIA Regional Airline (VARA) is to sell its fleet of eight Fokker 50s that have been flying the carrier's Western Australia routes. The airline will, however, transfer four Fokker 100s and an Airbus A320 to its operations here. The decision follows an announcement in September that it would not bid to continue its Western Australian Government-regulated routes to Albany, Esperance and Ravensthorpe. Changes to the fly-in/fly-out mining sector contracts mean the Fokker 50s have become surplus to requirement.

In a statement VARA said: "Following an extensive review, the decision has been made to decommission and dispose of the eight aircraft in the first half of 2016 due to a negative commercial outlook for its F50 operations." The four F100s and the additional A320 are already in service elsewhere on the airline's network.

Airbus Launches Ultra Long-Range A350



AIRBUS HAS announced the programme launch of an ultra long-range version of its A350-900 following a commitment for seven aircraft from Singapore Airlines (SIA). The new variant, designated A350-900ULR, incorporates a number of changes over the standard model, including a modified fuel system to increase the fuel carrying capacity from 31,016 imp gal to 36,295 imp gal (141,000 lit to 165,000 lit). The aircraft will also have an higher maximum take-off weight of 280 tonnes, plus other aerodynamic

improvements. Goh Choon Phong, CEO of SIA said: "Our customers have been asking us to re-start non-stop Singapore-US flights [stopped when the carrier retired its 100-seat A340-500 from New York and Los Angeles rotations in November 2013] and we are pleased that Airbus was able to offer the right aircraft to do so in a commercially viable manner." It is planning to use the new enhanced version on non-stop services to the US West Coast and New York. Representing a distance of 8,700

nautical miles (16,110km), the New York flight will once again become the world's longest commercial passenger route when the first A350-900ULRs are introduced into service in 2018. Under the terms of this latest agreement SIA is converting seven of its existing order for 63 A350-900s to the new ultra long-range variant and has also placed an additional order for four standard -900s, taking its total firm commitments for the A350 XWB Family to 67. (Photo Airbus)

Embraer Deliveries

At the end of the third quarter of 2015, the firm order backlog for Brazilian manufacturer Embraer reached \$22.8 billion. During this period, 21 jets were delivered to commercial carriers and 30 to the business market. This number is 50% higher than the same period in 2014.

Deliveries by Segment		
	3Q 2015	2015
Commercial Aviation		
E175	20	62
E190	-	3
E195	1	3
Executive Aviation		
Light jets (Phenom 100 – 3, Phenom 300 – 18)	21	57
Large jets (Legacy 500 – 3, Legacy 650 – 6)	9	18
Total	51	143

The largest order from the third quarter came from SkyWest Airlines of the USA for 18 E175s. Embraer also delivered its first legacy 500 to a customer in Mexico – Transpaís Aéreo, a subsidiary of the Lomex Group Aeronautics Division.

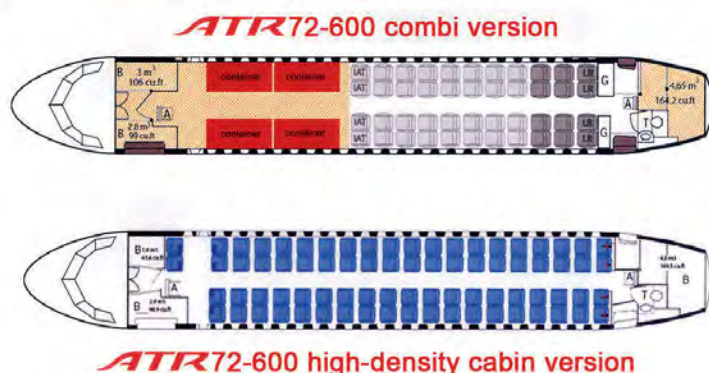
Chinese Airbuses

CHINA AVIATION Supplies (CAS) has signed a deal with Airbus for the acquisition of 130 aircraft, comprising of 30 A330 and 100 A320 family aircraft. The \$17 billion order firms up purchase options [A330] announced earlier this year and intensifies the race to dominate what the two major manufacturers forecast to be the world's biggest aircraft market. Airbus says that the strong demand for the A330 from Chinese airlines is a key driver behind its decision to establish an A330 completion and delivery centre in Tianjin.

Combo ATR Certified

TURBOPROP AIRCRAFT manufacturer ATR has received European Aviation Safety Agency (EASA) certification for its passenger-cargo combi variant of the ATR 72-600. The new cabin configuration allows up to 6,614lb (3,000kg) to be carried in a new cargo section, which replaces the first seven rows, with up to 44 passengers seated in a rear cabin. By replacing the forward

seven rows the Franco/Italian company says the aircraft's load-carrying capacity can be almost doubled. It added that the design is also being offered as a retrofit to existing aircraft and customers. Delivery of the first combi is set to take place before the end of this year to Airlines PNG of Papua New Guinea, which has eight of the type on order. (Photo ATR)



Airbus Deliveries



Performing a go-around during a pre-delivery test flight at Airbus' Finkenwerder facility is the latest A321-231 for Asiana Airlines. The aircraft, HL8038 (c/n 6768), was handed over to the carrier on September 17 and is being operated under lease from Bank of China (BOC) Aviation. JAN SEBA

Airbus delivered the following aircraft in September:

Aircraft	Quantity	Customer
A319	1	Tibet Airlines
A320	23	Air India, Air New Zealand, Al Maha Airways, Avianca, Avianca Brazil, Batik Air, Capital Airlines, Cebu Air, China Eastern Airlines (2), Citilink, Loong Air (2), Royal Brunei Airlines, Shenzhen Airlines, Sichuan Airlines (2), Spring Airlines (2), VietJet Air, Vistara Airlines, VivaAerobus, Volaris
A321	13	American Airlines (2), Asiana, Avianca, China Eastern Airlines (2), Etihad Airways, ICBC Leasing, JetBlue Airlines, LATAM Airlines Group, Spirit Airlines, Turkish Airlines (2)
A330-200	4	China Eastern Airlines (2), Republic of Singapore Air Force, Sichuan Airlines
A330-300	5	Air China, Hainan Airlines, Scandinavian Airlines SAS (2), Singapore Airlines
A350-900	1	Vietnam Airlines
A380	2	Emirates (2)
Total	49	

UAS Flies in UK Civil Airspace

AIR TRAFFIC controllers at NATS have managed the first flight by an unmanned aircraft in controlled airspace. The flight was hailed as a major milestone in the development of unmanned aircraft systems (UAS) for civil and commercial use. The flight took place on September 30 when a Thales' Watchkeeper UAS took off from West Wales Airport on a three-hour flight, partly into civil controlled airspace for the first time.

Until now, large unmanned aircraft have been limited to highly segregated areas, but during this flight, it was controlled in exactly the same way as a traditional manned aircraft, despite the pilots being on the ground in a control room at the airport. The flight was part of a larger programme looking at regulatory procedures for the safe operation of drones inside controlled airspace in the future.

Boeing Deliveries



Taxiing onto Runway 31L at King County International Airport (Boeing Field) is the sixth Boeing 737-800, B-6980 (c/n 61268), for Chinese carrier Donghai Airlines. The aircraft was handed over on September 18. BRIAN WORTHINGTON

Boeing delivered the following aircraft in September:

737-800	43	AerCap (3), Air China (2), ALC (3), American Airlines (2), Avia Capital Leasing, BOC Leasing, China Eastern Airlines (3), Donghai Airlines (2), flydubai, GOL Airlines, Hainan Airlines (4), Lion Air (3), Norwegian (3), Republic of Iraq, Ryanair (2), Sberbank Leasing, Shandong Airlines, SilkAir, SunExpress Airlines (2), Unidentified Customer, Virgin Australia, Xiamen Airlines (4)
737-800A	2	US Navy (2)
737-900ER	5	Alaska Airlines (2), Delta Air Lines, United Airlines (2)
737BBJ	1	Boeing Business Jets
747-8	1	Korean Air
747-8F	1	Cargolux
767-300F	2	FedEx (2)
777-300ER	8	Cathay Pacific Airways, Emirates, Garuda International, Korean Air, Singapore Airlines, Thai Airways International, Turkish Airlines (2)
777F	3	Ethiopian Cargo, FedEx, Unidentified Customer
787-8	5	American Airlines, PrivatAir, Qantas, Qatar Airways, Xiamen Airlines
787-9	6	All Nippon Airways, British Airways, LATAM Airlines Group, United Airlines (2), Virgin Atlantic Airways
Total	77	

in brief

Mitsubishi Aircraft Corp has announced a further delay to the maiden flight of the Mitsubishi Regional Jet (MRJ) due to the additional time needed to repair a broken rudder pedal. Originally, set for the last week of October, the flight was due to take place during the week starting November 9. Following approvals from the Ministry of Land, Infrastructure, Transport and Tourism high-speed taxiing tests and evaluations will now be undertaken in preparation for the first flight.

GKN Aerospace has signed a multi-million pound long-term agreement with Kawasaki Heavy Industries to supply titanium engine components. Under the contract GKN will manufacture and supply titanium rotating parts for the Pratt & Whitney PW1100G-JM and PW1400G-JM Geared Turbofan engines over the planned production period of this programme to 2028, with first deliveries targeted for the end of this year.

Rolls-Royce has signed a memorandum with lessor AerCap and South African Airways for the engine manufacturer's TotalCare Flex package, an integrated core set of services covering key aspects of engine management and maintenance for owners and operators of mature engines. Under the deal Rolls-Royce will support Trent 500 engines for three Airbus A340s operated by the airline. (Photo Airbus)



Airbus Group has confirmed it is no longer exploring future business opportunities with Bombardier. The Canadian aircraft manufacturer revealed in a statement that "certain business opportunities" talks had taken place but did not elaborate on what these might be. Bombardier also said it would continue to explore other initiatives including participation in any future industry consolidation.

Boeing officially opened its Advanced Research Center in St Louis, Missouri on October 20. The centre allows access to and development of cutting-edge technologies across a broad spectrum of research areas. The 700 engineers, technicians and other staff working at the facility will be responsible for the development of future aerospace solutions while improving the cycle time, cost, quality and performance of existing Boeing products and services.

BOC Aviation, owned by the Bank of China, has signed an agreement to sell a portfolio of 24 aircraft to US-based Shenton Aircraft Investments. The deal consists of 11 Airbus A320 Family aircraft, seven Boeing 737NGs, two Embraer E190s two A330s and a pair of 777s, all currently on lease to 21 airlines in 18 countries. BOC Aviation, with more than 21 years of aircraft leasing experience, will continue to manage the portfolio.

Superjet Fatigue Testing Started

SUKHOI CIVIL Aircraft has started fatigue strength testing of the long-range variant of its Superjet 100.

The test aircraft, serial number 95075, was delivered to the Central Aerohydrodynamic Institute at Zhukovsky, near Moscow, inside an Antonov An-124 transporter last November (see *Airliner World*, January 2015). Since then the SSJ100 has been rebuilt, with the wings and tail

reattached to the fuselage, as well as having measuring sensors fitted to monitor the structural health of the airframe during the tests.

Vladimir Lavrov, Sukhoi's chief designer, said: "During the fatigue strength testing, all the primary elements of the aircraft's structure will be checked under multiple loading conditions that correspond to all stages of flight. The test results will confirm both the stated

aircraft service life – 70,000 flight hours and 54,000 cycles – and the programme of maintenance checks developed for the SSJ100."

The manufacturer is working with the European Aviation Safety Agency (EASA) to certify the long-range model of the SSJ100 for service in European airspace ahead of the first delivery - to VLM Airlines - currently scheduled for the third quarter of next year.

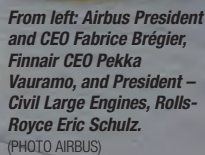
NEO Deliveries on Track



EUROPEAN MANUFACTURER Airbus says it is confident it will meet its year-end deadline to introduce the A320neo into commercial service. The pledge came from CEO Fabrice Brégier after what the company said was minor damage to one of the A320neo prototype's Pratt & Whitney

PW1100G engines. The aircraft, F-WNEO (c/n 6101) was undergoing hot-weather testing when the incident occurred at Al Ain in the United Arab Emirates. He went on to say: "The reason was not a technical, unexpected failure, but more about the life cycle of this particular engine."

The A320neo is entering its final phase of flight testing ahead of its certification with a series of route-proving flights. Testing is progressing with the other engine type, CFM International's LEAP-1A, for the neo with certification expected by the middle of next year. (Photo Airbus)



on the programme.” Following the event, the aircraft departed from Toulouse for Helsinki carrying delegates from Finnair and Airbus along with journalists from around the world. The aircraft touched down at Vantaa Airport where it was welcomed by a crowd of enthusiasts, local media representatives and Finnair employees, along with a water cannon salute from the airport fire services. The aircraft joined the carrier's existing Airbus fleet of 30 A320 Family aircraft, eight A330-300s and seven A340-300s.

At the ceremony, Finnair revealed the new cabin design for its long-haul fleet

Finnair unveiled its new cabin called the Nordic Experience, which will be fitted on its A330s and A350s.

in-flight entertainment system with dynamic ambient mood LED lighting that changes depending on the time of day, destination or season. Seats in Business Class have a 16in (40.64cm) touchscreens along with free Wi-Fi internet access while those in Economy and Economy Comfort come with 11in (28.9cm) monitors and internet access is charged at €5/hour or €15 for the entire flight. The in-flight Business Class menu has been redesigned by Kari Aihinen, Executive Chef de Cuisine of the Savoy Restaurant in Helsinki, and will include an aperitif service with savoury snacks. Another innovative addition to the cabin

Finnair's first Airbus A350 XWB was welcomed by a water cannon salute when it touched down in Helsinki Vantaa Airport. (Photo Jyrki Komulainen/Finavia)



"With the A350, we get the fleet that our strategy requires." Finnair CEO Pekka Vauramo. (All photos author unless stated)



Business Class features full-flat bed seats with 16in (40.64cm) touchscreens and free Wi-Fi.

is a women only lavatory equipped with special toiletries – although, according to a Finnair spokesman, the facility will be open to both genders if the proportion of males to females in Business Class is a higher than usual. Finnair Chief Commercial Officer Juha Järvinen said: "We want to give Finnair passengers a unique Nordic experience in this aircraft. Finnair's Nordic Sky entertainment system is the ultimate travel companion and revolutionises the in-flight experience by providing innovative digital services for every step of the journey." Finnair's A350 XWB Chief Purser, Maija Ignatius concluded: "This is the

beginning of a new era for Finnair. Everything is new and rethought for modern flying. I believe passengers can sense the excitement and pride as we work in the new aircraft. I am honoured to call the A350 XWB my workplace. The experience of flying will be redefined!"

Back to the Future

The Finnish flag carrier is the first European operator and the third worldwide to take delivery of the A350 and the type will play an important role in its long-haul fleet renewal programme. According to Vauramo, the company plans to "double the Asian traffic by 2020 from the 2010 baseline" and the

A350 is the "backbone of this strategy". To support this expansion the airline has 19 examples on order, making it the biggest investment in the carrier's history. The first four jets were expected to arrive in 2015, with another seven to follow over the next two years. Deliveries are due to be completed by 2023. The company plans to replace its aging A340s-300 fleet with the A350 on its scheduled routes by the end of 2017. Vauramo explained the 25% gain in fuel efficiency of the A350 compared with the A340-300s it will replace is a "step change" because it will translate into significant savings and "huge" reductions in CO₂.

First Flight

The first Finnair A350's commercial flights took place on October 9 from Helsinki to Amsterdam and Oslo as part of a crew familiarisation tour. As *Airliner World* went to press, the carrier planned to visit other cities in Europe including Barcelona, Berlin, Brussels, Copenhagen, Düsseldorf, Gothenburg, London, Málaga, Munich, and Vienna. The first A350 XWB long-haul flight is scheduled to take off on November 21 between Helsinki and Shanghai, followed by Beijing, Bangkok, Singapore and Hong Kong. The carrier plans to launch the A350 on transatlantic services to New York by the end of the year.

Richard Benedikz travelled to Toulouse to witness the unveiling of Finnair's first Airbus A350 XWB.



World Route Development Forum



THE 21ST World Route Development Forum (or Routes) was held at the International Convention Centre in Durban, South Africa, from September 19 to 22. It attracted more than 2,500 delegates from over 250 airlines, 650 airports and 170 tourism authorities from 115 countries – plus representatives of manufacturers and support organisations. It was the last in a series of regional events held across the world during the year and culminated in the announcement of the World Routes 2015

Marketing Awards. The idea behind all the events is that airports and airlines can 'speed date' in secluded areas, with limited time available for each meeting. They talk about establishing new routes to and from hubs and, if progress is made, more detailed discussions can follow at a later date. The rest of the two large conference halls in Durban were made up of exhibition areas for the airports – where the which catered for some meetings as well as a fair amount of networking and socialising!

Alongside the meetings, the World Routes Strategy Summit included a series of lively sessions when speakers from all branches of the aviation industry discussed various commercial aviation topics. At the event's opening press conference, Katy Bland, Director Routes, noted: "This is the world's biggest commercial aviation event on routes planning and has come a long way in its 21-year history. "The first was held in Cannes in France in 1994 and attracted just 60 people; this

year we have around 2,500, with over 16,000 face-to-face meetings." "This is a huge conference for us," added Michael Mabuyakhulu, the KwaZulu-Natal Member of the Executive Council for Economic Development, Tourism and Environmental Affairs. "It's a working environment where decision-makers are able to actually make decisions and generate new business and it's a launch pad for the growth of the African aviation industry." (All photos Routes unless stated)



Strategy Summit

Held over the first two days of the conference, the World Routes Strategy Summit was well attended by delegates. The panels included important speakers from the industry, including Angela Gittens, the Director General of Airports Council International (ACI), who gave the keynote address. Session topics comprised:

- Airline challenges and growth concerns
- The challenging business of airports
- How to attract more passengers and tourists
- What Middle Eastern carriers do for the industry's route development
- Africa on the rise
- Air service development
- New technologies

State of the Industry

IN THE first of the sessions, Gittens was asked if the key industry groupings are working well together. She replied: "There are very few places that can thrive without air services, but small airports lose money and are often served by low-cost carriers that want the best deal – and pay the least money. They need a return in invested capital and have high infrastructure costs." "One size does not fit all," added Hemant Mistry, Director of Airports and Fuel for IATA. "We need to work together as an industry. Airlines need to operate where their passenger and cargo

demands define." "It's difficult to generalise," said Tewolde GebreMariam, the CEO of Ethiopian Airlines. "Airports in different parts of the world have a different emphasis on how to be profitable. There is no profitable airline in Africa – apart from Ethiopian. "The welcome drop in the world's oil prices has not been fully passed on in Africa. Where airlines in Europe are paying around \$3.5 per gallon, we are paying \$4 and governments need to be more transparent over costs." The panel agreed that one of the main problems concerning progress in African

skies was the failure to fully implement the 'Yamoussoukro Decision' which was adopted in the Côte d'Ivoire in November 1999 and aimed at the liberalisation of access to air transport markets in Africa. Political indecision in a number of countries has resulted in little progress being made. "We need more liberalisation and Open Skies [air traffic control freedom]," continued GebreMariam. "There is so much potential here and that has to be grown before any bilateral agreements can be implemented. "Twenty years ago there were 60 African

carriers and now there are just 20. In the same time period there used to be 40 non-African carriers offering services and now there are 80. There may be more services, but does that generate more jobs for Africans. "If we want an aviation sector to support the growth, it has to be African-based – and this includes training, maintenance, catering, etc. We at Ethiopian train 4,000 students per year at our Addis Ababa-based aviation academy, for countries across the whole of Africa. There must be free enterprise and free competition for all."

Airline Challenges

IN THE second panel session, Richard Evans, a senior consultant with the Ascend Flightglobal consultancy, outlined the challenges faced by airlines over the next decade. "Ten of the top 20 fastest growing passenger-carrying airlines of the last ten years come from China. Only two come from Western Europe and none are in America," he said. "As a result most of the fastest growing

routes are intra-Asian and many of these are domestic routes." He added that some routes – particularly within Europe – have declined due to the growth in high-speed rail links and improved roads. He then outlined the key challenges to airlines when new short-haul types come into service, although he explained it will be 2026 before the Airbus A320neo

Family is larger in numbers of airframes than the current A320ceo; and 2028 before the Boeing 737MAX overtakes the current Next-Generation range. The new aircraft have longer range capabilities giving airlines the opportunity to open new routes and grow hub usage. "As examples, COPA in South America may exchange its 737-800s for the larger MAX9 – therefore increasing passen-

gers carried – while in Europe using both the MAX and A320neo may allow Turkish Airlines to open up more routes to the Indian sub-continent that are not achievable due to range at present. "Even for a low-cost carrier such as Norwegian, the use of the new aircraft could open up transatlantic routes to the eastern seaboard of the USA using single-aisle aircraft."

Routes Awards

TOURISM IRELAND was the main beneficiary at the Routes Awards, gaining the Destination Marketing prize as well as the overall World Routes Awards 2015 – formally announced during a networking evening event in People's Park, next to the Moses Mabhida sports stadium, one of Durban's most famous landmarks. Siobhan McManamy, Head of Co-operative Marketing, Tourism Ireland, said: "We're delighted to be honoured in this way. It recognises the great partnerships we have with our airports on the island of Ireland to support their route development efforts with airlines." The awards, voted for exclusively by airlines, are split into five categories – comprising four for airports (grouped by size) and one for the best destination marketing campaign by a

tourism authority. Katie Bland, Director Routes, remarked: "We're delighted to mark the achievements of all of our nominated airports and destinations in our annual awards. Year on year we are impressed by the calibre of the submissions." In addition to the shortlisted finalists nominated by the airlines, the overall winners from each of the regional Routes events from 2015 had automatically gained a place in the final judging – Austin-Bergstrom International Airport, Tourism Australia, Brussels Airport and Dubai Airports. A panel of judges made up of senior members of the airline network planning community then reviewed the lists and submissions from the nominated airports to determine the winners. (Photos Routes)



Commended	
Under four million passengers	Halifax Stanfield International Airport, Cork and Shannon Airports
4-20 million	Prague Airport, Budapest Airport
20-50 million	Copenhagen Airports, Abu Dhabi Airports
50 million-plus	Dubai Airports, Changi Airports Group
Destination	Tourism Ireland, Las Vegas Convention and Visitors Authority



New Services at King Shaka

ONLY OPENED in 2010, Durban's King Shaka International Airport – some 30 miles (50km) to the northeast of the city – already attracts some 4.6 million annual passengers, and the figure is set to increase in the next 12 months after the announcement at Routes of three new airlines serving the hub. Qatar Airways will start a four-times-weekly service on December 17 as an extension of its service between Doha and Johannesburg – on which sector the carrier will also increase its offering from ten-weekly to double-daily. Its route to Cape Town will also increase from five flights a week to daily. All three services will use Boeing 787-8 Dreamliners configured with 254 seats in a two-class configuration. Meanwhile Turkish Airlines announced an extension of its Istanbul-Johannesburg route to serve Durban using an Airbus A330-300 with a four-times-weekly schedule. According to the airline, flights will start before November 15 and, if passenger numbers justify it in the

first six months, could increase to a direct daily flight in preparation for the Commonwealth Games in Durban in 2022. The carrier has just split its single service to Johannesburg (and onward to Cape Town) into two separate services. The third route announcement actually coincided with the inaugural flight, with Proflight Zambia starting a link between Durban and the Zambian capital, Lusaka. The three-times-weekly service complements the existing operations of South African Airways Express on the city pair and is operated by a Bombardier CRJ100, wet-leased from South African carrier CemAir. "This brings opportunities to both cities because it offers travellers more access for both business and leisure," said Captain Phillip Lemba, Director of Governance, Government and Industry Affairs, Proflight Zambia. "Durban is one of the most important destinations in the region for trade and leisure, and this flight offers good connectivity with our domestic flights too."

Official Handover

THE HOST for this year, the Province of KwaZulu-Natal, officially handed the annual event over to Chengdu Shuangliu International Airport in Chengdu, China – the host for 2016 – in a lavish ceremony. Speaking at the close of the event, Huang Ping, Minister of the Chengdu Municipal Government, said: “Hosting World Routes gives us the opportunity to demonstrate, on a global stage, our success in building a national-level aviation hub serving international and domestic airlines.

“New routes to coastal China, as well as the rest of the world, mean Chengdu is now firmly established as Western China’s centre of commerce.

“In addition to advancing transport, technology, manufacturing and finance sectors, Chengdu also has some of the richest tourism resources in the world.

We look forward to welcoming delegates and guests next year to experience Chengdu’s history, culture and renowned Sichuan cuisine.”

Prior to the handover, Airliner World spoke to Li Wei, the Board Chairman of the Sichuan Province Airport Group about plans for next year’s event. “We are looking forward to being the hosts in 2016, although many ideas for the event are still in the planning stages,” he said, adding that they are looking at providing special tourist visas for delegates. “The Chengdu and Sichuan region has a long history going back over 4,000 years and we want to show off our cultural heritage to visitors.” Chengdu Airport is now the fourth largest in China – at over 37 million passengers – and is the only one of the four in the western part of the country.



Any Airbus A318s Available?

AFTER ADDING its first Airbus A320 in 2013, UK-based airline sub-charter specialist Titan Airways is looking to acquire more of the family from the European manufacturer. Airliner World talked to Alastair Kiernan, the carrier’s commercial director, who said that it was looking in particular at the smallest variant – the A318. “We are expecting an A319 in the spring of 2016, followed by an A321 in the summer,” he explained. The aircraft

will be configured towards the maximum capacities – 144-150 seats for the A319 and around 220 seats for the A321 – to “maximise the market opportunities for operation.”

“However, the A318 is something under real consideration,” he added. “We could be one of only a few airlines to fly the aircraft, but it suits our business needs and would be interested if any come onto the second-hand market.”



Opening Doors for Southend

IN A bid to secure the attention of the world’s airlines and some of its biggest airports, one UK facility found an innovative way to stand out from the crowd at Routes and garner attention.

London’s Southend Airport agreed a deal to promote itself on the Hilton Hotel’s sliding doors, so that guests and delegates outside the adjacent International Convention Centre could learn about the British airport.

“After we put the proposal to them, the hotel came back to us with an example of branding which had been applied to its sliding entrance doors in the past

for previous exhibitions at the Durban ICC,” Paul Haynes, business development manager, London Southend Airport, explained to Airports of the World.

“It was a great opportunity to get our message over to the route development market, especially through the use of the striking London image which matched our stand, as this resonated with many of the non-UK-based delegates.

“We were exceedingly pleased within the final result and also to be the main topic of conversation within the show itself.” (Photo anna.aero via London Southend Airport)

Air Zimbabwe to London?

According to Air Zimbabwe’s acting Chief Executive Officer, Edmund Makona, the resumption of long-haul flights by the carrier from the country’s capital, Harare, is a high priority, with the London route being top of the list. “I will lead a delegation later this year to work towards our return back into the market,” he explained. “We also hope to finalise our long-haul fleet replace-

ment tender by the end of the year, but will seek interim capacity to support this proposed route growth. When we make a final decision on long-haul, London will be the first destination we serve as we know the traffic is there.” He explained that the airline is co-ordinating with Zimbabwe’s tourist board to get approval for charter flights to the newly-developed Victoria Falls Airport.

Lack of African Progress

SPEAKING DURING one of the panel sessions of the Strategy Summit, the acting Chief Executive Officer of Air Zimbabwe, Edmund Makona, expressed his frustration with some countries not implementing the Yamoussoukro Decision (aimed at liberalising access to air transport markets in Africa).

“There is a lack of conviction from most of our neighbours with only 11 states – out of the 44 – willing to implement any

of the plans. We are great at putting the proposals together but not so good at implementing them.”

His thoughts were echoed by Chris Zweigenthal, the Chief Executive of the Airline Association of Southern Africa. “These high costs are stifling growth,” he said before going on to explain that the average fare for a medium-haul flight in Africa is 45% higher than in Europe. He explained that the ‘extras’

do not help as he was recently given a ‘free’ ticket by a carrier – but then had to pay \$350 in taxes! “The cost of oil has halved this year, but this has not been reflected by a drop in aviation fuel prices.”

He then asked why African carriers are not integrating with each other – preferring instead to collaborate with international airlines. Makona added: “We need more interline ticket agree-

ments to enable passengers to simply fly across Africa rather than go via Europe.”

Incredibly, many businessmen find it easier and cheaper to travel from countries in east and South Africa to others in the west via hubs in Europe! “Aviation is the catalyst turning around the economies of a country. The future is now, and unity is what is required,” concluded Makona.

King Shaka International

AIRLINER WORLD was given a tour of the 'new' King Shaka International Airport (KSIA), which serves Durban and the surrounding region.

Opened in 2010 on a 'greenfield' site 30 miles (50km) to the northeast of the city, it replaced the old airport to the south, which could not be extended. Next to the new terminal is a 7,000-acre (2,833ha) 'aerotropolis' called the Dube Tradeport.

"Building the airport was a sensible business decision taken co-operatively by all the parties involved," said Terence Delomoney, general manager of KSIA.

"And the last five years have proved the business case was right.

"Add to that the fact that KwaZulu-Natal is a very active province, and was keen on building an aerotropolis to maximise

the impact of air connectivity. Selling off the old airport land also enabled some critical port developments at the old site."

The airport served close to 5 million passengers in 2014, with a capacity of 7.2 million, and has a 12,140ft (3,700m) runway. Airbus A380-capable, it will be building two more remote widebody stands to complement the two gates and two remote stands it currently operates. The surrounding aerotropolis includes new office blocks and conference facilities while a special Industrial Development Zone (IDZ) provides benefits to companies, including tax relief, and is already home to blue chip companies such as Samsung. It also provides facilities for the airport's growing cargo area.

Double-Digit Growth in Budapest

TALKING TO *Airliner World* at the conference, Balázs Bogáts, Head of Airline Development at Budapest Airport, explained why the hub had seen a growth of 13% in the year to date.

"We've worked very hard with the Hungarian Tourist Board in promoting the area. It is a beautiful city to visit and very affordable with the current exchange rates," he said.

New long-haul routes have included services by Air China, Air Transat and the extension of frequencies by Emirates, with Air Canada route

expected to start in 2016. Services to the North American continent are very important to the airport, Bogáts said.

"The UK is the biggest market for us, with around a 25% growth last year," he added. "We have over one million passengers a year to London alone." Shortly after the conference ended, the airport announced that Ryanair will be adding three more new routes from March 2016 with connections to Copenhagen, Malaga and Malta, and increasing its Dublin service by an additional two weekly flights.

Regional Growth at Changi

ACCORDING TO its senior vice president of market development, Lim Ching Kiat, the Changi Airport Group expects further connectivity development across the region, particularly to north and south-east Asia.

"Things had slowed a little and the rate of growth had slipped in 2014 following a few years of good growth," he said.

"This can be attributed to regional airline struggles and impact of a difficult

year for air safety across Asia.

"We've now put these issues behind us and recently reported a 6.8% growth in passenger movements in July 2015." Handling almost 55 million passengers a year, Changi International Airport is the sixth busiest airport in the world for international traffic, and now serves around 320 cities across 80 countries through the operations of more than 100 airlines.



African Aviation



LOW-COST CARRIER Mango started operations in October 2006 and the wholly-owned subsidiary of South African Airways (SAA) has since been profitable in every year bar one.

"We evaluated alternatives and built the airline in a similar mould to Jetstar Qantas in Australia operating in tandem with our parent and not necessarily in competition," Nico Bezuidenhout the carrier's CEO said during the conference. "We wanted to appeal to the younger market and the orange colour is often associated with

warmth and holidays."

With a background in general business development, he was asked how he came into aviation. "It started with a two-year contract in the mid-2000s, but it is a bug that bites and for me it is now a passion!" He was also asked about the carrier's name. "If you can call a computer company Apple or a cell-phone mobile operator Orange, then I can call an airline Mango."

Over a quarter of Mango's operations are on domestic routes and profit is made through high utilisation of aircraft,

although this can be a problem at times as many of the airports in southern Africa close at 7pm and therefore missing one or two evening rotations (as is done in Europe). It sells tickets via the internet although Bezuidenhout added that 30% of the total actually come through mobile devices – the internet is perhaps not as widespread in the continent as it is in Europe. Tickets can also be bought in the major department stores, with passengers often paying via store cards.

"Low cost is not low class," he added.

"We have the best on-time performance in the region and have on-board internet for our passengers. Our plan for the next five years is to serve more countries and we are looking at the east coast of Africa and the islands – Mauritius, Madagascar, Seychelles – as places to expand in." This year, the carrier has increased in size by 20% and it is planned to stay this way for the next three to five years. (Overall airline growth in South Africa is at between 3 and 5%) (Photo AirTeamImages.com/Rex)

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Defying Convention

Some 12 months since its integration into Southwest Airlines, **Kevan James** remembers AirTran and its predecessor ValuJet, low-cost carriers that aimed to put the fun back into flying and made an indelible mark on the US commercial aviation scene.



The early 1990s was a difficult period for the US aviation industry. The Airline Deregulation Act of 1978 had removed many of the government-imposed market entry and price restrictions leading to fierce domestic competition. This, combined with contracting worldwide demand for air travel driven largely by rocketing fuel prices and a severely depressed global economy, placed huge pressure on the nation's airlines. In 1991 alone, two of America's biggest carriers – Pan American World Airways (Pan Am) and Eastern Air Lines – both failed, leaving the door open for a new generation of operators.

ValuJet...aimed to put the fun back into flying and defied almost every established convention.

Defiant from the Outset

Enter Robert Priddy, Lewis Jordan and Maurice Gallagher, three vastly experienced airline executives brimming with optimism and a desire to try a different approach. Their answer was a low-cost carrier (LCC) – ValuJet Airlines – that aimed to put the fun back into flying and defied almost every established convention. The company's fleet was daubed with a large smiling cartoon aircraft known as *Critter* (this name doubled as the carrier's radio call-sign), employees wore casual shirts and the firm did not issue paper tickets to passengers – common place today but almost unheard of at the time.

This defiance extended to ValuJet's choice of base – Hartsfield-Jackson Atlanta International Airport, which had become almost the exclusive domain of Delta Air Lines following Eastern's failure and left the facility largely off limits to most carriers.

The 137-seat Boeing 737-700 was well-suited to AirTran's longer trunk routes to the West Coast of the US, while the smaller 717s were employed to secondary destinations.

AIRTEAMIMAGES.COM/
STEVE FLINT

Unsurprisingly, few people took ValuJet seriously and its first flight – from Atlanta to Tampa on October 26, 1993 – was conducted with barely a second glance from its would-be rivals. Somewhat ironically, the service was operated by Douglas DC-9-32, N3339L (c/n 47275, later re-registered N901VJ) which ValuJet had acquired from Delta just weeks before.

The inaugural flight carried just 105 passengers, but word soon spread that ValuJet was living up to its promise – its air fares were a fraction of those offered by its more established competitors, Delta included. The LCC was aggressive in cutting costs and no element of its operations was off limit: its airport staff were employed on temporary or agency contracts, >>





its flight crews were not unionised, its aircraft had an above average utilisation and many major functions were simply outsourced. This low cost base allowed the carrier to rapidly expand both its route network and fleet. ValuJet's Initial Public Offering (IPO) came barely eight months after its inaugural flight – the share price rose from \$12.50 to \$16.125 on the first day of trading as it became one of the hottest properties on the New York Stock Exchange.

Armed with millions of dollars from the IPO, and media stories praising the David versus Goliath nature of ValuJet taking on the mighty Delta and making flying enjoyable and affordable, the carrier's stock among the travelling public rose as quickly as its share price. The airline could apparently do no wrong and, in October 1995, it stunned the aviation industry with an unprecedented \$1 billion order for 50 McDonnell Douglas MD-95s (later renamed the Boeing 717), plus 50 options, the first time a LCC had been the launch customer for a new aircraft type.

All Change

ValuJet's light-hearted approach to business was reflected in its early promotional material. Radio adverts featuring the company's own superhero, Captain Valu, frequently poked fun at the generic 'Great Big Airline'. However, rapid growth brings its own challenges and things took a serious turn in mid-1995 when concerns began to arise about the carrier's maintenance procedures. This culminated in the highly embarrassing government declaration that US military personnel were not allowed to fly with the airline.

Unsurprisingly, ValuJet also caught the attention of the Federal Aviation Administration (FAA). A memo from the Atlanta field office on February 14, 1996 highlighted several perceived failings within the airline, including an 'absence of adequate policies and procedures for maintenance personnel,' and recommended that "consideration should be given to an immediate [Federal Aviation Regulation] FAR-[part] 121 re-certification of this airline." In other words, a temporary grounding. The memo triggered an intensive investigation into

ValuJet while the carrier was also forced to seek FAA approval before adding any new aircraft or routes to its network, a step not seen since the deregulation of the industry almost two decades earlier. Of particular interest to the government department was the airline's safety record – ValuJet had recorded 15 emergency landings in 1994, 57 in 1995 and another 57 during the first four months of 1996 alone. This was attributed in part to the carrier's fleet of 51 DC-9s which, with an average age of 26 years, were among the oldest examples flying in the US.


Barely nine days after the completion of the FAA investigation, ValuJet suf-

fered its first fatal accident when flight 592 crashed into the Florida Everglades shortly after take-off from Miami on May 11 with the loss of all 110 passengers and crew. The crash was attributed to a fire in the cargo hold caused by improperly stored hazardous material but it was a step too far for the airline, which was grounded by the FAA a month later.

A much-changed ValuJet was allowed to resume operations on September 30, but the carrier's reputation had suffered irreparable damage and losses continued to mount.

Eager to arrest its slide, the airline installed former Continental Airlines CEO D Joseph Corr as its new President and CEO and he, along with a new senior management team, spearheaded the company's transformation.

The first step was the July 1997 announcement that ValuJet was

 ValuJet A I R L I N E S	
IATA	J7
ICAO	VJA
Callsign	CRITTER
First Flight	October 26, 1993
Headquarters	Clayton County, Georgia, USA
Fleet size	56
Destinations	28



"...we are celebrating history and setting our sights on a bright future for all of Southwest Airlines."

Southwest Airlines' Chief Commercial Officer **Bob Jordan**

ABOVE LEFT • **ValuJet's inaugural service departed Atlanta Hartsfield Jackson on October 26, 1993.** CHRISTIAN VOLPATI COLLECTION/ AIRLINERSGALLERY.COM

AirTran operated several logojets including this Boeing 717-200, N950AT (c/n 55012), which was specially decorated to celebrate the 50th anniversary of Little Debbie's cupcakes. TONY STORCK/ AIRLINERSGALLERY.COM

ValuJet became the launch customer for the McDonnell Douglas MD-95 with a \$1 billion order for 50 examples (plus 50 options). MARCELO F DEBIAS/ AIRLINERSGALLERY.COM



merging with the much smaller Orlando-based AirTran Airways. The latter had come into being some three years earlier as Conquest Sun, but was acquired by Air Tran Corporation and renamed before launching services to cities across the Midwest and along the East Coast.

The merger was completed on November 17, 1997 though, notably, the entity retained the AirTran name, despite ValuJet being the senior partner. More importantly, it was well managed and, what on paper had looked to be a difficult task of blending very different fleets and cultures remained relatively trouble free. Corr and his team created an airline that retained many of the hallmarks associated with LCCs, but now also offered Business Class seating, in-flight Wi-Fi, free snacks and hub connectivity (at its Atlanta base and, later, focus cities

such as Baltimore-Washington, Milwaukee and Orlando) rather than a more traditional point-to-point network. In January 1999, Corr handed the reins over to Joe Leonard and Robert L Fornaro who immediately set to work addressing the carrier's precarious financial position ahead of the delivery of its first 717s, due later that year. A combination of reorganisation and streamlining led the carrier to post an operating profit of \$30 million for 1999 – a stark contrast to the \$41.5million net loss in 1996.

This turnaround was achieved in part by the introduction of the new 717s, which were significantly cheaper to operate and maintain than the outgoing Douglas jets. The inspection intervals on the Boeing were almost 10% longer, while a C-check could be completed in just three days compared with 21 for the DC-9. The new type was an imme-

diately hit with crew and passengers alike, leading to a strong recovery in the airline's traffic – in 2003, it carried almost 11.7 million travellers, a year-on-year increase of almost 20%.

One flaw was the 717's lack of range and, keen to fly non-stop to the West Coast, AirTran placed an order for 100 new 737-700s on July 1, 2003. The addition of a second aircraft type to its fleet was very much in defiance of LCC conventions, but it suited AirTran's network – the 137-seat 737s operated on the trunk routes while the smaller 717 was used to secondary destinations.

A Tale of Mergers

With AirTran back on a sound financial footing and a large backlog of aircraft on order, the carrier started looking at alternative means of expanding its footprint in the US. In December >>

TOP LEFT • Both ValuJet and AirTran maintained a major hub at Atlanta Hartsfield Jackson. AIRTEAMIMAGES.COM/EUROPIX

LEFT • The carrier painted several jets in special liveries to promote local sports teams including Orlando Magic (pictured) and the Atlanta Falcons. TONY STORCK/AIRLINERSGALLERY.COM

ABOVE • AirTran courted Midwest Airlines for more than 18 months but ultimately failed in its bid to acquire the Wisconsin-based carrier. AIRTEAMIMAGES.COM/EUROPIX



	
IATA	FL
ICAO	TRS
Callsign	CITRUS
Final Flight	December 28, 2014
Fleet size	138
Destinations	69



2005, it made a tentative pass at Wisconsin-based Midwest Airlines. It was a logical move: the two airlines both operated the 717 and had largely complementary route networks. After several rejected bids and some 18 months of negotiations, AirTran eventually lost out to a joint offer from Northwest Airlines and TPG Capital. It elected instead to grow its own operations and opened a second crew base at Milwaukee's General Mitchell International Airport. This, combined with its extensive route network, made AirTran an attractive business proposition so it was not entirely unexpected when rival LCC Southwest Airlines launched a \$1.4 billion takeover bid in September 2010. The deal, which made Southwest the biggest domestic airline in the US by passengers carried, was eventually concluded the following May though both carriers initially continued to operate as separate entities. The acquisition of AirTran added 21 new destinations to Southwest's network (seven of which were international) while synergies between the two companies helped

the Texan carrier to increase its profit from \$178 million in 2011 to \$754 million in 2013.

Notably, Southwest managed to successfully negotiate many of the pre-merger pitfalls including converting AirTran's Atlanta hub into one of its focus cities. More significantly, it brokered a deal to lease out the entire fleet of 717s to Delta, preserving the cost advantage that comes with operating a single aircraft type.

In a gradual and phased integration of the two companies, Southwest acquired its single operating certificate on March 1, 2012 and then introduced a codeshare agreement with AirTran – the first five shared itineraries were launched in late January 2013, followed by a further 39 in February. Within two months, the deal had expanded to cover the entire combined network including domestic and international destinations.

The AirTran brand was finally consigned to the history books on December 28, 2014. Over the course of the day, the carrier operated close to 90 flights, a far cry from its peak of 750 daily departures.




ABOVE LEFT • The carrier leased four Airbus A320s, including N381LF (c/n 640), during 2003 but operated the type for barely 18 months.
AIRTEAMIMAGES.COM/
STEVE FLINT

Southwest Airlines' \$1.4 billion acquisition of AirTran in 2013 made it the biggest domestic carrier in the US.
AIRTEAMIMAGES.COM/
TIMO BREIDENSTEIN

AirTran was consigned to the history books on December 28, 2014.
AIRTEAMIMAGES.COM/
SIMON GREGORY

The honour of the final AirTran service – Flight 1 – fell to a 717, N717JL (c/n 55042), which re-created the inaugural ValuJet route from Atlanta to Tampa. The jet took off from Hartsfield-Jackson at 10:30pm carrying a full load of 117 passengers and arrived in Florida 1hr and 6mins later.

Commenting before the final departure on what he dubbed a "bittersweet" day for AirTran, Southwest's Chief Commercial Officer Bob Jordan remarked: "With this special flight, we are celebrating history and setting our sights on a bright future for all of Southwest Airlines. We now move forward with one airline, one customer experience, one flight schedule, one Rapid Rewards frequent flyer programme, and one award-winning brand." 



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SHEREMETYEVO – GATEWAY TO MOSCOW

Sheremetyevo was once revered for the exotic array of Soviet hardware lining its aprons. Over the last ten years the airport has been transformed into a modern global hub for Aeroflot. Kevan James reports from Moscow.

CHUUK – A MICRONESIA ODYSSEY

Three times a week, a Boeing 737 wends its way across the Pacific Ocean on United Airlines' Island Hopper service. One of the stops it makes is in Chuuk State, Micronesia. Marco Finelli tells the story.

AIRPORT INFRASTRUCTURE – LA GUARDIA

Plans unveiled recently will see LaGuardia's central terminal area totally transformed over the next five years. Andy Martin explains what is in store for New York's third busiest airport.

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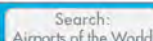
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Fleet growth

A brand new Boeing 747-8F touched down in Luxembourg on a sunny autumn morning, painted in a special livery to mark the 45th anniversary of Cargolux, Europe's largest dedicated cargo airline. The event was attended by Cargolux employees, including its Chief Executive Officer, Dirk Reich along with Boeing's Vice President, Marketing Randy Tinseth.

The paint scheme was created by Belgian cartoonist Philippe Cruyt to symbolise the carriers slogan, "You name it we fly it".

According to Tinseth, the decal was the largest that Boeing had ever applied to an aircraft, consisting of 460 individual parts and taking three days to fit. The 747-8F, LX-VCM (c/n 61169) City of Redange-sur-Attert was officially handed over at Boeing Field, Seattle on September 28 and arrived in Luxembourg Findel Airport the following day.

Reich said: "The 747-8 freighter suits our worldwide network perfectly and its nose-loading and cargo-carrying abilities help us to maintain our leading position in the airfreight industry. Philippe Cruyt's exceptional livery is a fitting addition to our 13th 747-8F and underlines not only the expertise and experience that Cargolux has gained in handling a wide variety of normal and



Cargolux's latest freighter was painted in a special livery to mark its 45th anniversary.

(ALL PHOTOS KEY – RICHARD BENEDIKZ)

special freight, but also celebrates the long and colourful history of our company. This aircraft is an ambassador for the passion and the spirit of Cargolux."

Expansion in the Freight Market

According to Tinseth, the global economy has begun to recover – passenger numbers were up 6% in 2015 while air cargo grew by 4% with the highest expansion in Africa, the Middle East and Asia. He also noted that the future outlook remains positive with strong demand for new, efficient aircraft as airlines are working to reduce costs.

Reich added that after several 'difficult' years, Cargolux "had a good 2014"

with an increase of 3.1% in tonnage. During the first half of 2015 the company saw a 4.5% rise compared with the same period last year. Its strongest markets are in Europe and Asia, which each account for 35 - 40%.

Cargolux is focusing in areas where forecasted growth rates between 2015 and 2034 are highest: Africa (6.9%), Middle East (6.3%) and Asia (5.7%), particularly in China. The carrier has two bases in China, one in Hong Kong and another in Zhengzhou, although the company has also expanded to other markets. Its subsidiary, Cargolux Italia launched a non-stop service to Novosibirsk in June this year, marking its first commercial route to

Richard Benedikz travelled to Luxembourg to witness the arrival of Cargolux Airlines' 13th Boeing 747-8 and discover the carrier's plans for the future.



for Cargolux



"We will choose the 747. We know the aircraft, we know the maintenance for the aircraft and we have the pilots"

Chief Executive Officer, Dirk Reich

Russia and it has also signed a letter of intent with Oman Air to launch flights from its base in Luxembourg to India via Oman.

Looking East

Reich revealed details of a new carrier – dubbed Cargolux China, as a working title – in partnership with Henan Civil Aviation and Investment (HNCA), which acquired a 35% share in Cargolux from the Luxembourg Government for \$120 million last year. He said while agreements are not finalised, discussions are at an advanced stage and are likely to be completed by the end of the year with operations starting in 2017. The new subsidiary will be based out of Zhengzhou, the capital of the Henan Province in east-central China. He said the Chinese market is growing around 5 to 7% and there is a "huge market potential".

Currently, Cargolux runs seven flights a week between Luxembourg and Zhengzhou and introduced a second rotation from Italy in the first week of October (flown by Cargolux Italia). It also operates two return flights from Zhengzhou via Anchorage to Chicago.

The Chinese subsidiary will focus on the transpacific routes, with up to 80% of the flights serving the US – the remaining 20% will be within Asia.

Reich added the ultimate goal for

Boeing's Vice President, Marketing, Randy Tinseth (left) and CEO Dirk Reich, expressed a positive outlook on the air cargo market with an average of 4.9% growth a year until 2034.


Cargolux China is to connect China with direct flights to Australia, South America and Africa.

On its aircraft selection, Reich commented: "Currently, the plan is to start with three aircraft and expand the fleet to five aircraft within three years.

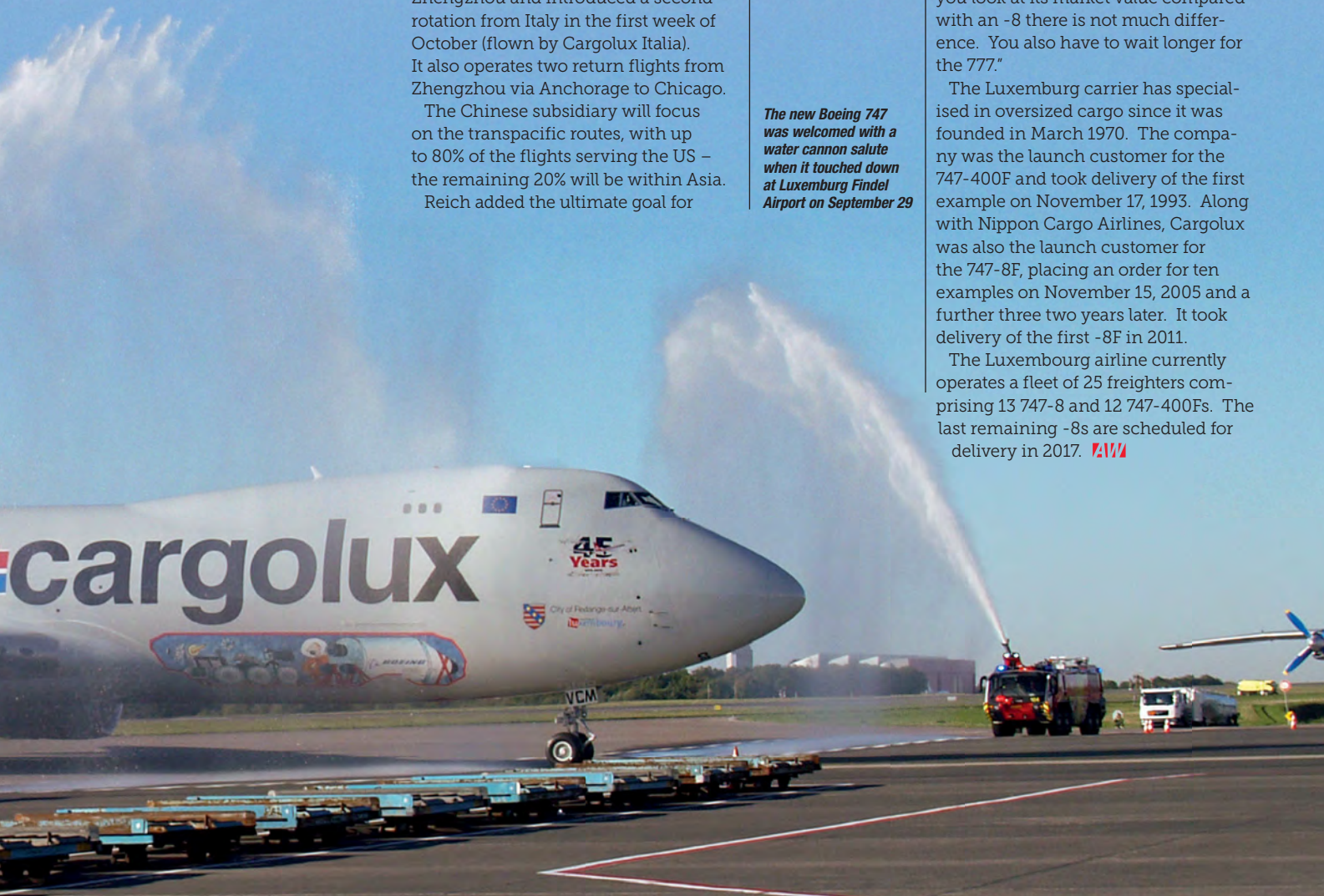
"We will choose the 747. We know the aircraft, we know the maintenance for the aircraft and we have the pilots. So we decided to take what we know best to expand to a new market [although it hasn't been decided if the new types will be the -8 or the -400]."

He explained the 747F was the 'natural' choice. The 777F was not considered, mainly due to fleet maintenance standardisation and the cargo-friendly contours of the former. The nose door is also an important for the oversize cargo, enabling fast turnaround times – daily aircraft utilisation rates are one of the highest in the aviation industry at almost 16 block-hours. "The 777 is also a very expensive aircraft; if you look at its market value compared with an -8 there is not much difference. You also have to wait longer for the 777."

The Luxembourg carrier has specialised in oversized cargo since it was founded in March 1970. The company was the launch customer for the 747-400F and took delivery of the first example on November 17, 1993. Along with Nippon Cargo Airlines, Cargolux was also the launch customer for the 747-8F, placing an order for ten examples on November 15, 2005 and a further three two years later. It took delivery of the first -8F in 2011.

The Luxembourg airline currently operates a fleet of 25 freighters comprising 13 747-8 and 12 747-400Fs. The last remaining -8s are scheduled for delivery in 2017. 

The new Boeing 747 was welcomed with a water cannon salute when it touched down at Luxembourg Findel Airport on September 29



North of the 38th Parallel



The secretive, impoverished and increasingly isolated Democratic People's Republic of Korea never fails to surprise – now its beleaguered government is about to open a new international airport near the coastal city of Wonsan to encourage foreign travellers. Our special correspondent **Felix von Tempelhof** paid it a visit.

The passenger terminal at the new Kalma International Airport was due to be officially opened in November.

This immaculate Ilyushin IL-18D, P-835 (c/n 188011205), is operated by North Korea's national flag carrier Air Koryo.



The Democratic People's Republic of Korea (North Korea) has been struggling for many years but now its government has gone on the offensive to lure more international visitors into the country, bringing with them much-needed foreign exchange.

The many state-initiated programmes it has initiated are: major upgrading of the nation's infrastructure, the building of modern hotels and holiday resorts as well as the development of Kalma International Airport to serve the city of Wonsan. The new facility is 92 miles (148km) to the east of the nation's capital Pyongyang, and sits on the Kalma Peninsula, which juts into the Sea of Japan.

Aviation enthusiasts from all over the world were invited to an unofficial ribbon-cutting event in September.



Air Koryo Antonov An-24B, P-537 (c/n 67302408), with some of the aviation enthusiasts on board, touches down on one of the airport's parallel runways.

Kalma Airport's sun logo helps to endorse the supreme leader Kim Jong-un's ambition to develop the area into a popular tourist resort.

The air traffic control tower design seems to have been influenced by Venetian architecture.
ALL IMAGES THE AUTHOR UNLESS STATED



Aviation enthusiasts from all over the world were invited to an unofficial ribbon-cutting event in September.



Given that the airport is not due to open until November, it was remarkable that the authorities threw open the doors to foreign guests. The enthusiasts arrived in style, with all being flown in on board four different vintage (by Western standards) airliners, comprising of a late 1960s Ilyushin Il-18, which was in an immaculate condition, a Tupolev Tu-134 and a pair of Antonov An-24s. After disembarking the aircraft, most of the guests would admit they had no idea what to expect.

The majority of airports in North Korea, with the exception of Pyongyang International's modern passenger terminal, which opened earlier this year, usually offer only basic facilities. But most of them are infrequently used and even then only by those on the odd domestic flight. However, with the successful completion of Kalma International Airport, it is clear ambitions were set very high.>>





Airport Requirement

Planning for the new facility only started in 2012 following an announcement by supreme leader Kim Jong-un that the Wonsan area was to be turned into a summer holiday destination and by choosing this area for the country's second largest airport, this was a visible move towards his goal.

The original facility – also known as Wonsan Airport – was previously used by The Korean People's Army Air Force, which, until now, had handled few commercial passenger flights. The airfield has undergone a transformation following a US\$200 million investment by an undisclosed Hong Kong-based private financial company. The original concept for the new facility was drawn up by another Hong Kong firm, PLT Planning and Architecture. It was based on two separate terminal buildings, resembling traditional forms of Korean drums, each having six



ABOVE AND LEFT • *The departures hall, which features a food court on the upper level, is equipped with all the normal infrastructure expected at an international airport.*

TOP • *The terminal building seen from airside.*

TOP RIGHT • *The terminal building was constructed in just under a year and was due to become fully operational when the airport opened in November.*

airbridges for transferring passengers from the terminals to waiting aircraft. The overall design would allow the airport to handle up to six million passengers annually.

However, for reasons unknown (unsurprisingly, there is very little information about the project in the public domain) PLT's designs were not adopted, but this didn't stop construction work starting on a completely different concept. Instead of two terminals, there is just one – and it is with only two airbridges.

The finishing touches to the building appears to be of the highest quality, including marble floors throughout



Developing Facilities

The North Korean Government has ambitious plans to develop what it calls the 'Wonsan-Kumgangsan Tourist Region', bringing the area up to international standards in order to attract more foreign visitors. Indeed, the region has some good beaches, such



as Sijung Beach and the new Masikryong Ski Resort is just a half-hour drive away.

There is little data available, but there are three operational runways, of which two are parallel, 15L/33R and 15R/33L, although one seems to be primarily a taxiway and only used as a back-up. The third (02/20) is much shorter and is used for general aviation – Kim Jong-un is apparently an avid private pilot.

The three-storey terminal building has a spacious main hall with check-in and ticket counters on the first floor, a food court with restaurants are above, while on the ground (the arrivals level) there is baggage reclaim, an information bureau and a number of shops. There is also a small observation deck located below the air traffic control tower.

After a false start, blamed by the government on economic issues, construction started on the terminal in 2014 and, after just a year's work, the result is remarkable. The finishing touches to the building appears to be of the highest quality, including marble floors throughout and, at least at first sight, if the signage wasn't telling you were in North Korea, it could be almost anywhere else in the world.

It is believed that the military will continue to use the airport as a major base, but will now share the runways with commercial traffic. An airshow was hosted at the facility in July – footage can be found on popular social media websites. A large viewing pavilion for such events has been built on the opposite side of the airfield from the main terminal. The footage also shows the supreme leader viewing proceedings from this vantage point.

The first domestic services are scheduled to start arriving in November, but the country is desperate for



international visitors. The airport has been assigned the code 'WOS' by the International Air Transport Association (IATA) in readiness for the arrival of the first overseas flights. However, given the poor relations between North Korea and many nations, initial international visitors are likely to come from sympathetic countries such as

Russia and China.

Initial official forecasts predict it will handle 1.2 million passengers annually, but this figure sounds a little ambitious. However, overseas visitors will discover this airport to be a very pleasant surprise and an excellent way of starting or ending a visit to the Democratic People's Republic of Korea. **AVIA**

The original designs for Kalma were submitted by the Hong Kong-based firm PLT Planning and Architecture. PLT

Air Koryo's Ilyushin Il-18D and Tupolev Tu-134 parked on Kalma's apron.



FROM **THE COCKPIT**
McDonnell Douglas MD-11

Haulin' Freight

Lufthansa Cargo pilot **Felix Gottwald** describes a typical day flying the venerable McDonnell Douglas MD-11.

It is a cold January evening in Frankfurt as I make way to the Lufthansa Cargo base. Here in Germany the air temperature is around freezing, but it can be much lower where we're heading tonight: Krasnoyarsk in the heart of Siberia!

After checking my post box I head to the briefing room where I meet the captain for our trip. The company's dispatchers have already prepared an extensive pack of documents and we work through the 60 or so pages, taking care to ensure we do not miss any vital information. The weather forecast doesn't make for particularly pleasant reading with winds expected to be more than 15 metres per second (the use of metric wind speed is one of the many peculiarities of Russian aviation), equivalent to around 30kt (55km/h). These forecasts are often unreliable, but we check out the weather for our alternate destination – Karaganda in neigh-

McDonnell Douglas MD-11F has a reputation for being robust, although it is widely regarded by the civil aviation community as one of the most difficult planes to fly.





In addition to the main upper deck, the MD-11F can also carry freight in the belly hold.

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The large upward-opening forward cargo door gives access to the cavernous main upper deck, which is almost completely empty save for the strengthened floor which is equipped with rollers to assist the loading of pallets and containers.

bouring Kazakhstan. Here the forecast is slightly more favourable, if you overlook the snowfall and low visibility...

We move on to the Notice to Airmen (NOTAMS), which alert pilots of potential hazards along the planned route that could affect the safety of the flight. This includes details of temporary construction works at airports, full or partial runway closures, systems downgrades or any other abnormality that is not otherwise detailed in our regular documentation and charts. Some 30 pages of cryptic data later, we move on to the en route charts – a jet stream sitting over eastern Germany and Poland may provide a little turbulence, but otherwise there's not an awful lot to report and we can expect a good tailwind for our flight to Russia.

The aircraft is heavy today – at around 280 tonnes, we are very close to our maximum take-off weight of 630,500lb (285,990kg) but this includes plenty of extra fuel just in case the poor weather forecast for Krasnoyarsk is correct.

With our computers and Apple iPads updated with the relevant data, we head out for the crew bus already downstairs. Like anyone going airside at the airport, we have to pass a security check but this is negotiated without any problems and we're finally on the apron and on the way to our aircraft. Our steed has a reputation for being robust, although it is widely regarded by the civil >>





aviation community as one of the most difficult planes to fly – it is a McDonnell Douglas MD-11F.

All Aboard

Our luggage is loaded in the bulk compartment at the rear of the aircraft while the captain and I walk up the steps and enter through the starboard front door. Unlike the passenger version of the MD-11, our freighters are equipped with just two doors at the front of the cabin – one on each side – along with a large 11.8 x 8.5ft (3.6m x

The passenger compartment on the MD-11F consists of just two large leather seats and a kitchen galley.

The freighter has an impressive maximum takeoff weight of 630,500lb (285,990kg), including up to 95 tonnes of cargo.



2.6m) upper deck cargo door on the forward port side. Indeed, while the standard variant is equipped with almost 300 seats, our passenger compartment consists of just two large leather seats and a kitchen galley.

Once onboard, my first task is to check the emergency equipment before ensuring our catering has been loaded. In the cockpit, the captain performs the initial safety check and confirms all of the switches and circuit breakers are in their correct positions. He then leaves the aircraft to conduct the exte-

rior 'walk around' inspection while I activate the MD-11's systems and verify they are operating normally. This includes checking the functionality of the various warning and annunciator lights and the flight data recorder, along with the hydraulics, electrics, air and fuel systems. I also test that the Ground Proximity Warning System (GPWS) and Traffic Collision Avoidance System (TCAS) work correctly, I confirm there's enough oxygen on board and that it supplies our masks in any emergency, and I set the auto-brake and weather

The MD-11 can carry around 95 tonnes of freight with small containers carried in the belly holds.



Pre-departure checks include testing the various aircraft systems (right), and programming the jet's flight management system (far right), a process that can easily take more than 15 minutes.

OPPOSITE • The MD-11F's 'office', as seen from the first officer's seat.



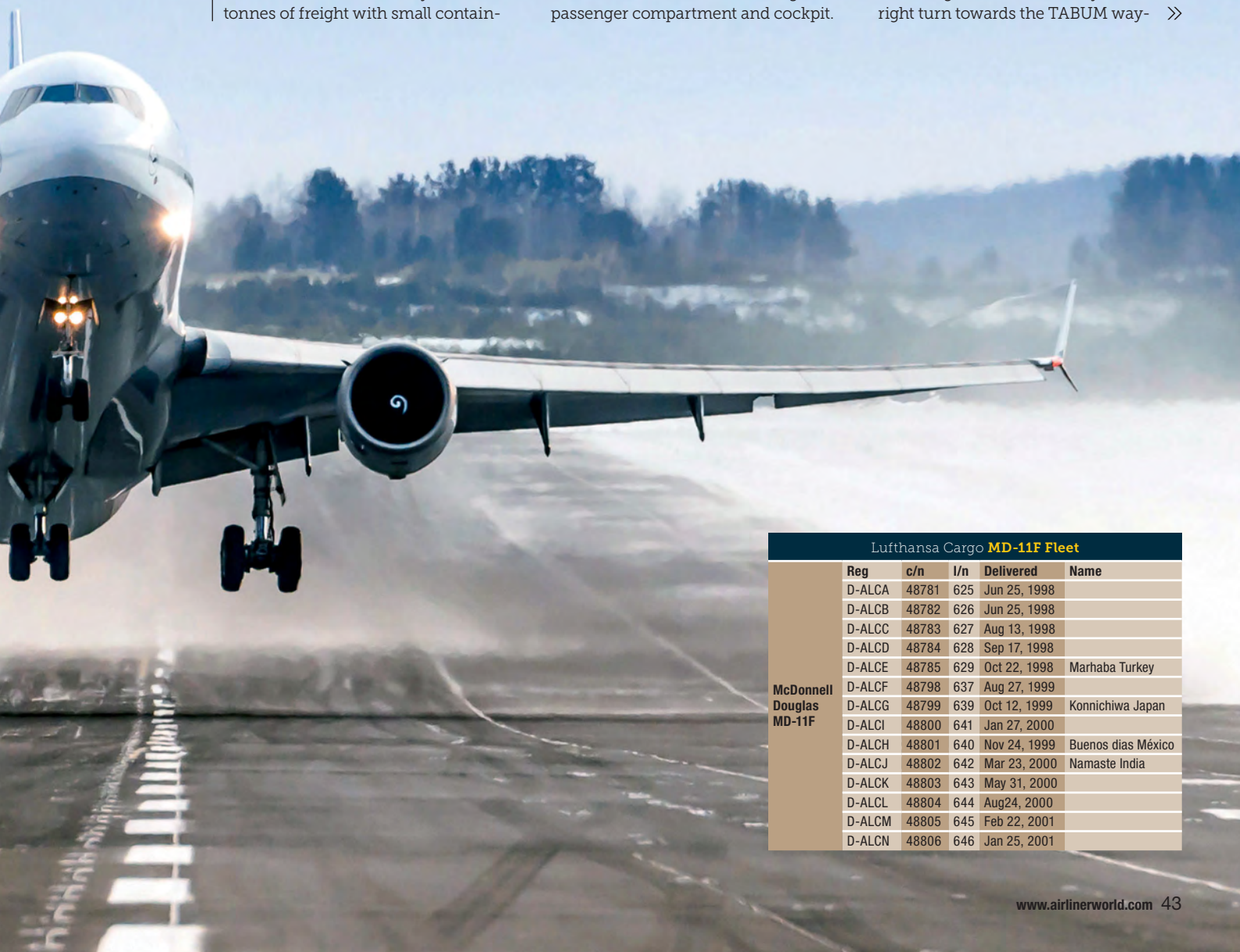
radar. I then program the flight management system (FMS) with our route as well as weight, fuel and wind data, which is cross-checked by the captain before we depart. As an experienced pilot on the MD-11, the whole process easily takes me more than 15 minutes to complete, but that is significantly shorter than the 45 minutes or so it took when I first started flying the type.

All that remains is to wait for the ground crew to finish loading the aircraft. The MD-11 can carry around 95 tonnes of freight with small contain-

ers carried in the belly holds. However, the majority of our cargo is placed on the main upper deck, where passengers would usually sit on a regular MD-11. In our freighter, the cabin is almost completely empty, but features a strengthened floor equipped with rollers to assist loading pallets and containers. In the event of an accident, the crew are protected from shifting cargo by a 9g barrier net that can restrain almost 71 tonnes, while a special curtain prevents smoke and flames from entering the passenger compartment and cockpit.

Destination Krasnoyarsk

With the aircraft loaded, I call up Frankfurt Delivery on 121.9MHz around five minutes before our scheduled off-block time to receive our start-up clearance. Air traffic control clears us to destination UNKL (the ICAO code for Krasnoyarsk Yemelyanovo) – we will be taking off from Frankfurt's Runway 25C on the TOBAK5G standard instrument departure (SID). This entails climbing to 800ft before turning right initially to a heading of 275° followed by another right turn towards the TABUM way- >>



Lufthansa Cargo MD-11F Fleet

McDonnell Douglas MD-11F	Reg	c/n	I/n	Delivered	Name
	D-ALCA	48781	625	Jun 25, 1998	
	D-ALCB	48782	626	Jun 25, 1998	
	D-ALCC	48783	627	Aug 13, 1998	
	D-ALCD	48784	628	Sep 17, 1998	
	D-ALCE	48785	629	Oct 22, 1998	Marhaba Turkey
	D-ALCF	48798	637	Aug 27, 1999	
	D-ALCG	48799	639	Oct 12, 1999	Konnichiwa Japan
	D-ALCI	48800	641	Jan 27, 2000	
	D-ALCH	48801	640	Nov 24, 1999	Buenos dias México
	D-ALCJ	48802	642	Mar 23, 2000	Namaste India
	D-ALCK	48803	643	May 31, 2000	
	D-ALCL	48804	644	Aug 24, 2000	
	D-ALCM	48805	645	Feb 22, 2001	
	D-ALCN	48806	646	Jan 25, 2001	



point, then TESGA and eventually TOBAK which lies to the northeast of Frankfurt. We are allocated a squawk code (a unique code to enable ATC to easily identify the aircraft on radar) of 2503, which I enter into the MD-11's transponder. With start-up approved, I transfer to Frankfurt's ground frequency, 121.85MHz, to request our push-back.

The captain will be the pilot flying for our leg to Russia, so I am responsible for radio communication and some of the administrative duties in the cockpit. We conduct a short briefing about our routing and the engine-

Ready for Departure: with the cargo loaded and the doors closed, it's time to call air traffic control for clearance.

Lufthansa Cargo issues its crews with iPad-based electronic flight bags containing various manuals and charts.

out procedures before beginning our push-back and start-up. The normal start sequence – engine 3, 1, then 2 – ensures we have adequate supply to our hydraulic, electric and air systems without the need to use external power or air sources. Pulling the start valve illuminates the respective switch and starts the supply of bleed air from the auxiliary power unit (APU) to the engine. As the high pressure compressor speed (shown as N2 on the engine instruments) increases through 16%, the fuel switch is set to on – successful ignition of the engine can be easily recognised by an increase in

fuel flow, exhaust gas temperature and N1 (low pressure compressor) speed. As the latter accelerates to 45%, the starter cuts out automatically and the start valve light extinguishes, completing the start procedure. This process is then repeated twice more for engines 1 and 2.

With everything up and running, we begin our taxi from the northwestern cargo apron, past the passenger terminals to the runway threshold, a distance of around 2 miles (3.2km). Delays at this time of night are minimal and we are soon airborne, following the SID to the northeast and mak-



ing the climb to our initial cruising altitude of Flight Level 290 (29,000ft). We are passed between air traffic controllers as we head eastwards, initially over Magdeburg and then north of Berlin to reach the Polish border at the BODLA waypoint near Szczecin. From here, we fly towards Kaliningrad and then via Vilnius to Saint Petersburg.

There is not much to see from the cockpit windows tonight with a near solid cloud base hiding the world below. We see the occasional gleam of city lights through breaks in the cloud, but it gets progressively darker as we continue east. From our vantage point, the only thing that reminds us we are far from home is the names of the air

BELOW • The MD-11's dial-a-flap system is one of the many quirks of the aircraft and enables the crew to specify any flap setting from 10° to 25°.

BELOW RIGHT • After a two mile taxi from the freight ramp, the crew are ready to depart Frankfurt bound for Siberia.

BOTTOM • The centre pedestal of the MD-11 showing the three sets of start switches and thrust and fuel levers to good effect.

traffic control zones we cross – Vologda, Kotlas, Syktyvkar and Tyumen.

Every time we reach a boundary, we are directed to contact a new controller on a different frequency, a ritual we repeat on numerous occasions. Even now, shortly after midnight local time, there is someone on the ground listening out for us. I dial the latest frequency and make the call: "Tyumen Control, Lufthansa Cargo 8380 heavy, flight level 330, position UNISO, dobro utro [good morning!]" The response from the waiting controller is instant: "Lufthansa Cargo 8380, Tyumen Control, guten morgen, next report position LITUN".

Now well inside Russia, it's time for

dinner (or, more precisely given the time of day, breakfast) and I prepare our frozen meals. I'm very lucky today – catering has supplied me with some delicious goose, red cabbage and traditional German potato dumplings. This is accompanied by a small side salad and, after a chocolate bar for desert, I feel much better.

The captain has an entirely different meal to the rest of the crew; standard practice to reduce the risk of us both contracting food poisoning

After dinner, we change from Novosibirsk control to Krasnoyarsk and prepare for descent. I retune the radio to pick up the Automatic Terminal Information Service (ATIS), where >>





I receive the current weather report and runway in use. Some airports now supply a text version of this data, which can be printed in the cockpit, but many of the facilities in the Lufthansa Cargo network continue to work the 'old fashioned' way, via a continuous transmission on a dedicated radio frequency. With this method, it is important to pay attention to the recording as it can take some time to repeat the information, particularly at Krasnoyarsk where the ATIS is read in both Russian and English. I note down the prevalent details – the wind speed is far lower than forecast, but previous flights have reported moderate turbulence during the latter stages of the approach. Visibility is around 7km (4.35 miles) and the cloud is scattered at 1,300m (4,300ft) – not the nic-

Developed as a successor to the McDonnell Douglas DC-10, the MD-11 features the same tri-jet layout but incorporates a host of improvements including more powerful engines, aerodynamic winglets and a glass cockpit.

The MD-11F is a challenging aircraft to handle and must be flown 'by the book' if one wishes to avoid the smoky landings for which the type is famed.

est day but certainly manageable. Notably, with an outside air temperature of -15°C , it can be considered a relatively mild day – my personal record at Krasnoyarsk was -45°C ; definitely not something I would like to experience again!

Lufthansa Cargo maintains a large hub at Yemelyanovo so, with up to four flights passing through the airport on routes to the Far East and back, local ATC is very familiar with the MD-11 and its high approach speed. We are vectored downwind and beyond the airfield towards the outskirts of the city before making a right turn onto final approach for Runway 29.

When I am pilot flying, I like to hand fly the MD-11 as it gives me a better feel for what the aircraft is doing. Extending the landing gear or the flaps requires an immediate control input

and subsequent re-trimming to counteract the extra drag.

Our approach speed this morning is 160kts – slow in MD-11 terms, but still significantly faster than most commercial aircraft. The additional airspeed reduces the margin for error and has led the McDonnell Douglas tri-jet to develop a less than favourable reputation in some quarters of the civil aviation community. This is largely unjustified, but it's not an aircraft that easily forgives poor piloting.

However, the MD-11 does offer one advantage – in an age where fly-by-wire is king, the jet has a mechanical flight control system (albeit with hydraulic actuators) so it offers pilots a direct link to the controls – and a much better feel for how the aircraft is behaving – without any computer intervention.



Our approach speed this morning is 160kts – slow in MD-11 terms, but still significantly faster than most commercial aircraft.

A Question of Metrics

Though hand flying has its benefits, there are times when the aircraft's automation is welcome, particularly following a long overnight flight where exhaustion is a very real factor.

While people in the large apartment blocks below us follow their typical morning routines – it's now 8am – it is time for us to slow the aircraft down and configure it for landing. We first extend the wing leading edge slats, then the trailing edge flaps first to 15° and then to 28°. We then lower the undercarriage and extend the flaps further to the final landing configuration of either 35° or 50° depending on the prevailing weather and airfield conditions. Every adjustment has a corresponding pitch and power setting, and having the thrust levels set just a few percent out or being half a degree off-pitch will lead

to noticeable differences in the aircraft handling and flight path. Indeed, this is what often leads to the smoky landings, for which the MD-11 is famous – a 1.5g touchdown, which would leave most passengers complaining, is common place on this jet!

We intercept the instrument landing system (ILS) for Runway 29 at the relatively low height of 600m (2,000ft) – another remnant of the Soviet era. The industry norm is to measure altitude in feet while the altimeter setting is barometric pressure adjusted to sea level (known as QNH). However, the standard practice in Russia is to use metric measurements with altimeters set according to the airfield elevation (QFE). Having to read conversion charts to translate QFE to QNH and metres to feet increases our cockpit workload significantly during the approach. >>





My Path to the MD-11

My career with Lufthansa started around seven years ago when I became a first officer on the Airbus A320. After three years of flying passengers around Europe, I was offered the opportunity to join the small but elite band of MD-11 pilots with Lufthansa Cargo. Some two months of training and 18 simulator sorties later, I was ready for my first flight in a real MD-11. Every pilot aspiring to fly "The Diva" (a nickname derived from its unforgiving handling) has to undertake landing training with a minimum of three touch-and-goes – this even includes newly trained captains

who already hold type-ratings as co-pilots on the jet. Precise handling and the ability to recognise even the smallest change in aircraft behaviour are essential on the MD-11 and not everybody passes this last test. After one more month of line training, I was fully qualified to fly the last heavy tri-jet in our skies! Even now, more than four years after finishing my type-rating on the McDonnell Douglas jet, the aircraft continues to put a smile on my face and every time I take to the air – it feels as if I'm embarking on one of modern aviation's last big adventures.

Final Approach

We continue our approach to Yemelyanovo where the dark runway stands out well against an otherwise white snowfield. Fortunately, the turbulence reported earlier has all but dissipated and we have to contend with only a very mild headwind. The cap-

tain touches the jet down smoothly before the ground spoilers extend, idle reverse thrust is selected and the auto-brake – set to minimum – gently slows us down. Our required landing distance is somewhere around 8,200ft (2,500m), but given the prevailing conditions, we could easily have stopped

within half of the available 12,139ft (3,700m), despite being very close to our maximum landing weight of 491,500lb (222,940kg).

We roll to the very end and vacate at taxiway B where a follow-me car is waiting to guide us to the cargo apron and our parking position. We taxi past our stand and stop on the taxiway before switching off all three engines. The aircraft is then pushed back into the stand, tail first, so it can depart without any assistance – another Russian peculiarity.

The local station manager and mechanic are already waiting for us on the stairs. They are happy to share a coffee and there is always time for a brief chat while we are waiting to handover the aircraft to the next flight crew. Our colleagues at Lufthansa Cargo's outstations are well known to the pilots and many friendships have been formed during layovers in remote parts of the world. These close relationships are one of the boons of flying airfreight – we really do share the 'cargo spirit'.

After flying seven hours through the night, we are only too happy that our progress through passport control is swift – we are once again greeted by familiar faces – and then we board the waiting crew bus bound for the hotel. As we leave the airport, we see our aircraft departing once again – this time destined for Tokyo. We will be back tomorrow to take another jet to Shanghai, but for now it is time to get some much-needed sleep. **AW**

After flying seven hours through the night, the author and his colleague hand the aircraft over to another crew before heading to the hotel for some much needed rest.



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*A striking study
of Finnair's first
Airbus A350-900,
OH-LWA (c/n 018),
pictured on
approach to
Helsinki Vantaa on
October 16.*

PHOTO • [AirTeamImages.com/Aleksi Hamalainen](http://AirTeamImages.com/Aleksi_Hamalainen)



NOVEMBER ISSUE

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A Politically 'Toxic' Decision



The British Government's dilemma over the possible expansion of Heathrow Airport has recently been described by one minister as 'toxic' for the Conservative Party. Since the July announcement of the Airports Commission's decision to recommend a third runway the fallout has been continuous. The findings by the commission, chaired by Sir Howard Davies, even prompted the coun-

try's most senior civil servant to take action. Sir Jeremy Heywood wrote to government ministers in the run-up to the autumn party conference season urging them not to speak out against the recommendation. Against this highly charged background, we talk to Ruth Cadbury, Member of Parliament for Brentford and Isleworth about her opposition to the controversial proposal.

"At the moment, Heathrow does not support the surrounding communities anywhere near as much as other international airports such as Amsterdam Schiphol."

Ruth Cadbury, MP for Brentford and Isleworth, has been an outspoken critic of expansion at Heathrow for many years.

RUTH CADBURY



ALW: Why are you opposed to Heathrow's expansion?

RC: I am opposed to a third runway at Heathrow as I believe it should become a better, not bigger airport.

Its expansion would further centralise aviation capacity in the UK, reducing competition between facilities, which will ultimately drive up prices for passengers, and will also result in at least 300,000 more people being affected by significant aircraft noise and pollution.

Much of the case arguing for expansion at Heathrow is based on exaggerated economics. The Davies Commission said that a third runway would bring £147 billion to the UK economy over 60 years. Upon further investigation, the commission was told by its own experts that the method of modelling used by consultants PricewaterhouseCoopers, which produced the £147 billion figure, faced "a number of difficulties" and was around three times higher than traditional estimates.

However, using traditional tested modelling, an additional runway brings benefits of £69 billion to the UK economy over a 60-year period, not £147 billion. Using the same modelling, a second runway at Gatwick would bring in just over £60 billion over the same period. Therefore, the notion that Heathrow is the far superior option on economic grounds is simply not true.

The realities of expansion at Heathrow do not live up to the hype. It would deliver no more than 12 additional long-haul routes by 2050. Additionally, the number of domestic airports linked to Heathrow will fall from seven to just four. I am therefore puzzled as to why the Scottish National Party are indicating they will support this proposal, as the likely outcome is less domestic connectivity, not more.

Willie Walsh, the Chief Executive of International Airlines Group, the parent company of British Airways, the largest operator out of Heathrow, branded the additional runway as "inefficient and not fit for purpose".

Ultimately, I believe there are better alternatives. For example, expansion at Gatwick would affect far fewer people and would encourage greater competition between airports in London, which is positive for passengers.

Research has shown that once the cost of disbenefits, such as noise and emissions, along with the cost of delivering a third runway is included, the economic benefits of Heathrow expansion fall to £11.8 billion over a 60-year period. The commission admits Gatwick would be close behind at £10.8 billion; a figure Gatwick believes is an underestimation.

ALW: How do you think your constituents will be affected if a third runway is built at Heathrow?

RC: A third runway would blight my constituents with even more noise, pollution and disruption. My constituents are already greatly affected by the existing infrastructure. I have fought for 15 years as a local councillor to get Heathrow to contribute more to the community to insulate homes and schools against the noise and pollution.

I am contacted on a daily basis by many of my constituents who detail the effects aircraft noise and pollution have on their lives. I recognise the economic benefits Heathrow brings to my constituency in terms of jobs and apprenticeships, however, globally it is one of the lowest-contributing airports to the communities it affects.

I speak to Heathrow frequently about the effects the facility has. I have seen over the years how Heathrow continually encroaches on the existing respite periods. Most people reading this are likely to be aviation enthusiasts and professionals, and I can almost hear some thinking: "Why live close to an airport if you don't want to hear aircraft noise, or why is there so much fuss being made about Heathrow's expansion?"

In response to this, I would say my constituents and I are not against the existence of Heathrow Airport. It is a major driver to our diverse and vibrant local economy and it can and should continue to serve as Britain's premier gateway. It does not need to expand to continue playing this role. We want to

"I would say my constituents and I are not against the existence of Heathrow Airport."

see the airport operator respect the local community, contributing more money to soundproofing and ventilating my constituents' homes, along with providing more apprenticeships and opportunities for local people.

Runway three would result in more than 300,000 people being affected by noise, which disrupts sleeping patterns and can have a severe impact on an individual's well-being and health, along with children's learning. Additionally, it would result in nearly 800 homes being demolished, at a time of a housing crisis in London, and it is highly likely that Heathrow would struggle to meet European Union air pollution limits.

ALW: What percentage of your constituents either work at Heathrow, or rely upon the airport for their livelihoods. How are those figures projected to change?

RC: As of 2014 (the most up to date figures available), 1.3% of all those employed in my constituency work in the air transportation sector.

ALW: Do you think the UK will be disadvantaged by not expanding Heathrow?

RC: No. If there is a need for further runway capacity in London and the South East, Heathrow is just one of the options. The idea that if this proposal were not to go ahead the UK would be disadvantaged is simply incorrect. One of the arguments put forward frequently is that Heathrow must be expanded to protect its hub status.

Heathrow's third runway proposal has been backed by the Airports Commission.

HEATHROW AIRPORT

I believe this argument is misinformed and overstated. Whether the expansion goes ahead or not, Heathrow will remain a competitive global hub. Indeed, if Gatwick were expanded, the UK could see the creation of a second hub for London, providing more competition and choice, which benefits passengers. The third runway will also likely see the reduction in domestic connectivity, with the existing seven routes being cut to just four. This will negatively impact on the UK economy, particularly in the North of England, Scotland, Wales and Northern Ireland.

ALW: Where would you propose an additional southeast runway be sited?

RC: Assuming that there is a need for airport expansion in London and the South East, for me, the proposal that delivers the economic benefits, along with affecting the least amount of people, is Gatwick.

A second runway at Gatwick would result in improved competition, a lower environmental impact and is cheaper for the taxpayer.

ALW: If expansion at Heathrow is blocked, how will this affect future job opportunities in your constituency?

RC: Undoubtedly, a third runway at Heathrow would result in more jobs. However, I do not believe this in itself justifies the expansion. Whether it goes ahead or not, Heathrow could still offer more apprenticeships and jobs to my constituents than it does at present. Indeed, there is no guarantee that the new jobs created would be fulfilled by my constituents or other local people.

ALW: Airliner manufacturers and airports have successfully reduced noise and emissions. Do you see any benefits to your constituents?

RC: I very much welcome the efforts of aircraft manufacturers and airports in reducing noise and emissions. This work should be commended and I hope to see further improvements going forward. However, in terms of noise, even with modern technology, unless engines are close to silent, research highlights that people are still disrupted, whether it be in the classroom or while trying to sleep at night. As long as the noise from aircraft is loud enough to be heard, research shows it affects your sleep pattern. So

although I welcome the improvements by manufacturers and airports, my constituency is too close to the runways for the improvements in noise emissions to have any meaningful impact.

Additionally, due to the increase in aircraft flying over my constituency, any positive impact of quieter and less-polluting planes is overshadowed by the increase in air traffic. The reality is a plane flying overhead every 60-90 seconds.

ALW: It has taken three years and an estimated £20 million for the Airports Commission to reach a decision – how would you justify further public money being spent on fighting its recommendations?

RC: I agree it is frustrating that there is potentially more taxpayers' money going to be spent on fighting the commission's recommendation. However, it is incredibly important that the right decision is made, not only for my constituents, but for the country as a whole.

ALW: Do you think the economic benefits from an expanded Heathrow should be used to help fund improvements in your constituency? What would be your top three priorities be?

RC: Absolutely. If the Government decides to plough ahead with the expansion regardless of the significant opposition, constituencies such as mine must receive a considerable amount in compensation and support from Heathrow Airport.

This would involve providing more apprenticeships, jobs, insulation and ventilation for homes and schools along with general purpose money to support community projects and activities. At the moment, Heathrow does not support the surrounding communities anywhere near as much as other international airports such as Amsterdam Schiphol. Heathrow would also need to invest heavily in the infrastructure that supports the airport, such as the M25 and M4 motorways along with the Tube and light rail, to reduce the impact of future traffic pressure, along with signing up to an absolute ban on night flights as proposed by the commission.

ALW: Do you think there is a danger that the forthcoming election for the next Mayor of London next May will become embroiled in the Heathrow expansion debate?

RC: There are a number of core issues affecting London, which Labour candidate for the mayoralty Sadiq Khan will be focusing on. He opposes the third runway, and this will feature in his campaign alongside other core issues for Londoners, such as the housing crisis, work and skills, the environment and public transport.

I do not think the campaign will be dominated by the Heathrow debate as Khan and (Conservative candidate) Zac Goldsmith both oppose the third runway along with current Mayor Boris Johnson. Indeed, the Conservatives are split on the issue, and I hope Prime Minister David Cameron listens to his mayoral candidate.

ALW: If the government decides to expand Heathrow with a third runway, will you contest it and how?

RC: It appears increasingly likely that the government will allow the House of Commons a vote on Heathrow expansion and, if this does take place, I will continue to vocalise my opposition to expansion and the effects it would have on my constituency. However, in the event that the government does give the green light without a debate and vote in the House of Commons, I will make further representations to the Prime Minister and Secretary of State for Transport Patrick McLoughlin on behalf of my constituents. If the House of Commons is granted a vote, and Heathrow does get the green light, I will have to accept defeat and will shift focus to ensure my constituents get the maximum compensation package to mitigate against the effects of a third runway.

“It will also result in at least 300,000 more people being affected by significant aircraft noise and pollution.”

The controversial plan for a third runway at Heathrow is awaiting government approval.
HEATHROW AIRPORT



The Grand Old Lady Turns 80

Jay Selman reflects on the longevity of the Douglas Aircraft Company's most recognisable commercial airliner, the DC-3, which enters its eighth decade of service at the end of this year..

A significant aviation anniversary is marked on December 17 when it will be 80 years since the first Douglas DC-3 took to the skies.

It's probably no coincidence that the event occurred 32 years after Orville and Wilbur Wright's first powered flight and, in retrospect, it's arguably just as significant an event.

Back in 1935, probably no one, not even Donald Douglas, could have imagined this aircraft would have such an impact on air transportation worldwide – or that nearly 400 would still be flying, or capable of being restored to flying condition, eight decades later.

It has been called the greatest airliner ever built, the aeroplane that changed the world, the aircraft that won the war and the type that defined how we fly today. Its nicknames include Gooney Bird, Dumbo, Skytrain and Dakota – or simply Dak.

The majority of Douglas DC-3s flying today are operated by dedicate organisations that want to keep the Grand Old Lady in the air. This example, LN-WHD (c/n 11750) is owned by the Dakota Norway Foundation.
AIRTEAMIMAGES.COM/
DEREK PEDLEY

The author prefers to think of the DC-3 as The Grand Old Lady. Whatever you call it, there's no denying the impact this one type has had on the global air transportation industry.

One thing discovered while researching this article is that there's an amazing amount of ambiguity and contradiction in the records pertaining to the type's history. Different references provide dissimilar explanations of its many variants, and there's certainly no surefire way to identify one model from another just from the exterior appearance.

It must also be one the most modified types in existence; in fact, countless airframes have had numerous designations during their service life. In short, there's no single authoritative source about the DC-3.

We will begin therefore with a general disclaimer and say that every



One of two new-build Douglas DC-3s bought by Irish carrier Aer Lingus in 1946.

AIRTEAMIMAGES.COM/BOB O'BRIEN COLLECTION



fact in this article is believed to be accurate and supported by at least one authoritative source. However, there is plenty of data that can be contradicted by at least one other source.

As we progress through its history we will be using the titles DST (Douglas Sleeper Transport), DC-3 and C-47 interchangeably, since the line between the types becomes quite blurred after a while.

Birth of a Legend

Most aviation historians will agree that the March 31, 1931 crash of Transcontinental and Western Air (later Trans World Airlines or TWA) Fokker F10 Trimotor NC999E set the wheels in motion for change in the airline industry that ultimately led to the development of the DC-3. The accident was particularly sensational and high-profile, since one of the eight passengers and crew killed that day was legendary University of Notre Dame football coach Knute Rockne.

The cause of the crash was determined to have been a structural failure of the Fokker's wooden wings. This led Boeing to develop the all-metal Model 247, generally recognised as the world's first modern airliner. It also featured advanced fully cantilevered wings, retractable landing gear, control surface trim tabs and an autopilot as well as de-icing boots for the wings and tailplane.

The 247's first flew in February 1933. It was a smaller and somewhat less capable design than originally proposed by Boeing, bowing to pressure from the United Air Lines' pilot group. Despite this, it represented a huge advance in technology, passenger comfort and safety, with the airlines swarming to Boeing's door.

United ordered the first 59 aircraft off the production line in a deal that >>

Douglas C-47B Dakota was purchased by Eagle Aviation from the Royal Air Force on January 29, 1953, and was reregistered G-AMYB (c/n 33346).

BOB O'BRIEN COLLECTION





This Douglas DC-3A was originally built in June 1940 for Braniff Airways. It later served with Trans Texas Airways as N25668 (c/n 2241) from June 1953 until its retirement from flying service.
BOB O'BRIEN COLLECTION



A busy ramp scene at Rio de Janeiro's Santos Dumont Airport as Douglas DC-3, PP-CCY (c/n 20126), belonging to Cruzeiro do Sul is turned around ready for its next flight.
BOB O'BRIEN COLLECTION

would keep the manufacturer busy for two years. It gave the carrier the best aeroplane in the market and left its rivals out in the cold... temporarily, as it turned out.

One airline, TWA, was particularly anxious to add modern all-metal aircraft to its fleet and was not prepared to wait two years for a gap in the production cycle for the 247. In his now famous letter dated August 2, 1932, its Vice President, Jack Frye, outlined the company's requirements for a new airliner to compete with the 247.

He was asking Douglas to build a three-engined, 12-seat aeroplane of

all-metal construction, capable of flying 1,080 miles (1,738km) at 150mph (241km/h). The most demanding part of the specification was that it would have to be capable of safely taking off from any airport on TWA's main routes with one engine not functioning.

Donald Douglas gave his best engineer, Arthur Raymond, exactly seven days to come up with a preliminary design, on which the fortunes of the Douglas Aircraft Company would hinge.

Sure enough, a week later, Douglas and Raymond sat down with TWA executives and made their pitch. The

proposed design consisted of an all-metal, low-wing, twin-engined aeroplane capable of seating 12 passengers, a crew of two and a flight attendant.

The proposal exceeded TWA's specifications, even with two engines, principally through the use of controllable-pitch propellers. The cabin was insulated against noise, heated and fully capable of both flying and performing a controlled take-off or landing on one engine. To ensure the design met its performance guarantees, Raymond turned to nearby California Institute of Technology (Caltech), a pioneer in the new technology of wind tunnel testing.

The new airliner, called the DC-1 (for Douglas Commercial), first flew on 1 July 1933. TWA accepted the aircraft on 15 September. It then ordered 20 more with some minor improvements – including uprated engines and increased seating for 14 passengers.

The upgraded model, the DC-2, took its maiden flight on 11 May 1934. Delivered to TWA seven days later, it quickly established its superiority over the 247 and, in total, 198 of the type were built on three different continents.

The DC-2 represented a great step forward over the 247 but there was still room for improvement. At the time, American Airlines' (AA) fleet consisted primarily of Curtiss Condor biplane sleepers, Ford Tri-Motors and Fokker Trimotors, all considered antiquated by the mid-1930s. The company wanted a modern aircraft with sleeper berths for the luxury travel market.

American took delivery of its first

Parked at Melbourne's Essendon Airport is Ansett Airlines-ANA Douglas DC-3-277D, VH-ANH (c/n 4120), wearing the airline's Skyliner livery. CHRISTIAN VOLPATI COLLECTION/
AIRLINERSGALLERY.COM



DC-2s in the last quarter of 1934 and quickly put them into service on its New York to Los Angeles route. The aircraft was a vast improvement over its older fleet, but it was too narrow to fit comfortable sleeper berths. Moreover, it could not fly between New York and Chicago non-stop, although it was faster than any other airliner on the route.

Company pilots had reported that, at times, it was difficult to land, with heavy aileron and rudder control. Additional reports of directional instability, and icing problems and excessive yawing in turbulence were also of concern.

Soon after Cyrus Rowlett Smith, President of AA, had read the reports, he phoned Donald Douglas with a proposal. Smith had decided what kind of aircraft American needed. He was looking for a larger and more comfortable airplane than the Curtisses or Fords that was better than the 247 and bigger than the DC-2. He wanted to give his customers safe, comfortable and reliable air transportation.

At first, Donald Douglas was reluctant to take on a new design. The DC-2 was selling extremely well worldwide and was in full production, with 102 already manufactured and another 90 orders on the assembly line. Launching another model would mean more tooling and starting afresh.

Smith and William Littlewood, American's VP of Engineering, wanted to convince Douglas that the air-



plane they wanted was possible, so they sat with their own engineers in late 1934 and began to redesign the DC-2. As the AA team began to put requirements on paper, they invited Raymond to join their discussions.

By May 10, 1935 Raymond had produced 'Douglas Aircraft Report No 1004', which outlined performance and other characteristics of the developing aeroplane. It would later be used for the initial engineering design of the new type.

Entry into Service

While the DC-2 might have been a starting point for Raymond's design, what actually rolled out of the factory on 14 November 1935 was a completely new aircraft. By this time, AA had ordered eight of the Douglas Sleeper Transport (DST) variant – fitted out with 16 comfortable berths similar to Pullman sleepers on the railway – and 12 standard passenger versions of the DC-3. Eventually the carrier went on to operate 114 of the type.

TOP • The first Douglas C-47A-DL (DC-3), N151A (c/n 9471) to enter service with Allegheny Airlines. JACQUES GUILLEN COLLECTION/AIRLINERSGALLERY.COM

Buffalo Airways Douglas C-47A-DK (DC-3), CF-CUE (c/n 12983), is one of the decreasing number of the type still flying commercial services. TONY STORCK/AIRLINERSGALLERY.COM



Comparison - Douglas DC-2 and DC-3

	DC-2	DC-3
Crew	2-3	2
Passengers	14	21-32
Length	62ft 6in (19.1m)	64ft 8in (19.7m)
Wingspan	85ft (25.9m)	95ft 2in (29.0m)
Gross weight	18,560lb (8,420kg)	25,199lb (11,430kg)
Range	1,085 miles (1,750km)	2,125 miles (3,420km)
Powerplant	2 x Wright R-1820 Cyclone	2 x Wright R-1820 Cyclone 2 x Pratt & Whitney R-1830 Twin Wasp
Maximum Speed	210mph (338km/h)	230mph (370km/h)
Cruise Speed	170mph (274km/h)	207mph (333km/h)

The classic lines of the Douglas DC-3 are shown to their best in this air-to-air image of American Airlines example, NC21793 (c/n 2198). AIRTEAMIMAGES.COM/W A HARRISON COLLECTION

The first Douglas DST took to the skies over Santa Monica, California, for its inaugural flight on December 17, 1935. Considering the later significance of the event, it was completely overlooked by the press and, in fact, not a single photograph was taken that day.

The DST was put through her paces during ground and flight testing and met or exceeded every operational goal. On June 26, 1936, AA inaugurated DC-3 services with simultaneous ceremonies at Newark, New Jersey, and Chicago's Midway Airport. It was the first airliner that could fly non-stop between the two major cities and could do it in less than four hours.



To keep its DC-3s profitable Mohawk Airlines introduced its "Gaslight Service" which was something akin to Business Class today. CHRISTIAN VOLPATI COLLECTION/ AIRLINERSGALLERY.COM

This Douglas C-47-DL (DC-3) was Cathay Pacific Airways' first aircraft. Seen here at Cairns after it had been sold to Mandated Airlines. CHRISTIAN VOLPATI COLLECTION/ AIRLINERSGALLERY.COM



As more were delivered, AA expanded its DC-3/DST services to the US West Coast, the type reducing the duration of coast-to-coast flights to as little as 15 hours.

The airline's DSTs were also the first US-built aircraft to have hot kitchen facilities. No longer did captive passengers have to eat boxed lunches consisting of a cold sandwich and a piece of fruit. Now flight attendants served hot, full-course meals.

As impressive as these statistics are, they are far from being the most important. To put things in perspective, between 1934 and 1935 AA had lost more than \$3 million. Smith went on record saying that either mail rates go up or the company would go out of business. With the introduction of the new Douglas into its fleet, AA became the number one carrier in the US, and in 1936 returned to profit.

By 1937 earnings had increased to \$1.4 million with a 22% in revenue passengers. Years later, Smith would say:



Numerous attempts have been made to update the DC-3 design with varying degrees of success. Here is a Conroy Tri-Turbo-Three conversion in the colours of Maritime Patrol and Rescue.

JAY SELMAN/
AIRLINERSGALLERY.COM

"The DC-3 freed the airlines from complete dependence upon government mail pay. It was an aeroplane that could make money by just handling passengers. With previous aircraft, if you multiplied the number of seats by the fares, you couldn't break even, not even with 100% load."

That statement summed up the value

of the DC-3 to the industry around the world. United and TWA quickly followed their rival by ordering the type.

By 1939, more than 350 DC-3s were in service with 30 carriers around the world, and around 90% of the US's domestic passengers were flying on either DC-2s or DC-3s. Air travel was evolving from a privilege of the rich and

famous to a practical way of life.

Besides enabling airlines to make money just by carrying passengers, without reliance on government subsidies, the DC-3 also ushered in levels of safety and reliability previously unattainable in commercial aviation.

The 'plane was well on its way toward revolutionising the airline >>





industry, and was already the most widely produced airliner in the world. In fact the Douglas Aircraft Company was so swamped with orders that it sold licences for the type to be produced in Russia as the Lisunov Li-2 and in Japan as the L2D Type 0 'Tabby'.

The War Years

The Japanese attack on Pearl Harbor on December 7, 1941 – which brought the US into World War Two – had an immediate effect on the nation's carriers as well as the entire aviation industry. A large percentage of airliners in the US were pressed into service by the government and the US Army recog-

nised the need for a rugged transport airplane to carry troops and supplies to the front lines.

Creating a new aircraft from scratch would have taken far too long, so military officials took a look at what the airlines were flying. It didn't take long to recognise that the DC-3 would meet the requirement, and Douglas worked with the armed services to adapt the basic design for military applications. A large cargo door replaced the passenger steps and the floor was reinforced to carry extra weight. The C-47 was born.

During World War Two, C-47s were built at Santa Monica, Long Beach and Oklahoma City. At the peak of

production, it's estimated that one aircraft rolled off the production line every 34 minutes.

If the DC-3 was a household name in the airline industry before the war, it earned the title of 'Legend' during the conflict. More than 10,000 C-47s, C-53s (a specialised paratrooper variant) and R4Ds (for the US Navy) were built during the war.

The Douglas transport carved its name in the history books everywhere it flew and was vital to the success of many Allied campaigns worldwide. The C-47 was instrumental to the success of campaigns in Guadalcanal, New Guinea and Burma, where it enabled

On final approach to Snohomish County Airport is the Historic Flight Foundation's Douglas C-47B-DL, N877MG (c/n 20806) in the livery of Pan American Airways System.

DUNCAN KIRK/
AIRLINERSGALLERY.COM

The DC-3s lineage came easily be seen in this view of its predecessor the DC-2.

JAY SELMAN/
AIRLINERSGALLERY.COM





Allied troops to counter the mobility of the Japanese Army.

It was so over-engineered that it wound up doing all sorts of things Raymond would have never dreamed of. One C-47 carried an incredible 68 wounded troops out of China and all the way to India. The 'planes routinely operated from grass, dirt and otherwise unimproved landing strips less than 2,000ft (610m) long.

One of its most valuable contributions was flying the 'Hump'. In the spring of 1942, Japan overran and captured the Burma Road, the last significant land route supplying the Chinese Army. The Allies desperately needed to prevent China from falling to Japan, and set about an operation to resupply its troops. The 'Hump' referred to a treacherous 530-mile (853km) aerial passage over the Himalaya mountain range.

Flying over the Himalayas was extremely dangerous in those days and made more difficult by a lack of reliable charts, an absence of radio navigation aids and unreliable weather information.

>>



Originally built as a Douglas R4D-8, this Super DC-3, N32TN (c/n 43301) later served with TransNorthern Aviation whose livery it wears.

JAY SELMAN/
AIRLINERSGALLERY.COM

Jack Conroy converted DC-3, N4700C (c/n 4903), to turboprop power using two Rolls-Royce Dart Mk 510 engines. JAY SELMAN/
AIRLINERSGALLERY.COM





Aircraft needed to fly over the mountains in excess of 16,000 feet – no small feat for the pilots of the unpressurised aircraft of the day.

Then, of course, there was D-Day, 6 June 1944, in which the C-47 played a prominent role both as a troop carrier and a glider-towing aircraft. More than 800 participated in the first wave of the invasion. All but 21 returned to England safely, thanks to its rugged design which meant the airframe could absorb a remarkable amount of battle damage.

Three months later some 1,400 C-47s and Dakotas (the British designation for the C-47) were assigned to 'Operation Market Garden', the largest airborne assault up to that date.

By the end of the war, and for decades after, the C-47 was used by many nations' armed forces around the world. Incredibly, some are still being used today.

Post-War Expansion

World War Two brought countless advances in aviation, including pressurised cabins, turbocharged engines and the new concept of the turbine engine. It had also introduced hundreds of thousands of soldiers to air travel, and thousands of trained aviators were now returning to civilian life, looking for work.

More than 10,000 C-47s and C-53s had been built, and many of them were still airworthy. While most wartime aircraft were eventually sent to scrapyards, many C-47s were spared that fate and thousands were converted for commercial use, flooding the market. Airlines around the world suddenly had access to tried and proven aeroplanes at bargain basement prices, along with the pilots to fly them.

The industry emerged from the war poised for explosive expansion. With so

many second-hand aircraft available, Douglas decided to halt production of the C-47 soon after the conflict ended. Many DC-3s and C-47s initially found homes with major carriers around the world, but it was clear their days were numbered as a front-line transport.

Douglas had already developed a four-engine airliner, the DC-4/C-54, which offered greater range and capacity than the DC-3, and was hard at work on the DC-6, a larger, pressurised airliner with transcontinental range – while Lockheed had early versions of its pressurised L-749 Constellation in production.

Through the late 1940s, DC-3s slowly left the ranks of the major airlines and were quickly pressed into service by a new category of operator in the US – the local service air carriers. Other aircraft were snapped

The silhouetted lines of Douglas DC-3, which has been described as the greatest airliner ever built.

AIRTEAMIMAGES.COM/
GABRIEL SAVIT

TOP • *Parked at Miami International between flights is Basler Airlines' Douglas DC-3 Turbo Express, N300BF (c/n 26744).* BRUCE DRUM/
AIRLINERSGALLERY.COM



up by cargo carriers around the world. While the DC-3 was no longer considered a frontline airliner, its career was far from over.

The war had left Germany a divided country, with East Germany controlled by the Soviet Union and West Germany under the control of the Western Allies. The city of Berlin was similarly divided, and lay 100 miles (161km) inside East Germany. It depended on railways, roads and canals for life-sustaining supplies from the West.

On April 1, 1948, the Soviet Union blockaded West Berlin, threatening to starve the city into submission. In response, the Allies organised the 'Berlin Airlift' to carry supplies to the city's people. Using lessons gained from flying the 'Hump', aircrews from the US, UK, Canada, Australia, New Zealand and South Africa flew more than 200,000 flights in one year, providing West Berliners with nearly 8,900 tons of fuel and food.

At the forefront of the airbridge was the C-47, which was later supplemented by the larger C-54s. By the spring of 1949 the airlift was clearly succeeding and the Allies were delivering more cargo than had previously been transported into the city by rail. On 12 May the Soviets finally lifted the blockade.

TOP • After faster and larger airliners entered service with the main US carriers, DC-3s started to find their way to more overseas operators. CHRISTIAN VOLPATI COLLECTION/ AIRLINERSGALLERY.COM

The Douglas DC-3 formed the backbone of many fledgling airlines. This was the case for Merpati Nusantara Airlines which acquired two C-47A-DKs from the Indonesian Air Force to help launch its services. CHRISTIAN VOLPATI COLLECTION/ AIRLINERSGALLERY.COM

Searching for a Successor

By the end of the 1940s, airlines were looking for a viable DC-3 replacement. The 40-seat Convair 240 was already in production and the Glenn L Martin Company was developing a pressurised version of its 40-seat Martin 202, designated the Martin 404. Both aircraft offered operational advantages over the DC-3, but neither could compete with its economical efficiency.

Douglas engineers developed what they thought was an ideal solution, the Super DC-3, a highly modified version of the standard airframe. The fuselage was stretched by adding 39in (1m) to the nose section and 40in (1.02m) to the rear cabin. They also increased the ver-

tical and horizontal stabiliser surfaces in span and area and replaced the powerplants with Pratt & Whitney R-2000 Twin Wasps.

Engine nacelles were enlarged, and the 'Super' included wheel-well doors and a partially retractable tail wheel. The aircraft offered an increased payload and a top speed of 250mph (402km/h) – and was in fact 75%-new. Its first flight took place on June 23, 1949. Only four were built by Douglas. While the 'Super' offered better performance than the original aircraft, it was still unpressurised, which left it at a distinct disadvantage.

Over the years, the search for a DC-3 replacement has resulted in >>



Lovingly cared for and still flying is this Lisunov Li-2T, a Russian licensed-produced variant of the DC-3 which is operated by the Goldtimer Foundation in this retro MALEV Hungarian Airlines livery.
ROBBIE SHAW/
AIRLINERSGALLERY.COM

Many Douglas DC-3 airframes are preserved in museums around the world. This example is displayed at the Seattle Museum of Flight with the false registration NC91008.
BRUCE DRUM/
AIRLINERSGALLERY.COM

This was the final flight of Douglas DC-3A, N18121 (c/n 1997) in the retro livery of Eastern Air Lines before being stripped of her paint. This example of the venerable airliner has the highest flight hours of a DC-3 anywhere in the world. JAY SELMAN/
AIRLINERSGALLERY.COM

many variations of the basic airframe. Several attempts were made to mate the aircraft to more powerful, economical and reliable turboprop engines. Two DC-3s were fitted with Rolls-Royce Dart engines in the UK for development of operating procedures by airlines before introduction of the Vickers Viscount. Another C-47 was converted with Armstrong Siddeley Mamba turboprop engines.

Jack Conroy, best known for his Aero Spacelines 'Guppy' conversions of the Boeing 377, converted a DC-3 to turbine power when he installed a pair of Rolls-Royce Dart Mk 510 engines. This increased the cruising speed from 170mph to 215mph (274km/h to 346km/h). The Conroy Turbo Three first flew in 1969.

Three years later he accomplished a similar conversion on a Super DC-3. This aircraft had serious performance problems due to obstructed airflow over the nacelle and landing gear fairings, and neither conversion attracted any real commercial interest.

In 1977 Conroy took the original Turbo Three and replaced the two Dart engines with three Pratt & Whitney Canada PT-6A-45s, with the third installed in the nose. This conversion took the top speed of the Tri Three to 230mph (370km/h), although the nose engine could be shut down to increase range at a reduced cruise speed of 180mph (290km/h).

Possibly the most successful modification of the type to date is by Basler Turbo Conversions of Oshkosh, Wisconsin, which offers the BT-67. The process includes fitting Pratt & Whitney Canada PT6A-67R turboprop engines to a lengthened and strengthened airframe. Other improvements



include upgrading the avionics and making modifications to help improve the DC-3's serviceable life. Some 65 BT-67s have so far been built, and several more are on order.

Braddick Specialised Air Services International (BSAS) of Pretoria, South Africa, also offers a turboprop variant of the DC-3. The conversion includes a 40in (1.02m) fuselage extension and PT6A-65AR turboprops, delivering 1,424shp. To date, more than 50 airframes have been converted by BSAS.

Has the aircraft industry managed to build a DC-3 replacement? The answer depends on whom you pose the question to. Certainly there are plenty of aeroplanes out there that can easily exceed one or more performance characteristics of the 'Three. However, in

all likelihood, the only aircraft that can meet all of them is... a DC-3.

As the Grand Old Lady turns 80, nearly 400 are still registered, although how many are actually flyable is anyone's guess. Some are used as private transports, while others are operated on behalf of museums or historical societies. Several are still working for a living – hauling cargo in the Caribbean or passengers through Canada – while a handful still fly for the military in South America, Africa and Asia.

It's impossible to estimate how many non-registered hulks might one day be restored to flyable condition. But one thing is a sure bet: 20 years from now, when the DC-3 turns 100, there should be plenty still flying in celebration of the type's centennial. **PIVA**





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Photo courtesy of Royal S King



What's new
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The Queen of the Skies



iFly Jets The 747-400 V2

The Boeing 747-400 was a major upgrade of the 747 family. It was fitted with a number of technological and aerodynamic refinements including 6ft (1.8m) winglets, an updated two-crew glass cockpit that negated the need for a flight engineer, more efficient engines and greater fuel capacity. As on the previous -300 series, the upper deck was stretched as standard. It made its maiden flight in April 1988 and was certified by the

Federal Aviation Administration on January 9 the following year, before entering commercial service with launch customer Northwest Airlines.

Walk-around

The 747-400 V2 was created by iFly, the team behind the popular 737NG, and was developed over thousands of man-hours, working with 747 captains and engineers. The package, which is available for FS2004, FSX

and Prepar3D, includes the standard iFly livery with three engine options: the General Electric CF6-80 (GE), Rolls-Royce RB211 (RR) and Pratt & Whitney PW4056 (PW), along with support for both standard and widescreen monitors. It also comes with the British Airways RR and Virgin Atlantic GE liveries, although it is possible to download additional paint schemes from the Flight1 website:

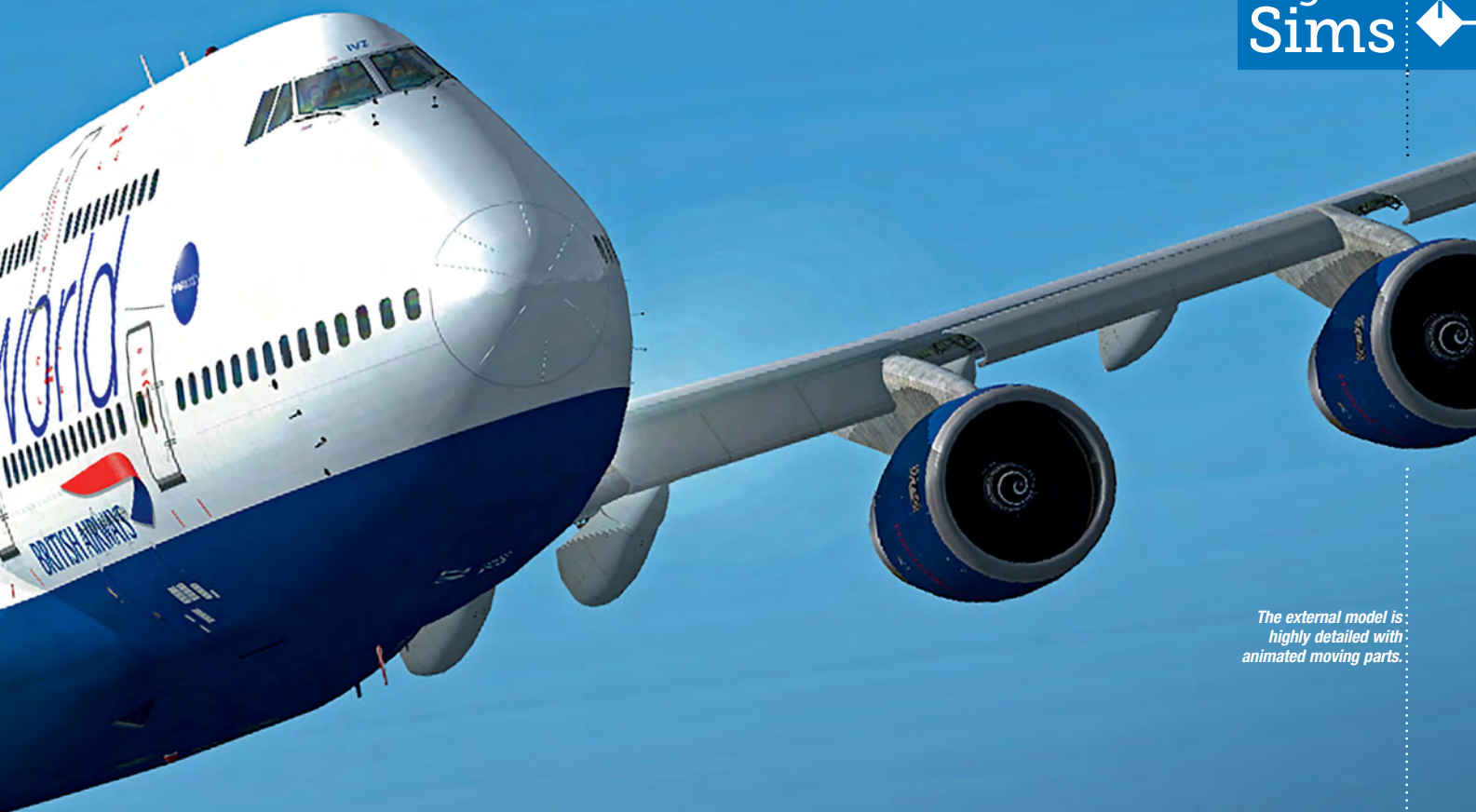
<http://library.flight1.net/?cat=37>.

The package currently includes only the passenger variant, but according to Flight1, a freighter version is to be added.

The external model, designed in 3D Studio Max, is built to a high standard with HD textures, reflective surfaces and staining around the flaps/engines. The main and emergency exits are operational as well as the cargo doors. Other features include animated auxiliary power unit (APU) doors, control

Northwest Airlines was the launch customer for the Boeing 747-400 with an order for ten examples.





The external model is highly detailed with animated moving parts.



surfaces, flaps, spoilers, wing flex and a highly detailed retractable undercarriage. The engines are similarly detailed with rotating fan blades and clear markings such as panel lines and rivets.

Flight deck and systems

The aircraft comes with a detailed 2D panel and a virtual cockpit with a fully functional main instrument panel, overhead panel and centre console, as well as a pop-up flight management computer (FMC). The attention to detail is superb - almost every knob and switch is functional and the custom-made displays are fluid and sharp. Effects such as windscreen wipers and the ability to move the yokes down to provide a

The flight deck is almost fully functional.



The default iFly livery comes with engine options for the General Electric CF6-80, Rolls-Royce RB211 and Pratt & Whitney PW4056.



What's new in flight simulation software.

The aircraft comes with a functional weather radar if Active Sky Next is installed.



The attention to detail is superb and every aspect of the flight deck is modelled.



The iFly Jets 747-400 comes with three default liveries including Virgin Atlantic colours.

better view of the instruments has also been included.

The package accurately simulates the systems in the real aircraft, including cabin pressurisation, electrical, hydraulic and fuel systems. Other features include realistic triple inertial reference system (IRS) units with source switching, dual air data computers (ADC) and a triple channel autopilot, with left and right flight directors, along with an auto throttle, allowing automatic landings with roll-out and flare capability.

The captain and first officer instruments work independently including the primary flight displays (PFDs) and navigational displays (NDs). The latter comes with different mode switches for the PLAN, MAP, VOR and APP functions. The ground proximity warning system (GPWS), aural alerts and traffic alert and collision avoidance system (TCAS) have also been simulated and it is possible to set the viewpoint to either the left- or right-hand seat. The aircraft even includes an operational weather

radar and predictive wind shear alert if Active Sky Next from HiFi Simulation Technologies is installed. The upper and lower ECAS displays are also modelled and it is possible to select different pages to view the status of the various systems. Similarly, the FMCs work independently and can be programmed separately – the package comes with a Navigraph database, to program real-world routes along with SIDS/STARs/approaches. Even cost index calculations for economy and long-range cruise speeds have been modelled. The overhead panel has been realistically replicated and includes the controls for the various systems such as the electrical, hydraulic and pressurisation panels, which have been simulated along with the de-icing system. Most of the switches and levers in the cockpit are functional, along with engine fire warning, flap handle and elevator, aileron and rudder trim. The night lighting is excellent with instrument backlighting. The package comes with authentic 3D stereo sounds, created by Turbine Sound Studios and the cockpit can be heard coming to life during the start-up process. Examples include the airflow from the packs as the APU is turned on and the whine of the engines as they are fired up. Authentic Boeing audio alerts have also been included along with the engine and APU fire test warnings. The 747 also features a complex failure model, making it possible to fail any number of systems randomly or on demand, such as engines, landing gear, hydraulics, electrical or fuel system, although cumulative wear and tear is not simulated.





Ground services

The package comes with a plug-in for loading and customising the aircraft. It is possible to specify options such as realistic IRS alignment times, cross-bar or single cue flight director or selecting Cathode Ray Tube (CRT) or Liquid Crystal displays (LCD) in the cockpit. The aircraft also includes hundreds of programmable key assignments for functions such as autopilot and auto throttle disconnects – this is where a fully registered version of FSUIPC (www.schiratti.com) comes in very useful as it allows you to assign keystrokes to joystick buttons. Ground services can be summoned to connect a ground power unit (GPU) or an air source for the air conditioning

and starting the engines. A pushback feature is also included and it is possible to specify distance and angle of turn in degrees. Other features include a configuration tool that can be used to specify payload and fuel quantity, although in FSX this can also be set from the FMC.

Installation and documentation

The iFly 747-400 is available as a 687MB download. It includes an automated installer and an authentication procedure that comes with all Flight1 products. The setup procedure is straightforward; after downloading and running the executable, you are prompted for an order number and a licence key

before the installer will run. There is also an option for a dual install on the FSX boxed and FSX: Steam Edition. It is also important to ensure FSUIPC is up to date. After the setup program has completed, it is essential to run the module installer to register the required DLL.XML file in FSX, although the procedure is covered in the instructions. The aircraft comes with extensive documentation that consists of several PDF manuals, including a 513-page operating manual with a detailed description of the aircraft and its related systems, a PDF with an introduction to some basic Instrument Flight Rules (IFR) procedures and abbreviated checklists. A tutorial flight from London Heathrow to San Francisco is also included, with instructions on how to operate the aircraft and program the FMC, along with an airport diagram and SIDs for Heathrow and STARs/approach plates for San Francisco.

Roundup

The iFly Jets 747-400 is a highly complex and sophisticated simulation of the real aircraft so it is impossible to cover every aspect of the aircraft in this review. But it is superbly rendered, the systems are modelled in detail and the virtual cockpit is highly functional. The flight dynamics are excellent; the 747 is very stable to fly and a firm favourite among its pilots, and iFly has managed to capture the spirit of this iconic aircraft. The price tag of \$59.95 (£38 approx) is reasonable considering the complexity of the aircraft so I have no hesitation in giving it a score of 85%.

By Richard Benedikz

The flight deck is highly detailed with superb night lighting.

Additional liveries are available from the Flight1 website including this United Airlines example.

It is possible to hook up ground services such as a GPU, although the truck is not modelled externally.

PUBLISHER: Flight1

DEVELOPER: iFly

PRICE: \$59.95

WEBSITE: www.iflysimsoft.com

System requirements: Windows 7 or higher, recommend 64-bit. Microsoft Flight Simulator X with SP2 or Acceleration or FSX: Steam Edition. FSUIPC: Free or registered.

Processor: 3.0GHz Dual Core, recommend 4.0+ Quad or greater.

Memory: 3Gb min, recommend 6Gb or higher.

Graphics: 1Gb, recommend 2Gb or higher.

DirectX 9.

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Ethiopian Airlines Boeing 787 Dreamliner Cockpit DVD



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Code: DVD557

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Osaka Airports Spectacular DVD



Join AirUtopia and discover what makes Osaka a true aviation paradise for both the passionate enthusiast and the casual observer. The dual airport system of Itami and Kansai offers extensive viewing facilities that are simply some of the best in the world. **Region-free DVD, Running time 90 minutes.**

Code: DVD3188

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Houston Airport Blu-Ray



For its 6th Airport Blu-Ray Just Planes visits Houston's George Bush Intercontinental Airport. This film is shot from some fantastic locations both near the runways as well as right above the gates for taxi, takeoff and landing action. The airport is served by a good number of widebodies including the Airbus A380, Boeing 787 and 747-8. **Region-free Blu-Ray disc. Running time 240 minutes**

Code: BR034

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Kenya Airways Boeing 787 Blu-Ray



Just Planes is delighted to return to the Pride of Africa to film its new flagship: the Boeing 787 Dreamliner! With half a dozen 787s already in the fleet and more on order, the airline assembled an all female crew for a round-trip from Nairobi to Kinshasa featuring the airline's first female pilot and first African female to fly the 787! **Region-free Blu Ray, Running time 273 minutes.**

Code: BR060

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AeroMexico Boeing 787 Blu-Ray



Just Planes is delighted to welcome AeroMexico to its Flight in the Cockpit series which now includes more than 250 airlines! Mexico's largest carrier provides you with Just Planes' 4th Dreamliner programme with a round-trip flight to New York JFK followed by a trip to Paris. **Region-free Blu-Ray, Running time 210 minutes.**

Code: BR035

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Jetair Fly Boeing 787-8 Dreamliner Blu-ray



This Boeing 787 programme features the very successful Belgian airline Jetairfly, part of the TUI group which operates the largest leisure fleet in Europe! We join an 11-hour flight from Brussels to Cancun, where the pilots present the Dreamliner inside out and focus on what's new and different on the aircraft, plus fantastic views during the trip. **Region-Free Blu-Ray, Running time 257 minutes.**

Code: BR040

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Ethiopian Boeing 757 Cockpit DVD



Join us on this twin-engine, short-to medium-range airliner for a regional flight from Addis Ababa to Kigali. Our Ethiopian Airlines crew will guide you through every step of the flight from inside the cockpit to cabin crew operations. **Region-free DVD, running time 75 minutes.**

Code: DVD598

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Classic Airliner: Trident Special



Includes: The History of De Havilland, the origins of the Trident, Technical Description, The Maiden Flight and the Test Programme, Flying the Trident by Captain R.E. Gillman, The Trident 1C in Service with BEA, The Export Trident 1E, Long-range Tridents - the 2E, China and the Trident, Trident with a fourth prong, The Trident and Autoland, Conclusion, Data and Type List, Production list by Ken Haynes.

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Code: **SPCA008**

Volotea Boeing 717-200 Blu-Ray



Volotea is the 254th airline in 'Just Planes' Flight in the Cockpit series! This fast growing airline is one of only a handful of 717 operators in the world. The airline's Flight Operations Director hosts eight of the 12 flights in this film which is packed with many great pilot presentations and some exciting routes and destinations across Italy. **Region-free Blu-Ray, Running time 263 minutes.**

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Code: **DVD600**

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The latest commercial aircraft deliveries from manufacturers and lessors.

This ex-Cathay Pacific Airways Boeing 747-467F, LX-FCL (c/n 27503) ex-B-HUK, has been brought out of desert storage and delivered to Cargolux.

JACK GORCZYNSKI

Short SC7 Skyvan 3-100, C-FARA (c/n SH1970) of Summit Air is the second of the type to be delivered to the No.1 Parachute Training School at RAF Brize Norton and was delivered through Glasgow in October.

IAIN MACKENZIE



Pakistan International Airlines [PK/PIA]				
9M-XXD	A330-343E	1066	ex F-WWYL, dd 12.08.15, sub-Isd fr AirAsia X	
9M-XXG	A330-343E	1131	ex F-WWYL, dd 12.08.15, sub-Isd fr AirAsia X	

Oman Air [WY/OMA]				
A40-BJ	737-81M	34242	st Air Lease Corp 09.15 & Isd back as A40-BJ	
A40-BO	737-71M	33103	as A40-BJ	
A40-BR	737-81M	33104	as A40-BJ	
Air Arabia [G9/ABY 'Arabia']				
A6-AOK	A320-214	6737	ex D-AXAE, dd 20.08.15	
Emirates [EK/UAE]				
A6-EFS	777-F1H	42231	dd 31.08.15, Isd fr Dubai Aerospace Enterprises	
A6-EOM	A380-861	187	ex F-WWAH, dd 03.08.15	
A6-EPA	777-31H	42320	dd 31.08.15	
A6-EPB	777-31H	42321	dd 31.08.15	

Etihad Airways [EY/ETD]				
A6-AEG	A321-231	6731	ex D-AYAF, dd 20.08.15	
A6-APD	A380-861	180	ex F-WWAZ, dd 07.08.15	
Gulf Helicopters				
A7-GAC	AW189	49015	ex I-RAIS, dd 02.11.14	
A7-GAD	AW189	49016	dd 08.11.14	
Air China [CA/CCA]				
B-1527	737-89L	44919	dd 03.08.15	
B-1528	737-89L	44920	dd 11.08.15	
B-1637	A321-213	6579	ex D-AVXG, dd 17.08.15, Isd fr GECAS	

Air China Cargo [CA/CAO 'Airchina Freight']				
B-2094	777-FFT	44685	dd 31.08.15	
Beijing Capital Airlines [JD/CBJ 'Capital Jet']				
B-8072	A320-214	6664	ex F-WWUO, dd 20.08.15	

China Eastern Airlines [MU/CEA]				
B-2023	777-39P	43275	dd 11.08.15	
B-2958	737-3W0	27522	cnvrt'd to 737-3W0(F) by STAECCO & st SF Airlines	
B-6141	737-79P	39745	dd 13.08.15	
B-6143	737-89P	41476	dd 11.08.15	
B-8828	A320-232	6624	ex B-000E, dd 10.08.15	
China Eastern Yunnan [MU/CES]				
B-1792	737-89P	41475	dd 27.07.15, Isd fr China Eastern Airlines, in Yunnan's orange peacock colours	

China Express Airlines [G5/HXA]				
B-3381	CRJ900	15371	dd 19.08.15	

China Southern Airlines [CZ/CSN]				
B-1525	737-81B	41611	dd 25.08.15, Isd fr AerCap	
B-1696	A320-232	6645	ex B-000H, dd 28.08.15	
B-1697	A320-232	6612	ex B-000D, dd 08.08.15	
B-2029	737-31B	43224	dd 26.08.15	

China West Air [PN/CHB 'West China']				
B-8110	A320-214	4231	ex OE-LEB, reg'd 06.08.15	
Chongqing Airlines [CQ/CQN]				
B-1827	A320-232	5932	ex B-508L, reg'd 25.08.15, sub-Isd fr China Southern Airlines	
B-6185	A319-115	3828	ex D-AVYK, reg'd 17.08.15, Isd fr China Southern Airlines	

Hainan Airlines [HU/CHH]				
B-5972	A330-343E	1634	ex F-WWYL, dd 28.08.15	
B-8015	A330-343E	1656	ex F-WWCL, dd 31.08.15	

Hebei Airlines [NS/HBH]				
B-6299	737-8LW	42965	dd 12.08.15	
Ruili Airlines [DR/RLH 'Sendi']				
B-6110	737-76J	36117	ex D-ABLD, dd 23.09.15, Isd fr airberlin	

SF Airlines [03/CSS 'Shen Feng']				
B-2958	737-3W0	27522	reg'd 02.07.15	
N166CR	757-28A	27621	ferried Singapore XSP – Goodyear 13-14.08.15 for cargo conversion	

N169CR	757-25F	30758	rr B-7082, ferried Southend – Xiamen 04-05.09.15 for cargo conversion	
N198CR	767-338ER	28154	ex VH-OGQ	

Shandong Airlines [SC/CDG]				
B-6985	737-85N	41626	dd 27.08.15	

Shanghai Airlines [FM/CSH]				
B-6107	737-89P	41483	dd 13.08.15	



Shenzhen Airlines [4G/CSZ]				
B-1519	737-87L	40828	dd 27.08.15	
B-8077	A320-214	6708	ex F-WWBX, dd 31.08.15, Isd fr SMBC Aviation Capital	
B-8079	A320-214	6742	ex D-AXAG, dd 28.08.15, Isd fr China Aircraft Leasing Group	

Sichuan Airlines [3U/CSC]				
B-8329	A320-232	6635	ex B-000G, dd 17.08.15	
Xiamen Airlines [MF/CXA]				
B-1964	737-85C	39914	dd 21.08.15	
B-6486	737-85C	41395	dd 12.08.15	
B-6487	737-85C	39919	dd 06.08.15	

Air Macau [NX/AMU]				
B-MCB	A320-232	5352	named 'Hao Jiang'	
China Airlines [CI/CAL 'Dynasty']				
B-18003	777-309	43977	dd 25.08.15	
EVA Air [BR/EVA]				
B-16220	A321-231	6747	ex D-AYAK, dd 19.08.15, Isd fr BOC Aviation	

Tigerair Taiwan [IT/TTW 'Smart Cat']				
B-50008	A320-232	6700	ex F-WWBI, dd 24.08.15, Isd fr ICBC Leasing	

TransAsia Airways [GE/TNA]				
B-22612	A321-231	6734	ex D-AYAG, dd 17.08.15	
B-22822	ATR 72-600	1261	ex F-WWEM, dd 08.08.15	

Air Canada [AC/ACA]				
C-FVNO	787-9	35266	dd 31.08.15, fleet # '832', ferried to Toronto 04.09.15, Charleston #78	

Cargojet Airways [W8/CJT]				
C-FMUJ	767-328	27135	ex 4X-AGM, reg'd 11.09.15	

CHC Helicopters [HMB 'Hummingbird']				
C-FYDD	S-76++	760743	ex PR-CHP, reg'd 28.09.15	

Guardian Helicopters				
C-GSHG	Bell 205A-1	30165	ex C-GENZ, reg'd 04.09.15	
Hawkair Aviation Services				
C-FBBG	DHC-2	358	ex CF-BBG, reg'd 16.09.15	
C-FQMN	DHC-3T	184	ex 55-3318, reg'd 16.09.15	
Jazz Aviation (Air Canada Express) [QK/JZA]				
C-FVKN	CRJ100	7078	st Avmax Aircraft Leasing & reg'd 04.09.15.	

Kootenay Valley Helicopters				
C-GWTX	S-61N	61818	ex PR-HRH, reg'd 14.09.15	

Orca Airways				
C-FMKH	Beech 99	U-12	ex N125DP, reg'd 29.09.15	

Private Air				
C-GKKB	DC-3 Turbo	20494	ex N1427, reg'd 16.09.15	

Wasaya Airways [WG/WSG]				
C-GWOX	B1900D	UE-333	ex N534M	

Wilderness Air				
C-GVGL	DHC-2 Mk.I	891	ex 54-1736, reg'd 31.08.15, bf Todd Loughheed	

LAN Airlines [LA/LAN]				
CC-BGD	787-9	35322	dd 11.08.15, Isd fr AerCap, & reg'd to Wells Fargo Bank Northwest	

CC-BGE	787-9	38478	dd 27.08.15 to LATAM Airlines & Rayador Leasing Ltd	
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EuroAtlantic Airways [YU/MMZ]				
CS-TKT	767-36N	30853	ex EI-FKJ, dd 07.08.15, Isd fr GECAS	

LAM Mozambique				
C9-MEK	ERJ 145	197	ex F-GUFD, dd 29.08.15 ex-Lille	
airberlin [AB/BER]				
D-ABCR	A321-211	6719	ex D-AYAA, dd 06.08.15	
D-ABZJ	A320-216	3295	ex EI-DSJ, dd 08.15, Isd fr Aircraft Purchase Co	

EAT Leipzig [QY/BCS 'Euro-Trans']				
D-ALEB	757-236	22173	trf to DHL Air	

Lufthansa [LH/DLH]				
D-AIGZ	A340-313X	347	repainted into full colours, 'Villengen-Schwenningen'	

Lufthansa CityLine [CL/CLH 'Hansa Line']				
D-AIGP	A340-313X	252	ex F-WWJM, dd 14.08.15, still in Star Alliance colours with 'Operated by Lufthansa CityLine' titles	

TUIfly.com [X3/TUI]				
D-ATUA	737-8K5	37245	st FPG & FPG Amentum 09.16 and Isd back as D-ATUA	

TACV [VR/TCV 'Caboverde']				
CS-TRO	A320-214	0548	ex PR-WTB, dd 03.08.15, sub-Isd fr White Airways	

Air Europa [UX/AEA]				
EC-MHL	A330-343E	1574	named 'Francisca Acera'	

Binter Canarias NT/BBB]				
EC-MHJ	ATR 72-212	982	named 'Cabildos Insulares'	

CanaryFly [PM/CNF]				
EC-GRU	ATR 72-202	493	ex F-WWLN, seen Las Palmas 28.08.15 in full colours	

Plus Ultra Líneas Aéreas [PUE 'Spanish']				
EC-MFA	A340-313X	212	named 'Virgen de la Guía-Portugalete', entered service 06.08.15	

Privilege Style [PVG]				
EC-LZO	767-35D	27902	ret fr El Al lease	

Swiftair [JZ/SWT 'Swift']				
EC-MIE	737-4Y0	26069	ex N320SC, dd 27-28.08.15 Dothan – Madrid	

Vueling Airlines [VY/VLG]				
EC-MHS	A321-231	6740	ex D-AVAL, dd 24.08.15, st Avolon Aerospace on dely & Isd back, named 'Vuelissimo'	

ASL Airlines (Ireland) [ABR]				
EI-OZM	A300B4	722	ex HL7244, reg'd 28.08.15	

Cityjet [WX/BCY 'City-Ireland']				
EI-RJB	Avro RJ85	E2330	ex G-CEBS, reg'd 12.08.15, Isd fr Falko Regional Aircraft, ferried Cranfield – Dublin 28.08.15	

Starlite Aviation Operations				
F-GTLA	AS332C1	2938	reg'd 21.08.15	

Mahan Air [W5/IRM]				
EP-MME	A340-642	371	ex YI-ASL	

EP-MMF	A340-642	376	ex YI-ASM	
EP-MMH	A340-642	391	ex YI-NAA?	
EP-MMJ	A340-642	416	corrects reg'n	
EP-MMQ	A340-642	449	corrects reg'n	
EP-MMR	A340-642	615	corrects reg'n	
F-OJHH	A310-304	586	rr EP-MMP, seen still in service at Tehran in full colours,	

Ethiopian Airlines [ET/ETH]				
ET-ARJ	777-F60	42033	st FLY Leasing & Isd back	

Key to Abbreviations

a/c	aircraft
als	airlines
awys	airways
bf	bought from
b/u	broken up/scrapped
canx	cancelled
cls	colours
cn	manufacturer's construction/serial number
cnvrt'd	converted
dbf	destroyed by fire
dbf	damaged beyond repair</



We welcome any feedback on this listing.

(The listing is alphabetical with reference to the registration of the country of origin. Columns indicate the registration, type, construction number and notes.)

Ruby Star				
EW-448TH	IL-76TD	10330	ex RA-76445	
Air France [AF/AFR]				
F-GRHL	A319-111	1201	reg'd to Calliope Ltd 30.06.15, still lsd to Air France	
F-GRHM	A319-111	1216	as F-GRHL	
F-GRHU	A319-111	1471	as F-GRHL	
F-GRXC	A319-111	1677	as F-GRHL	
F-HBNA	A320-214	4335	ret fr Transavia France sub-lease, repainted into Air France colours	
F-HBNL	A320-214	5129	as F-HBNA	
Hop! [AS/HOP 'Airlinair']				
F-GRZJ	CRJ701	10096	purch off lease & reg'd 05.06.15	
Bristow Helicopters [BHL 'Bristow']				
G-MCGY	S-92A	920257	ex N257Z, reg'd 15.09.15	
British Airways [BA/BAW 'Speedbird']				
G-GATS	A320-232	1672	ex OE-IDW, reg'd 03.09.15, leased fr GECAS, ferried Woensdrecht – Gatwick 09.15	
DHL Air [DO/DHK 'World Express']				
G-BIKB	757-236	22173	ex D-ALEB, reg'd 01.09.15	
easyJet [U2/EZY 'easy']				
G-EZOU	A320-214	6754	ex D-AXAK, dd 28.08.15	
Flybe [BE/BEE 'Jersey']				
G-FBXA	ATR 72-600	1260	ex F-WWEL, dd 18.09.15, lsd fr Aviation PLC, in full SAS colours, op for SAS, named 'Sigsten Viking' ex N338NG, reg'd 25.08.15, sub-isd fr Republic Airlines	
G-PRPC	Dash 8-Q402	4338		
ASL Airlines (Hungary) [FAT]				
HA-FAW	737-476	24435	ex EI-STI, dd 04.09.15 Shannon – Budapest, lsd fr AFO Aircraft	
Wizz Air [W6/WZZ]				
UR-WUB	A320-232	3741	rr HA-LYV	
Avianca – Aerovías del Continente Americano [AV/AVA]				
N743AV	A320-214	6739	ex D-AXAF, dd 31.08.15, reg'd to Wells Fargo Bank Northwest 01.09.15	
EasyFly [EFY]				
HK-5159	ATR 42-500	606	ex OY-YAA, dd 14.09.15, lsd fr Nordic Aviation Capital	
Korean Air [KE/KAL]				
HL7630	747-8B5	40905	dd 25.08.15	
HL8007	777-3B5ER	43815	dd 11.08.15	
B-8027	A330-323E	1647	ex F-WWKO, dd 31.08.15	
COPA Airlines [CM/CMP]				
HP-1847	737-8V3	41448	dd 18.08.15	
HP-1848	737-8V3	39965	dd 21.08.15, lsd fr SMBC Aviation Capital	
Avianca Honduras (Islaia Airlines) [AV/AVA]				
HR-AVA	ATR 42-300	397	ferried? to Zagreb 23.08.15, in TACA Regional colours	
HR-AXN	ATR 42-320	378	as HR-AVA	
City Airways [E8/GTA]				
HS-GTH	737-86N	30231	ex N222CQ, dd 15.09.15, lsd fr International Aviation Capital & Management	
New Gen Airways (Sabaidee Airways) [E3/VGO 'Virgo']				
HS-NGG	737-8Q8	30645	ex N645AR, dd 27.08.15, lsd fr AerCap	

Nok Air [DD/NOK]				
HS-DBT	737-88L	61293	dd 19.08.15, named 'Nok Budhnamphetch'	
Thai AirAsia X [XJ/TAX 'Express Wing']				
HS-XTC	A330-343X	692	named 'Captain Park Ji Sung'	
HS-XTD	A330-343X	741	ex 9M-XXM, dd 18.08.15, sub-isd fr AirAsia X	
Thai Airways International [TG/THA]				
HS-TQF	787-8	38759	dd 07.08.15, lsd fr AerCap, named 'Kong Krailat'	
Thai Lion Air [SL/TLM]				
HS-LUI	737-8GP	39861	dd 12.08.15, st Aviation Capital Group on dely by Lion Air Group & lsd back	
flynas [XY/KNJ 'nas-express']				
PK-LHG	747-412	24065	ex N465BB, dd 16.08.15, lsd fr Lion Air	
TS-INF	A320-212	0937	ex SU-KBA, dd 08.15, sub-isd fr Nouvelair Tunisie	
TS-INR	A320-212	3487	ex RP-C3247, dd 08.15, sub-isd fr Nouvelair Tunisie	
Saudia [SV/SVA]				
HZ-AK28	777-368ER	42266	dd 04.08.15	
TC-OCE	A330-223	353	ex G-CINP, dd 09.15 to Jeddah, sub-isd wet fr Onur Air	
TC-OCI	A330-243	625	ex EI-FLB, dd 08.15 to Jeddah, sub-isd fr Onur Air	
TC-OCJ	A330-243	632	ex EI-FLC, dd 08.15 to Jeddah, sub-isd fr Onur Air	
Alitalia [AZ/AZA]				
EI-DSY	A320-216	3666	named 'Aldo Palazzeschi'	
Meridiana [IG/EEZ]				
EI-FDS	737-86N	28595	owner changed to ECAF I 28595 Designated Activity Co 31.08.15	
Amakusa Airlines [AHX]				
JA01AM	ATR 42-600	1202	ex F-WWLF, dd 13.08.15, purch from Nordic Aviation Capital	
ANA – All Nippon Airways [NH/ANA]				
JA838A	787-8	34528	reg'd to TLC Asset Co Ltd 30.07.15 & lsd to ANA	
JA872A	787-9	34504	dd 26.08.15, Charleston #77, reg'd to ANA Holdings 08.15	
Japan Air Commuter [3X/JAC 'Commuter']				
JA846C	Dash 8-Q402	4107	purch off lease & reg'd to Japan Airlines 04.08.15	
Japan Airlines [JL/JAL]				
JA711J	777-246ER	33396	repainted into oneworld colours	
Solaseed Air [6J/SNJ 'Newsy']				
JA809X	737-86N	41247	st FO Traffic Leasing Ltd & reg'd 31.07.15, lsd back to Solaseed Air	
Air Djibouti				
5Y-JUU	F27-500	10448	ex A6-FCZ, dd 08.15	
Norwegian Air International [D8/IBK 'Nortrans']				
EI-FHJ	737-8JP	42069	ex (LN-NHH), dd 20.08.15	
Norwegian Air Shuttle [DY/NAX 'Nor Shuttle']				
LN-NHG	737-8JP	41139	dd 11.08.15 & reg'd to DY9 Leasing LLC	
Aerolíneas Argentinas [AR/ARG]				
LV-FVH	A330-202	1605	reg'd to Burdigala Finance B.V 27.02.15, lsd to Aerolíneas Argentinas	

LV-FVI	A330-202	1623	reg'd to Tolsa Finance B.V 06.05.15, lsd to Aerolíneas Argentinas	
LV-FVM	737-8SH	41329	reg'd to Luft Lease AB 18.03.15, lsd to Aerolíneas Argentinas	
LV-FVN	737-8SH	41331	reg'd to Luft Lease AB 28.04.15, lsd to Aerolíneas Argentinas	
LV-FVO	737-8SH	41356	dd 26.08.15, lsd fr ALC	
LV-FXQ	737-8MB	43881	dd 19.08.15, lsd fr ICBC Leasing	
LV-FYK	737-8MB	43882	dd 25.08.15, lsd fr ICBC Leasing	
Small Planet Airlines [S5/LLC]				
LY-ONJ	A320-214	4203	ret fr Privilege Style sub-lease	
Air VIA [VL/VIM 'Crystal']				
LZ-PMZ	A321-231	1060	ex EI-BFF, dd 26.08.15 Sofia – Varna, lsd fr Apollo Aviation	
Aero-Flite				
N354AC	Avro RJ85	E2256	purch off lease from Bank of Utah & reg'd 08.09.15, tanker # '161'	
N366AC	Avro RJ85	E2288	as N354AC, tanker # '160'	
N839AC	Avro RJ85	E2270		
Air Cargo Carriers [2Q/SNC 'Night Cargo']				
N428NA	C-23C	SH3207	ex 88-1867, bf NASA 28.08.15	
Air Transport International [8C/ATN]				
N531UA	757-222	25042	repainted into DHL colours, ferried to Los Angeles 07.08.15	
Air Wisconsin [ZW/WSN]				
N404AW	CRJ200	7294	purch off lease fr US Bank NA & reg'd 03.09.15	
Alaska Airlines [AS/ASA]				
N481AS	737-990ER	44106	dd 20.08.15, fleet # '481'	
Aloha Air Cargo [KH/AAH]				
N301KH	737-330(F)	27904	named 'Ku Ha'aeo'	
American Airlines [AA/AAL]				
N143AN	A321-231	6745	ex D-AYAJ, dd 21.08.15, fleet # '875'	
N144AN	A321-231	6723	ex D-AYAB, dd 06.08.15, fleet # '876'	
N976NN	737-823	33243	dd 12.08.15, fleet # '3MU', st Air Lease Corp on dely & reg'd to Wilmington Trust 17.08.15	
N808AN	787-8	40626	dd 06.08.15, fleet # '8AJ'	
N809AA	787-8	40627	dd 28.08.15, fleet # '8AK'	
Asia Pacific Airlines (Aero Micronesia) [P9/MGE 'Magellan']				
N757QM	757-29J	27203	ferried Good-year – Honolulu 14.08.15 for entry into service	
Atlas Air [5Y/GTI 'Giant']				
N861TM	767-324	27393	rr N645GT	
Bering Air [8E/BRG]				
N404BA	Ce 208B/EX	5228	dd 31.08.15	
Bristow US [L9/BTZ 'Bristow Group']				
N722BG	S-76D	1016	rr N553YB	
N723BG	S-76D	1019	rr N553XB	
Compass Airlines [CP/CPZ]				
N209NN	E170-200	0497	ex PR-ENV, dd 13.08.15, lsd fr American Airlines, fleet # '009'	
N210NN	E170-200	0500	ex PR-ENV, dd 20.08.15, lsd fr American Airlines, fleet # '010'	
N211NN	E170-200	0501	ex PR-EOA, dd 24.08.15, lsd fr American Airlines, fleet # '011'	
Delta Air Lines [DL/DAL]				
N823NW	A330-302	1628	ex F-WWYY, dd 25.08.15, fleet # '3323'	
N943AT	717-2BD	55006	dd 03.09.15, lsd fr AirTran Airways, ferried Cecil Field – Atlanta 05.09.15, fleet # '9503'	
N948AT	717-2BD	55011	dd 05.08.15, lsd fr AirTran Airways, ferried Cecil Field – Atlanta 07.08.15, fleet # '9508'	
N996AT	717-2BD	55140	dd 06.08.15, sub-isd fr AirTran Airways, ferried Cecil Field – Atlanta 07.08.15, fleet # '9542'	
N844DN	737-932ER	31955	dd 07.08.15, fleet # '3844', reg'd to Wells Fargo Bank Northwest 10.08.15	
N845DN	737-932ER	31956	dd 27.08.15, fleet # '3485', reg'd to Wells Fargo Bank Northwest 28.08.15	
N661US	747-451	23719	lrf 09.09.15 & pwfu at Atlanta, to be preserved at Delta Flight Museum	

Airbus A320-200, F-WWBH (c/n 6455), of Saudi Gulf Airlines has been stored at Lourdes since May but returned to Toulouse in September prior to delivery when it will become HZ-SGA.

MATT FALOUS

Amakusa Airlines of Japan has taken delivery of a 48-seat ATR 42-600, JA01AM (c/n 1202), the first of the type to start operations in Japan.

ATR



Airbus A320-214, F-WWDN/N230FR (c/n 6773), was flying at Toulouse in early October in these revised Frontier Airlines colours. EUROSPT

Leased from Macquarie Finance, Eastern Air Lines has taken delivery of this Boeing 737-8CX, N277EA, (c/n 32359). KEN PETERSEN



N316KA	747-4B5	27431	ex HL7491, bf Korean Air & reg'd 04.09.15, for spares use
N338BC	757-26D	33967	rr N823DX
N346BC	757-26D	33959	rr N819DX
N393BC	757-26D	33960	rr N820DX
N307EV	MD-90 30	53571	ex B-17918, bf EVA Air & reg'd 04.09.15, for spares use only

Everts Air Cargo [5V/VTS]			
N501XP	DC-6B	45177	rr N751CE
ExpressJet Airlines [EV/ASY 'Acey']			
N845AS	CRJ200	7324	purchase off lease fr US Bank NA & reg'd 23.09.15

FedEx Express [FX/FDX 'Fedex']			
N776FD	757-222	25129	cnvrt'd to 757-222(F) at Mobile BFM, to Memphis 26.08.15 for entry in service

N125FE	767-32SF	42717	dd 12.08.15
N298FE	767-32LF	41069	ferried Cecil Field – Indianapolis 01.08.15 for entry into service

N756FE	Ce 208B	0251	rr N741AS
GoJet Airlines [G7/GJS 'Lindbergh']			
N181GJ	CRJ900	15204	in Delta Connection colours as N181GJ
N182GJ	CRJ900	15175	ferried Victorville – St Louis 14.08.15 after painting into Delta Connection colours
N183GJ	CRJ900	15209	ferried Victorville – St Louis 26.08.15 after painting into Delta Connection colours

N184GJ	CRJ900	15169	ferried Victorville – St Louis 26.08.15 after painting into Delta Connection colours
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N185GJ	CRJ900	15185	ferried Toronto – Victorville 13-14.08.15 for painting
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N186GJ	CRJ900	15165	ex C-GMKY, lsd fr Nordic Aviation Capital, reg'd 11.09.15 to Wells Fargo Bank Northwest, ferried to St Louis 14.09.15
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Inter Island Airways			
N229ST	Do 228-212	8199	ex F-OHAF, restored 11.09.15 to Samoa Technologies Inc

JetBlue Airways [B6/JBU]			
N954JB	A321-231	6725	ex D-AYAC, dd 12.08.15, named 'Vestido En Azul'

Kalitta Air [K4/CKS 'Connie']			
N901AR	747-4R7F	25868	ex LX-KCV, dd 16.09.15, lsd fr AWAS

Mesa Airlines [YV/ASH 'Air Shuttle']			
N954LR	CRJ900	15375	dd 10.09.15, American Eagle colours
N955LR	CRJ900	15376	dd 19.08.15, American Eagle colours
N957LR	CRJ900	15377	ex C-GZTK, dd 26.08.15, American Eagle colours
N958LR	CRJ900	15378	dd 27.08.15, American Eagle colours

Neptune Aviation			
N476NA	BAe 146-200	E2196	tanker # '12'

'Ohana by Hawaiian			
N810HC	ATR 72-212	423	ex C-GLHR, reg'd to Airline Contract & Maintenance 08.15
N811HC	ATR 72-201	227	ex ZS-XCF, reg'd to Airline Contract & Maintenance 09.15

Omni Air International [OY/OAE 'Omni-Express']			
N225AX	767-224	30434	ret fr Aer Lingus lease

PSA Airlines [OH/JIA 'Blue Streak']			
N500AE	CRJ701	10025	ex C-GJEX, dd 24.08.15, lsd fr American Airlines
N518AE	CRJ701	10126	dd 24.08.15, lsd fr American Airlines

Republic Airlines [YX/RPA 'Brickyard']			
N723YX	E170-200	0498	ex PR-ENW, dd 17.08.15, fleet # '723', in United Express colours
N724YX	E170-200	0502	ex PR-EOD, dd 27.08.15, fleet # '724', in United Express colours

Sierra Pacific Airlines [SI/SPA]			
N541AS	737-528	27424	N708S is resv'd

Shuttle America [S5/TCF 'Mercury']			
N958WH	E170-200	0248	N205JQ is resv'd



SkyWest Airlines [00/SKW]			
N150SY	E170-200	0499	ex PR-ENX, dd 25.08.15, fleet # '150', in United Express colours
N151SY	E170-200	0503	ex PR-EOD, dd 27.08.15, fleet # '151', in United Express colours

Southwest Airlines [WN/WSA]			
N568WN	737-76N	32583	ferried Paine Field – Phoenix 15.08.15 for entry into service
N670SW	737-3G7	23784	purchase off lease fr Wells Fargo Bank Northwest & reg'd 09.15
N760BA	737-8H4	36715	rr N8671D to Boeing
N761BA	737-8H4	36940	rr N8672F to Boeing
N833BA	737-8H4	36734	rr N8674B to Boeing
N839BA	737-8H4	35976	rr N8675A to Boeing
N840BA	737-8H4	36941	rr N8676A to Boeing
N922BA	737-8H4	36937	rr N8673F to Boeing
N7825A	737-7CT	32750	ferried Paine Field – San Francisco 11.08.15 for entry into service
N7827A	737-79P	28255	ferried Paine Field – Oakland 01.09.15 for entry into service
N7846A	737-76N	35218	ex VT-JGZ, lsd fr GECAS, reg'd 24.08.15 to AFS Investments 56

Spirit Airlines [NK/NKS 'Spirit Wing']			
N658NK	A321-231	6736	ex D-AYAH, dd 11.08.15

Swift Air [WQ/SWQ 'Swiftflight']			
N418US	737-401	23985	purchase off lease fr BCI 2005-10 LLC 20.08.15

Trans States Airlines [AX/LOF 'Waterski']			
N615AE	ERJ 145	087	dd 25.08.15, lsd fr American Airlines
N619AE	ERJ 145	101	dd 14.08.15, lsd fr American Airlines
N18120	ERJ 145	681	ex PT-SFN, dd 25.08.15, sub-isd fr United Airlines
N12122	ERJ 145	684	ex PT-SFN, dd 18.08.15, sub-isd fr United Airlines

United Airlines [UA/UAL]			
N17752	737-71Q	29048	ferried Miami – Cleveland 18.07.15 for entry into service
N61887	737-924ER	42192	dd 20.08.15, fleet # '0887'
N69888	737-924ER	42191	dd 25.08.15, fleet # '0888'
N105UA	747-451	26473	purchase off lease fr Wells Fargo Bank Northwest & reg'd 03.09.15
N27957	787-9	36409	dd 31.08.15, fleet # '0957'

Via Airlines (Charter Air Transport) [VC/SRY 'Stingray']			
N802HK	ERJ 145	066	ex PP-SAJ, dd 29.07.15, lsd fr CIT Leasing
N824HK	ERJ 145	498	ex XA-PAC, dd 06.15, lsd fr Elite Business Aircraft
N838HK	ERJ 145	321	ex HB-JAG, dd 26.08.15, lsd fr Elite Business Aircraft, ferried St Louis – Greenville – Mena 25-26.08.15, Mena – Orlando ORL 08.09.15

Virgin America [VX/VRD 'Redwood']			
N282VA	A320-214	6704	ex F-WWBQ, dd 05.08.15

Western Global Airlines [WGN]			
N459MC	747-446	26344	ex N344NA, N344KD is reserved

World Atlantic Airlines [K8/WAL]			
N593AN	MD-83	53093	rr N807WA

Austrian Airlines [OS/AUA]			
OE-LWD	E190-200	0411	ex D-AEBF, dd 18.08.15, lsd fr Lufthansa

Niki [HG/NLY 'flyniki']			
D-ABDQ	A320-214	3121	ex F-WWBD, dd 04.08.15, sub-isd fr airberlin

Dubnica Air			
OM-DAC	Let 410	810712	reg'n canx 06.15, pwfu, to be preserved, seen at Pribram 26.07.15

Jetairfly (TUI Airlines Belgium) [TB/JAF 'Beauty']			
OO-JJI	737-752	33793	named 'Rivière Levini'

Nordzee Helikopters Vlaanderen			
OO-NSN	AW139	31700	reg'd 24.08.15

TNT Airways [3V/TAY 'Quality']			
OE-IAJ	737-476	24440	ex El-STB, dd 28.08.15, lsd fr AFO Aircraft (NZ), ferried to Liege 01.09.15
OO-TAH	BAe 146-300	E3168	repainted all white & ret to Liege 23.08.15

Air Greenland [GL/GRL 'Greenland']			
OY-GRP	Dash 8-202	453	ex C-FEAO, reg'd 16.09.15
Danish Air Transport [DX/DTR 'Sanish']			
OY-RUB	ATR 72-202	301	ret fr Royal Air Maroc Express lease
OY-RUR	ATR 72-201	145	ex SE-MGT, reg'd 17.09.15, lsd fr Ararat AB

Sun-Air of Scandinavia [EZ/SUS 'Suncan']			
OY-JJH	Do 328-310	3171	ex 5N-BQU, reg'd 03.09.15

CHC Helicopters Netherlands [HNL 'Mapleleaf']			
PH-IEH	AW139	31046	ex G-CHCP, reg'd 19.08.15

Aviastar Mandiri [MV/VIT 'Aviastar']			
PK-BRK	DHC-6-300	516	ex P2-MCS
PK-BRM	DHC-6-300	741	ex P2-MCF

Batik Air [ID/BTK]			
PK-LAP	A320-214	6697	ex F-WWIZ, dd 05.08.15, lsd fr Lion Air Group
PK-LDG	737-8GP	39862	dd 21.08.15, st SMBC Aviation Capital on dely by Lion Air & lsd back

Cardig Air [8F/CAD]			
PK-BBS	737-301	23258	named 'integrity'
PK-BBY	737-308	23535	named 'Ar-Raazi'

Garuda Indonesia [GA/GIA]			
PK-GPX	A330-343E	1654	ex F-WWCJ, dd 14.08.15

Lion Air [JT/LNI 'Lion Inter']			
PK-LPJ	737-8GP	39869	dd 14.08.15, st Avolon on dely & lsd back

Sriwijaya Air [SJ/SJY]			
PK-CMO	737-9LFR	41712	ex N1798B, dd 20.08.15, st Aergo Capital on delivery & lsd back, named 'Keberkahan'
PK-CMP	737-9LFR	41843	ex N1779B, dd 20.08.15, st Aergo Capital on delivery & lsd back named 'Keinginan'

Wings Abadi Air [IW/WON]			
PK-WHJ	ATR 72-600	1271	ex F-WWEX, dd 19.08.15, lsd fr Lion Air Group

Azul Linhas Aéreas [AD/AZU]			
PP-PJA	E170-200	0272	reg'd to Freyja Aviation One Ireland DAC 26.06.15, still lsd to Azul

Key to Abbreviations

a/c	aircraft
als	airlines
awys	airways
bf	bought from
b/u	broken up/scrapped
canx	cancelled
cls	colours
cn	manufacturer's construction/serial number
cnvrt'd	converted
dbf	destroyed by fire
dbr	damaged beyond repair
dd	delivery date
ex	previous reg'n
ff	first flight
frtr	freighter
lrf	last revenue flight
lsd fr	leased from
lsd to	leased to
msn	see cn
ntu	not taken up
oo	on order
op	operated
pax	passenger
pwfu	permanently withdrawn from use
reg'd	registered
reg'n	registration
ret fr	returned from
ret to	returned to
rr	re-registered
rts	return to service
sb	sold by
scr	scrapped/broken up
st	sold to
std	stored
tba	to be advised
unk	unknown
wfu	withdrawn from use
w/o	written off/destroyed

PP-PJB	E170-200	0277	as PP-PJA
PP-PJC	E170-200	0287	as PP-PJA
PR-AKC	ATR 72-600	1270	ex F-WWEW, dd 04.09.15, lsd fr DAE Capital, 'Maracatu Azul' reg'd to Sky High LLL Leasing, still lsd to Azul
PR-AUM	E190-200	0693	as PR-AUM
PR-AYA	E190-200	0237	as PR-AUM
PR-AYB	E190-200	0239	as PR-AUM
PR-AYM	E190-200	0382	as PR-AUM
GOL Transportes Aéreos [G3/GLO]			
PR-GGX	737-8EH	36596	ex PH-GGX, ret fr Transavia lease & ferried Amsterdam – Belo Horizonte CNF 11-12.09.15
Passaredo Transportes Aéreos [22/PTB]			
PP-PTN	ATR 72-212A	832	ex F-WWEI, dd 08.16, lsd fr Nordic Aviation Capital
PP-PTO	ATR 72-212A	837	ex F-WWEO, dd 08.06.15, lsd fr Nordic Aviation Capital, named 'Araponga'
TAM Linhas Aéreas [JJ/TAM]			
PT-XPB	A321-211	6718	ex D-AVZK, dd 06.08.15 to LATAM Group, reg'd to Banc of America Leasing Ireland Co Ltd
PT-XPI	A321-211	6729	ex D-AYAE, dd 11.08.15 to LATAM Group, reg'd to Banc of America Leasing Ireland Co Ltd
Surinam Airways			
PZ-TCQ	737-3Q8	26295	named 'Goudenregen'
Aruba Airlines [AG/ARU 'Aruba']			
P4-AAD	A320-232	0805	ex B-MAH, dd 12.08.15 to Curaçao, lsd fr AerCap
Aeroflot Russian Airlines [SU/AFI]			
VQ-BWD	737-8LJ	41211	ex N1787B, dd 03.08.15, lsd fr Avia Capital, named 'G Tovstonogov'
Red Wings Airlines [WZ/RWZ 'Remont Air']			
RA-89008	RRJ-95B	95016	dd 31.07.15 Zhukovsky – Moscow DME, lsd fr Sukhoi
Komiatrans [KO/KMA 'Komi Avia']			
2-RLAC	ERJ 145	701	ex B-3060, reg'd 09.07.15
2-RLAD	ERJ 145	755	ex B-3061, reg'd 09.07.15
Transaero Airlines [UN/TSO 'Transoviet']			
EI-LED	A321-211	6726	ex D-AYAD, dd 13.08.15, lsd fr ICBC Leasing & reg'd to Sky High XXXVI Leasing
Lao Skyway [LLL 'Lavie']			
ZS-ATK	Let 410UVP	062637	ex PR-NHB, seen Vientiane 28.07.15, lsd fr Aircraft Systems South Africa
ZS-ATN	Let 410UVP	072639	ex PR-NHC, seen Vientiane 28.07.15, lsd fr Aircraft Systems South Africa
CEBU Pacific Air [5J/CEB]			
RP-C3190	A319-111	2586	N326NV is assigned
Malmö Aviation [TF/SCW 'Scanwings']			
SE-DSX	Avro RJ100	E3255	ferried Stockholm BMA – Norwich 14.08.15, repainted with blue tail tip and .com titles removed,



SE-DAY	BAe.146-300	E3263	ferried Stockholm BMA – Norwich 12.08.15, repainted all white with sticker titles
West Air Sweden [SWN 'Air Sweden']			
SE-MAI	BAe ATP	2010	ex G-BTPC, reg'd 04.09.15 to West Atlantic Aircraft Management AB
SE-MAP	BAe ATP	2037	ex LX-WAE, reg'd 31.08.15 to West Atlantic Aircraft Management AB
Badr Airlines [J4/BDR]			
EK73775	737-55S	28475	ex OK-EGO, dd 12.08.15 to Khartoum sub-lsd fr Taron Avia
Astra Airlines [A2/AZI 'Greek Star']			
SX-DIQ	ATR 42-300	130	ex LZ-ATS, dd 22.06.15 Sofia – Skiathos
Biman Bangladesh Airlines [BG/BBC]			
8Q-MEE	767-306ER	27959	ex LZ-AWB, dd 17.08.15 Male – Dhaka, sub-lsd fr Mega Global Air Services
US-Bangla Airlines [BS]			
S2-AGW	Dash 8-Q402	4058	purch off lease from Nordic Aviation Capital 09.15
Solinair [SOP]			
S5-	A300B4(F)	532	ex N532UK, dd 09.09.15, lsd fr MNG Airlines
Air Seychelles [HM/SEY]			
S7-SIL	A320-232	1945	ex A6-EIB, dd 01.09.15, lsd fr BOC Aviation
BoraJet [YB/BRJ]			
TC-YAH	E190-100	0264	named 'Canakkale'
SunExpress Airlines [XQ/SXS]			
TC-SEJ	737-8HC	61171	dd 05.08.15
Turkish Airlines [TK/THY]			
TC-JIR	A330-223	949	named 'Çatalhöyük'
TC-JSO	A321-231	6563	named 'Gümüşhane'
TC-JSU	A321-231	6709	ex D-AVZV, dd 03.08.15
TC-JSV	A321-231	6751	ex D-AYAM, dd 27.08.15
TC-JSY	A321-231	6758	ex D-AYAP, dd 28.08.15
Air Iceland / Flugfélag Islands [NY/FXI]			
TF-FXA	Dash 8-Q402	4022	ex P2-PXP, reg'd 08.15
TF-FXB	Dash 8-Q402	4038	ex P2-PXR, reg'd 09.15
TF-FXI	Dash 8-Q402	4033	ex P2-PXQ, reg'd 08.15
WOW Air [WW/WOW]			
LZ-MDC	A320-232	4270	rr TF-SIS
LZ-MDD	A320-232	4305	rr TF-BRO
Tunisair [TU/TUN]			
TS-IFN	A330-243	1641	ex F-WWKA, dd 24.08.15
TS-IMI	A320-211	0511	named 'Al Jughurta'
AviaExpress [VXX 'Expressavia']			
UR-LSA	Let 410UVP	902414	ex SP-KTL, reg'd 22.07.15, lsd fr Serviceair
Australian Helicopters			
VH-YXI	AW139	31618	ex I-RAIK, reg'd 17.09.15
VH-YXJ	AW139	31620	ex I-EASG, reg'd 03.09.15
Bond Helicopters Australia			
VH-NWD	S-92A	0265	ex N265R, reg'd 04.09.15, lsd fr Trans Rotor Ltd

VH-NWV	S-92A	0267	ex N267Z, reg'd 04.09.15, lsd fr Trans Rotor Ltd
Broome Air Services			
VH-CRN	Ce 208B	0428	ex VH-URT, reg'd 23.09.15, lsd fr Top Gain Capital Holdings
Cape Air Transport (Milkwood Holdings)			
VH-URJ	BN2A-21	402	ex VH-OIA, reg'd 01.09.15
VH-WQA	BN2A-21	494	ex VH-SOS, reg'd 07.09.15
Cobham Aviation Services			
VH-NXK	717-231	55092	purch off lease from Falko by Qantas & reg'd 02.09.15, still lsd to Cobham
VH-NXL	717-231	55093	purch off lease from FLY Leasing by Qantas & reg'd 15.09.15, still lsd to Cobham
Flight Options (Australia) Pty Ltd			
VH-FOV	Ce 208B	1120	ex DQ-DHG, reg'd 02.09.15, lsd fr AAA Aircraft Pty Ltd
JetStar Airways [JQ/JST]			
VH-JQG	A320-232	2169	purch off lease fr BOC Aviation by Qantas & reg'd 18.09.16, still lsd to JetStar
VH-JQL	A320-232	2185	purch off lease fr BOC Aviation by Qantas & reg'd 14.09.16, still lsd to JetStar
VH-JQX	A320-232	2197	as VH-JQG
Omni Aviation			
VH-TUY	Ce 208B	1200	ex VH-TFW, reg'd 31.08.15
Qantas Airways [QF/QFA]			
VH-EBF	A330-202	853	ret fr JetStar lse & ferried to Brisbane 26.08.15
VH-EBK	A330-202	945	ret fr JetStar lse & ferried to Singapore 22.08.15 for repaint
Skytrans			
VH-QQM	Dash 8-311	286	ex G-WOWD, reg'd 27.08.15, lsd fr Aircraft Leasing Ltd
Tigerair Australia [TT/TGW 'Go Cat']			
VH-XUH	A320-232	6749	ex D-AXAI, dd 22.08.15, st CBA A320 6749 Pty Ltd & reg'd 23.09.15
Virgin Australia Airlines [VA/VOZ 'Velocity']			
VH-VPI	ATR 72-600	1107	ex F-WWEI, reg'd 15.09.15, lsd fr Aviation PLC
VH-YFS	737-8FE	41027	dd 12.08.15, named 'Sellicks Beach'
Virgin Australia Regional Airlines [XR/OZW 'Ozwest']			
VH-FWH	Fokker 100	11316	named 'Swan River'
Hai Au Aviation			
VN-B466	Ce 208B/EX	5151	ex N3100L
Vietnam Airlines [HV/HVN]			
VN-A613	A321-231	6748	ex D-AYAL, dd 26.08.15
VN-A862	787-9	35152	dd 07.08.15
VN-A863	787-9	35153	dd 31.08.15
Air India [AI/AIC]			
VT-EXC	A320-214	6715	ex D-AXAD, dd 03.08.15, lsd fr China Aircraft Leasing Group
Aeroméxico [AM/AMX]			
N782AM	787-8	37165	dd 21.08.15, lsd fr CIT Leasing, reg'd to Wells Fargo Bank Northwest same day
XA-AMV	737-852	43659	dd 26.08.15, lsd fr Avolon
Aeronaves TSM [VTM 'Aeronaves']			
XA-URZ	SA227-AC	595	ex N446GL
XA-USG	SA227-AT	434B	ex N434TR
Myanmar National Airlines [UB/UBA]			
XY-AJY	ATR 72-600	1267	ex F-WKVJ, XY-ALC
Fly Baghdad			
JY-JRG	A320-212	0814	ex YL-LCH, dd 19.08.15 Amman – Baghdad, sub-lsd fr Royal Falcon of Jordan
Cham Wings Airlines [6Q/SAW 'Shanwing']			
UR-CMV	A320-211	0342	ex 9Q-CCO, dd 28.08.15 to Damascus all white

Airliner Deliveries

We welcome any feedback on this listing.

(The listing is alphabetical with reference to the registration of the country of origin. Columns indicate the registration, type, construction number and notes.)

Ex-Avianca Airbus A330-243, N967CG (c/n 967), arrived at Manchester, UK prior to painting into Thomas Cook colours and becoming G-TCXC.

LEE HOLDEN

Turkish Airlines has acquired this Boeing 777-3F2ER, TC-LJC (c/n 44123), which was delivered to Istanbul at the end of September.

BARRIE LEWIS

Myanmar National Airlines ATR 72-600, F-WWET/XY-AJY (c/n 1267), was delivered to the carrier in August. ATR

Ex-Transaero Boeing 767-319, EI-UNC (c/n 29388), has been delivered to Icelandair after repaint by Air Livery at Manchester. This is the first of the type to wear the full Icelandair livery (its last example had an all white fuselage).

NIK FRENCH



Air Wings				
YR-AWF	737-4H6	26458	ex 9M-MQA, reg'd 21.08.15, ferried Baku – Crotona 29.8.15	
YR-AWH	737-4H6	26444	ex 9M-MMB, reg'd 21.08.15, ferried Baku – Crotona 29.8.15	
Avior Airlines [9V/ROI]				
YV	737-401	23984	ex N417US, reg'n canx 22.09.15	
Conviasa [VO/VCV]				
YV1111	CRJ702	10270	ret to service after storage	
Air New Zealand [NZ/ANZ]				
ZK-NZC	787-9	41988	ex N789EX, dd 24.08.15	
Kiwi Regional Airlines				
ZK-KRA	Saab 340A	065	ex SP-KPG, reg'd 27.08.15	
Originair [OGN]				
ZK-ECI	JS 3201	946	ex ZK-JSU, dd 08.15, lsd fr/op by Air Freight NZ	
ZK-JSH	JS 3102	838	ex G-IBLW, dd 08.15, lsd fr/op by Air Freight NZ	

Comair [MN/CAW]				
ZS-SWE	737-8LD	40854	dd 06.08.15, op by Kulula	
Fly Blue Crane [7B]				
ZS-BBI	ERJ 145	223	ex N18982, dd 09.15, sub-isd fr/op by Solenta Aviation	
ZS-BBJ	ERJ 145	277	ex N13990, dd 09.15, sub-isd fr/op by Solenta Aviation	

Solenta Aviation [SET]				
ZS-BBC	ERJ 145	395	ex LX-LGJ, dd 10.09.15	
			ex-Luxembourg	
Silkway West Airlines [7L/AZG 'Silk West']				
VQ-BWY	747-830F	60120	ex N5509S, dd 14.08.15	
SriLankan Airlines [UL/ALK]				
4R-ABO	A320-214	4915	repainted into One World colours named 'City Of Gokanna'	
4R-ABP	A320-214	5086	ex F-WWYO, dd 14.08.15, 'City of Senkadagalapura'	
4R-ALO	A330-343E	1650		

Libyan Airlines [LN/LAA]				
5A-LAU	A330-202	1543	ex F-WWCT, dd 25.08.15	
Libyan Wings [YL/LWA]				
5A-WLA	A319-112	2878	entered service 21.09.15	
5A-WLB	A319-112	2954	ex D-AAAN, dd 09.15, lsd fr DAE Capital	
Fastjet [FN/FTZ 'Grey Bird']				
5H-FJF	A319-131	2308	ex EI-FGR, dd 28.08.15, lsd fr SMBC Aviation Capital, ferried to Dar-es-Salaam 29.08.15	

Flight Link				
5H-FLC	B1900C	UB-29	ex 5Y-BVV, reg'd 31.07.15	
Regional Air Services [BN/REG]				
5H-BZJ	Ce 208B	2310	ex 5Y-BZJ, reg'd 25.06.15, lsd fr Air Kenya Express	
Kabo Air [N9/ONK]				
5N-RDK	747-4F6	28959	ex VQ-BHW, dd 03.09.15	
			Manchester – Kano, lsd fr Babcock & Brown, originally name 'Ronnie' then re-named 'HH Muhammad Sanusi II'	

Air Madagascar [MD/MDG]				
5R-EBA	737-860	40965	ex ET-APL, dd 19.08.15	
			Addis Ababa – Antananarivo, lsd fr ICBC Leasing	

Jambojet [JX]				
5Y-QUE	Dash 8-Q402	4065	ex G-JEDK, updates previous	
Kenya Airways [KQ/KQA]				
5Y-KZH	787-8	36045	ferried Charleston – Paine Field 01.09.15 for temp storage, reg'd N889BA to Boeing 03.09.15	
			ferried Charleston – Paine Field 01.09.15 for temp storage, reg'd N892BA to Boeing 03.09.15	
5Y-KZJ	787-8	36046		

Rudufu Ltd				
5Y-SKN	Fokker 50	20110	ex PH-GER, not op by Skytrail	
5Y-SVN	Fokker 50	20116	ex PH-GHK, not op by Skyward	
Silverstone Air Service				
5Y-	F27 500	10471	ex HP-1604PST	
5Y-	F27 500	10658	ex HP-1631PST	

Malawian Airlines [3W/MWI]				
ET-ARB	737-708	30687	ex N981LF, dd 12.08.18	
			Addis Ababa – Lilongwe, sub-isd fr Ethiopian Airlines	



European Coastal Airlines [CC/ECB 'Coastal Clipper']				
9A-T0B	DHC-6-300	244	ex HB-LRJ, dd 28.08.15	
Kuwait Airways [KU/KAC]				
9K-APC	A330-243	1653	ex F-WWCI, dd 12.08.15, lsd fr International Airfinance Corp	
FlyFirefly [FY/FFM]				
9M-FIG	ATR 72-600	1262	ex F-WWEN, dd 28.08.15	
Scoot [TZ/SCO 'Scooter']				
9V-OFB	787-8	37118	dd 29.08.15, Charleston #79, named 'Lickity-Split'	
Silkair [MI/SLK]				
9V-MGL	737-8SA	44228	dd 14.08.15	
Singapore Airlines [SQ/SIA]				
9V-SSH	A330-343E	1648	ex F-WWKU, dd 21.08.15	
Singapore Airlines Cargo [SQ/SQC]				
9V-SFL	747-412F	32897	ferried Victorville – Singapore SIN 03-04.09.15 for ret to service after storage	

Manufacturers

Airbus [AIB]				
N831JM	A300B4	220	reported for Transcarga Dominicana seen at Sanford 07.08.15, repainted into Serna Linhas Aéreas colours, a new Brazilian carrier	
N834JM	A300B4	236	Armenian Government, rr 701	
EK-RA01	A319-132	0913		
D-AVVB	A320-251N	6642		
F-WWIV	A320-271N	6720		
2-CRRT	A330-343	1098	reg'n canx 27.07.15, rr PH-IBC	
OE-IDX	A320-232	1771	ferried San Jose SJO – Woensdrecht 09-10.08.15 prior to lease to British Airways	
N60FC	ACJ320-232	4388	ferried San Antonio SKF – Fort Worth AFW 25.08.15 for continued outfitting	
B-54111	ACJ319-115	5792	ferried Toulouse – Shanghai SHA 16.08.15 after outfitting	
F-WJKN	A340-313X	242	ferried Châteauroux – Lourdes 31.08.15 after painting into Surinam Airways colours	
F-WWCT	A330-202	1543	ferried Teruel – Toulouse 18.08.15	

Antonov				
RA-11414	An-12BK	6507	rr RF-94210, Russian Air Force, coded '10 red'	
UR-NTC	An-148	01-09	rr UR-UKN	

ATR				
OY-YAL	ATR 42-500	534	reg'd to NAC Aviation 8.02.09.15	
F-WKVC	ATR 42-600	1002	ferried Toulouse – Belgrade 14.08.15, rr F-WTDY	
F-WKVD	ATR 42-600	1005	ferried to Belgrade 03.09.15	
F-WWER	ATR 72-600	1242	dd 14.08.15 to Aviation Airframe Holdings, rr F-WTDS & st Nordic Aviation Capital same day, ferried to Montpellier 15.08.15	

Beechcraft (Textron Aviation) [BEC]				
N1900L	B1900D	UE-185	st Dynamic A/lease 27.08.15	
Boeing [BOE]				

N320SC	737-4Y0	26069	cnvrt'd to 737-4Y0(F) at Miami	
N4973S	737-3L9	27833	ferried Kuala Lumpur SZB – Ras al Khaimah 15.08.15	
N237SC	737-430	28490	V51A-737 LLC, reg'n canx 23.09.15, exported to San Marino (T7-)	
N285EA	737-56N	28565	ferried Lasham – Bournemouth 27.08.15, being repainted into Azman Air c/s	
N292GL	737-5L9	29235	seen at Bournemouth 21.08.15 in full Azman Air colours	
N902JJ	737-33V	29338	Jetran LLC, reg'n canx 25.08.15, exported to Jordan	
N674AC	737-7L9	28006	ferried Norwich – Fort Worth FTW 13-14.08.15, repainted into Eastern Air Lines colours & ferried to Miami 03.09.15	
M-GEAA	737-7JW	38408	reg'n canx 13.08.15 to Cayman Islands	
B-6061	737-89P	41383	ferried Boeing Field – Marana 09.15 for Hainan Airlines	
N418AR	737-8Q8	41810	reg'd 11.09.15 to Boeing Co	
N805DS	737-8FV	44148	reg'n canx 11.09.15, to US Navy as 168856	
N590DS	737-8FV	44149	dd 20.08.15 to Boeing I.D.S, for US Navy as 168857	
N931DS	737-8FV	44952	reg'd 17.09.15 to Boeing Co	
N839BA	737-73Q	62699	reg'd 23.09.15 to Boeing Co	
A6-PFA	747-8Z5	37500	named 'El Emarat'	
N273DH	757-2Q8	27351	ferried Lasham – Cecil Field 08.15 for cargo conversion	
N309DH	757-23N	29330	ferried Lasham – Cecil Field 08.15 for cargo conversion	
N294DH	757-2Q8	29442	ferried Lasham – Cecil Field 09.15 for cargo conversion	
N324BC	767-338	25274	ferried Lake Charles – Calgary 08.15 in full WestJet colours	
4X-AGM	767-328	27135	cnvrt'd to 767-328ER (F/MRTT) by IAI Bedek, ferried Tel Aviv Amsterdam 06.09.15	
VQ-BMU	767-328	27427	ferried Shannon – Porto Alegre 26.08.15 for maintenance after storage	
N509BJ	777-3SB	62439	reg'd 23.09.15 to Boeing Co	
N511BJ	777-3SB	62440	as 62439	
N887BA	787-8	37306	reg'd to Boeing 28.08.15	
N508BJ	787-8	44572	dd 10.08.15, to Brunei Royal Flight, Charleston #76, ferried to Waco TSTI 08.15 for outfitting	

British Aerospace				
N343TE	JS 3201	955	restored to reg 14.09.15 to MZ Aircraft Management	
N767KM	JS 4101	41021	exported to Côte d'Ivoire	
A6-LIW	Avro RJ70	E1267	st Bernard Ecclestone, rr M-STRY 07.08.15	

Canadair [BBA]				
N763TM	CRJ200	7363	Regional One, reg'n canx 14.09.15, exported to Peru as 7363	
N874TM	CRJ200	7379	ferried to Toronto 08.08.15	
C-GMXZ	CRJ900	15180		

Convair				
N150PA	VT-29B	278	st Ultra Aviation Management	
N156PA	VT-29B	324	as 278	

Key to Abbreviations

a/c	aircraft
als	airlines
avys	airways
bf	bought from
b/u	broken up/scrapped
canx	cancelled
cls	colours
cn	manufacturer's construction/serial number
cnvrt'd	converted
dbf	destroyed by fire
dbf	damaged beyond repair
dd	delivery date
ex	previous reg'n
ff	first flight
frtr	freighter
lrf	last revenue flight
isd fr	leased from
isd fr	leased to
msn	see cn
ntu	not taken up
oo	on order
op	operated
pax	passenger
pwfu	permanently withdrawn from use
reg'd	registered
reg'n	registration
ret fr	returned from
ret to	returned to
rr	re-registered
rts	return to service
sb	sold by
scr	scrapped/broken up
st	sold to
std	stored
tba	to be advised
unk	unknown
wfu	withdrawn from use
w/o	written off/destroyed

Thanks to Dave Richardson and LAASI Aviation for the above

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The latest news from maintenance, repair and overhaul providers



Flybe Secures ATR Tie-up

British regional carrier Flybe has signed a six-year global maintenance agreement with ATR. The contract covers the airline's five new 70-seat ATR 72-600 turboprops, the first two of which are now flying from Stockholm Arlanda on behalf of SAS Scandinavian Airlines. Under the terms of the agreement, European manufacturer ATR will provide Flybe with comprehensive technical support including management of the spare parts inventory on lease at airline's premises, propeller maintenance and availability and repair and overhaul of line

replaceable units (LRU) such as landing gear and fuel nozzles. Announcing the deal at MRO Europe in London on October 14, Flybe's Chief Operations Officer Luke Farajallah said: "The Global Maintenance agreement will help us ease maintenance costs and tasks, while providing accurate timely service as well as the expertise and knowledge direct from ATR. We are delighted to be extending our partnership so early into the relationship, and it bodes well for a positive future together." (Photo Simon Murdoch)

AJW Selects Rockwell Collins

Rockwell Collins has been awarded a five-year fixed price repair contract by AJW Group. The agreement, announced at MRO Europe on October 14, covers the maintenance of Rockwell Collins' equipment fitted on AJW customers' aircraft, including the Airbus A320 and the Boeing 737, 747 and 767. Thierry Tosi, Vice President and General Manager, Service Solutions for Rockwell Collins commented: "This contract solidifies a long-standing relationship that we have with AJW through our services business, as well as our Intertrade subsidiary. We'll be working with AJW to provide predictable maintenance costs and around-the-clock repair services to hundreds of aircraft around the world."

Airlink Opts for New-Look JetSpares

Airlink is the first customer to sign up to BAE Systems Regional Aircraft's newly remodelled JetSpares Rate-Per-Flying-Hour (RPFH) programme. The three-year agreement will provide the carrier's fleet of 12 Avro RJ85s with customised rotatable spares support, under which BAE Systems Regional Aircraft will manage the airline's spares inventory, logistics and repairs. This includes some 500 parts including landing gear components, windscreens and avionics while the firm will also maintain an on-site stock at the carrier's Johannesburg base. Regional Aircraft was one of the first aerospace companies to introduce RPFH and has now accumulated over 3 million flying hours on its two programmes – JetSpares for the BAe 146/Avro RJ fleet and Material and Component Repair and Overhaul (MACRO) for turboprops. These initiatives have recently undergone extensive review with the aim of reducing cost and securing third-party spares supplies into the longer term. The latter includes new agreements with 15 vendors covering 525 different components. "The majority of these vendors are original equipment vendors who see continued merit in continuing to support the aircraft for the long term," Sean McGovern, Managing Director of BAE Systems Regional Aircraft explained. "We have also selected [original equipment manufacturers] OEMs and repair stations based on the quality of repairs."



New Interiors for Air Europa

Spanish carrier Air Europa has selected SR Technics to complete cabin refurbishments on its Airbus A330 fleet. Under the terms of the contract – due for completion between January and June 2016 – the Swiss MRO will install Panasonic Avionics' Global Communication Suite (GCS) on 12 aircraft, while three of these examples will also be fitted with new Stelia business class seats, Zodiac Inflight Innovations' RAVE IFE system and high-speed wireless connectivity. "SR Technics' Center of Excellence for complex cabin modifications in Zurich

is an industry leader in terms of flexibility, quality and downtime," Air Europa's Maintenance and Engineering Director Alberto Lines said. "We were therefore very pleased to have secured its unique and competitive services. Moreover, this new contract is the latest milestone in our long-lasting partnership with SR Technics. Thanks to this MRO's expertise, by the second half of next year these 12 A330 aircraft will offer our passengers an ultramodern, comfortable and high-tech flying experience." (Photo AirTeamImages.com/Jan Ostrowski)

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Superbly illustrated articles cover the type's complex and at times troubled development and the expansive flight test programme that followed its first flight. We go behind the scenes with several A380 operators, learning about the decisions behind their multi-million pound acquisitions, how they use the aircraft and its impressive performance statistics.

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The latest training aids available for the aviation professional

ScanSim Approved in Colombia

A Thales ScanSim Air Traffic Control (ATC) simulator has passed an acceptance test by the civil aviation authority of Colombia.

The completed simulator, which will be used by students trained by the country's Centre for Aeronautic Studies, will house seven positions

for en route training. It also includes a 360° ATC Tower Simulator with six positions which is modelled on Bogota Airport, and will be capable of providing future modelling of other airports. This follows the signing of an initial contract in December 2014. (Photo Thales)



easyJet's Gatwick Academy

The UK's Transport Secretary Patrick McLoughlin has opened a new state-of-the-art training facility for low-cost carrier easyJet at Gatwick Airport.

Classrooms, a cabin simulator, evacuation slide and fire training rig are included in the carrier's £2.7 million investment to cater for continuing growth.

The Gatwick Academy, situated within Concorde House, will train pilots and crew from bases across Europe.

The airline has also announced a drive to recruit more than 1,000 cabin crew and pilots over the next 12 months.

Many of them will be trained at the Gatwick facility, which will also boost the skills of the existing workforce – enabling the airline to promote 200 cabin crew to cabin managers and 140 first officers to captains.

Around 40% of easyJet's existing 7,000 flight crew will also use the new site to complete their annual safety and refresher training.

'Fast-Track' Pilots for Wizz Air

Training provider CTC Aviation has launched two new routes to the Wizz Air flight deck. Its CTC WINGS 'Fast-Track' airline pilot career programmes will enable private pilot licence (PPL) holders with additional flight experience (more than 154 hours in total) to join the low-cost carrier after completing one of the programmes.

Formal employment with Wizz Air, on an initial training salary, will be offered to the students on completion of the course and prior to any Airbus A320 type rating training.

ATC Graduations

Students training on Saudi Arabia's latest General Authority of Civil Aviation (GACA) course have graduated from the two-year intensive programme to become air traffic controllers (ATC). The training in Sweden was organised into two terms of general English and Aviation English studies followed by two more of Initial ATC training. The curriculum encompassed basic, aerodrome, approach procedural and surveillance and other advanced aspects of air traffic management.

First Officer Placement Programme

BA CityFlyer has launched a new First Officer Placement Programme, offering a work placement and sponsored employment opportunity exclusively to a modular trained pilot. The course conducted in partnership with Kura Aviation, is designed to progress the successful applicant towards a full time, permanent role as a first officer with the carrier.

General Manager Flight Operations, Captain Carl Phelan, stated: "We are committed to employing and supporting modular trained pilots, and so have created this new placement and sponsorship opportunity specifically designed for a pilot from the CPL/IR [Commercial Pilot Licence/Instrument Rating] stage of their career." (Photo CityFlyer)



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Andre Sousa

CAE OAA Graduate & Ryanair First Officer

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Information
for the
traveller.

Flyathon Fundraiser at Newcastle

The Flight Sim Centre, based at Newcastle Airport, staged a 24-hour event on October 24 to 25 to raise funds for the Great North Air Ambulance Service (GNAAS). Those taking part had a chance to test their skills on a Boeing 737 flight simulator, flying challenging approaches at airports, such as the famous Hong Kong Kai Tak. Alternatively they could shoot a circuit at Newcastle Airport, London Heathrow or New York John F Kennedy enabling them to "really feel what it's like to be the captain of a passenger jetliner". Owners Neil and Amanda McCarthy,

from Seaton Burn, Tyne and Wear opened the centre in July offering flight simulation experiences to the public. Amanda explained: "We wanted to support GNAAS because we are on their flight path so we always see them flying overhead. They are a local charity and you never know when you might need them."

The flyathon raised £1,151 and the Flight Sim Centre will also be donating 20% of its Christmas gift voucher sales throughout November and December 2015 to the charity.

(Photo Key – Richard Benedikz)



Trouble with Transits

Dear Editor

I was very interested to read in the latest issue of *Airliner World* that Ryanair are considering interlining. It might consider [offering] a better service for its passengers transiting Stansted (STN) with their own flights. Friends of mine from Poznan (POZ) flew to Dublin in August via STN on two Ryanair flights. At POZ they were given boarding cards for POZ-STN and STN-DUB. The transit time was 2 hours 30 minutes at Stansted (15.55-18.30). However they were dismayed that there appeared to be no transit facility, so they were directed to join the huge August queue for immigration and then had to join the equally long departures queue for security. This process took over one hour, and they tell me they will never use STN again. Why doesn't the airport provide a transit facility, as there must be many travellers from Europe transiting via STN to onward destinations in the UK and beyond? They sent a feedback email querying the situation, but received no reply.

Regards, **David Clegg**

New Seats Reduce Boarding Times

US-based Molon Labe Designs has introduced a staggered slim-line seat, dubbed the Side-Slip Seat, aimed at the low-cost, short-haul airline market. The new design will increase the width of the aisles when on the ground from the standard 19in (48cm) to 41in (104cm), allowing passengers to embark and disembark faster, resulting in quicker turn-around times. The staggered design works by moving the middle seat down and back slightly while the aisle and window seats move up and forward by the press of a button. The middle seat is 20in (51cm) wide whilst the aisle and window seat will be the standard 18in (51cm). According to the manufacturer, the Side-Slip Seat will also permit full-sized wheelchairs to fit in the aisle, giving passengers of restricted mobility more room to get to their seats.

The Side-Slip Seat is currently completing FAA certification and durability testing with deliveries expected to begin in mid-2016.

Women in Aviation



Following on from the centennial anniversary of World War One, the 100 Years of Women in Transport campaign was launched by Transport for London to pay tribute to the 100,000 women who contributed to the industry during the conflict.

It also acknowledged the women who pioneered their way in aviation including First Officer Ann Bostock. She joined British Caledonian Airways in 1976 and flew as a co-pilot on British Aircraft Corporation One-Elevens from June that year on the domestic routes before taking the left hand pilot's seat and flying a Gatwick - Glasgow service as captain.

Events

Enthusiast shows and events worldwide may be listed here – FREE of charge. Organisers are invited to send correspondence to the editorial department (email: airlinerworld@keypublishing.com) or visit our website at www.airlinerworld.com

Nov 15

Heathrow Aircraft Enthusiasts' Fair, Kempton Park Racecourse, Sunbury-on-Thames, UK, TW16 5AQ
Keith Manning Tel: +44 (0)1423 862256
email: keith768@btinternet.com or go to www.aircraftenthusiastfair.co.uk

Nov 22

Dublin Air Fair – The Carlton Hotel next to Dublin Airport, Republic of Ireland
<http://aviationfair.wix.com/aviationfair>

Nov 22

Aircraft Enthusiast Fair and Model Show – Museum of Army Flying, Middle Wallop, Hampshire, UK, SO20 8DY
Mark Roberts, tel: 01264 334779
email: mark@roberts15863.fsnet.co.uk

Nov 22

Dublin Aviation Enthusiasts Fair – The Carlton Hotel next to Dublin Airport, Republic of Ireland
aviationfair@hotmail.com or
<http://aviationfair.wix.com/aviationfair>

Jan 03, 2016

Croydon Airport Aviation & Airline Collectors Fair – Hallmark Hotel, Purley Way, Croydon, Surrey, UK, CR9 4LT. Aviation Antiques 07973 885754 or davidsutton16@aol.com

Jul 20-23, 2016

Airliners International 2016 – Hilton New Orleans Airport, New Orleans, Louisiana, USA
www.ai2016msy.com

Shows/Displays

Nov 17-19

NBAA, Las Vegas, Nevada, USA
www.nbaa.org

Jan 21-23, 2016

Bahrain International Airshow, Sakhr Air Base, Bahrain
www.bahraininternationalairshow.com

Feb 17-19

Routes Americas, San Juan, Puerto Rico
www.routesonline.com

Mar 6-8

Routes Asia, Manila, Philippines
www.routesonline.com

Mar 8-10

Abu Dhabi Air Expo 2016, Al Bateen Executive Airport
www.adac.ae, www.adacmediacentre.com

Apr 5-7

Aircraft Interiors Expo, Hamburg, Germany
www.aircraftinteriorexpo.com

Apr 5-7

World Travel Catering & Onboard Services, Hamburg, Germany
www.worldtravelcateringexpo.com

Apr 24-26

Routes Europe, Kraków, Poland www.routesonline.com

May 24-26

European Business Aviation Convention & Exhibition (EBACE), Geneva, Switzerland www.ebace.aero

Jul 11-17

Farnborough International Airshow, Farnborough, Hampshire, UK www.farnborough.com

Events are subject to change without Airliner World's knowledge. Please check details prior to travel.

Etihad Launches Mobile Exhibit

Etihad Airways has launched a new mobile exhibition to give commercial partners and passengers first-hand experience of its new cabin and in-flight service. The model, weighing approximately 22 tonnes and measuring 52.5ft (16m), includes full-size mock-ups of The Residence, the world's only three-room cabin on a commercial airline, and the First Apartment – both currently available on the carrier's Airbus A380 fleet. The First Suite, Business Studio and Economy Smart Seat, which also features on the Boeing 787 Dreamliner, form part of the display as well. Peter Baumgartner, Etihad Airways' Chief Commercial Officer, said: "The Etihad Airways Mobile Exhibition will give our corporate and industry partners an understanding of the innovation and creativity which went into designing these industry-leading cabins."

The first phase of the tour started on September 24 in Zürich and was then bound for Munich, Frankfurt, Hannover, Düsseldorf, Paris, Lyon, Strasbourg, Cannes, Milan, Torino and Bologna before ending in Amsterdam on December 14.

The second phase will start in January next year and will see the Etihad Airways exhibition visit the UK, Ireland, Belgium and Spain, followed by repeat visits to the cities included in the first phase of the tour. (Photo Etihad Airways)



Final Call... Top Ten Airport Peeves

A survey by online travel agency www.sunshine.co.uk has revealed the top ten airport annoyances experienced by Britons – with queues, the high cost of food and drink, and busy terminals at the top of the list. Furthermore, the majority of Britons say they find the airport experience "very" stressful. The survey was carried out as part of an ongoing study into the holiday experiences of the British public. The poll asked 1,952 travellers aged 18 and over who had travelled via an airport in the last six months. Of the people who took part, nearly a quarter said they "always" drank alcohol in an airport, with 37% of those saying they drank to make the airport experience "more bearable".

The Top Ten Airport Annoyances

Queues	79%
Price of food/drink/items	68%
Busy terminals	47%
Hyperactive children	32%
How far apart everything is	27%
Waiting for baggage	24%
Priority boarders	17%
Rude staff	16%
Handing over boarding pass for purchases	11%
Strictness of procedures	5%

DC-3 Service Takes Off

Air Chathams has launched a summer schedule with its Douglas DC-3, ZK-AWP (c/n 33135) between Auckland and Whakatane, New Zealand. It is the only regular DC-3 flight in the southern hemisphere and will run every weekend from October 24 until March 20 next year. For more information, go to the following link: <http://www.airchathams.co.nz/whk-dc3.html>
(Photo AirteamImages.com/Colin Hunter)

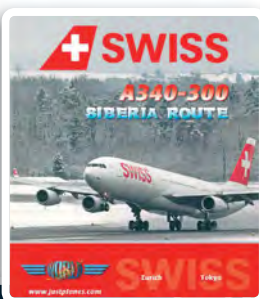


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A review of the most recent books, DVDs and models.



Swiss International Air Lines Airbus A340-300 Blu-Ray

(Justplanes.com, Ref BR061, www.keypublishing.com/shop, £19.49)

Just Planes continues its popular series featuring Swiss International Air Lines. On this journey you join Captain Luciano Covolan and his crew on a return flight from Zurich to Tokyo Narita International Airport onboard one of the carrier's Airbus A340-300s. The 225-minute programme focuses on the challenges of operating the northern Siberia route during the middle of winter, encountering extreme weather conditions and a lack of suitable diversionary airfields.



Kenya Airways Boeing 787 Dream Girls Blu-Ray

(Justplanes.com, Ref BR060, www.keypublishing.com/shop, £19.49)

Just Planes returns to the Pride of Africa, Kenya Airways, to look at the carrier's new Boeing 787 Dreamliners. With the aircraft now the backbone of its international operations, the airline assembled an all-female crew for this round-trip from Nairobi to Kinshasa.

DC-8 & The Flying Tiger Line

(Charles Kennedy & Guy Van Herbruggen, Astrel Horizon Aviation Press, hardback, illus, 170 pages, £24.99, www.theairlineboutique.com, ISBN: 978-0-9932604-0-7)

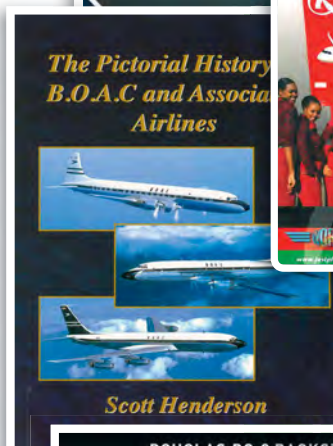
This book tells the story of the Douglas DC-8 jetliner in service with the pioneering air cargo giant Flying Tiger Line. It features detailed histories of all 47 aircraft that served with the carrier, backed-up by pilot recollections, photographs, and technical and promotional material – a 'must have' for any Douglas aficionados.



The Pictorial History of BOAC and Associated Airlines

(Scott Henderson, SCOVAL Publishing, hardback, illus, 184 pages, £40.00, www.scovalpublishing.com, ISBN: 978 1 902236 14 8)

This comprehensive book covers the formation and evolution of the UK's first long-range carrier, British Overseas Airways Corporation (BOAC), and some 34 associated companies. Illustrated with many previously unseen photographs, it charts possibly the most complex series of airline formations in the history of commercial aviation.



Comet – Unseen Images from the Archives

(Bruce Hales-Dutton, Danann Publishing, hardback, illus, 148 pages, £29.99, www.wordery.com, ISBN: 978 0 993016 92 9)

The de Havilland DH 106 Comet revolutionised commercial air travel when it entered service in 1952, inspiring a post-war public with its pioneering jet engines and sleek design. This book is packed with rare and unseen images and memorabilia illustrating the fascinating history of Sir Geoffrey de Havilland's famous design.



Jetliner Cabins App

(Jennifer Coutts Clay, www.jetlinercabins.com)

Readers may be familiar with Jennifer Coutts Clay's book, Jetliner Cabins, which was first published in 2003. It is the only comprehensive survey of the aircraft cabin environment from the 1970s to the present day. Now there is a new way to enjoy the current and classic content from Jetliner Cabins, following its launch as an interactive app for Apple, Kindle and Android-based mobile devices. It is an ideal source for those wanting to learn, or simply reminisce, about the evolution of airline cabins and in-flight service.



Douglas DC-3 Backstage

(Francisco Agullo and Michael Prophet, AS Verlag, hardback, illus, 104 pages, €39.90, www.as-verlag.ch, ISBN 978-3-906055-26-8)

Released to coincide with the 80th anniversary of the first flight of the ubiquitous Douglas DC-3, this photo book is a tribute to the people and organisations that help to restore and maintain the last remaining airworthy examples.



McDonnell Douglas MD-11 Aviation Calendar 2016

(Felix Gottwald, A3, €23.95, www.felixgottwald.net/product/md-11-aviation-calendar-2016, ISBN: 978-3-00-050724-3)

The only McDonnell Douglas MD-11 Calendar is back for 2016. It features 12 stunning images of one of the popular tri-jets and is the perfect calendar for home or office, "no matter if you are an aviation geek or just someone who likes to enjoy marvellous machinery", says Felix.

Biman Bangladesh Airlines DC-10 Farewell Tour

(Astrel Horizon Aviation Press, DVD, £18.99, www.theairlineboutique.com)

This double DVD covers the retirement of the world's last passenger flying Douglas DC-10. The footage follows the Biman Bangladesh example on its nine-flight farewell tour from Birmingham in February 2014, along with coverage of its return to Dhaka. This is a handy memento for anybody lucky enough to have flown on the tri-jet and is a fitting celebration of one of the legends of the skies.

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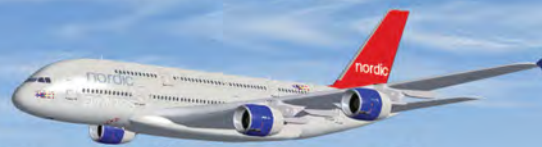
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! Air Safety

Reports and details of recent incidents.

Malaysia Airlines MH17

A Dutch Safety Board report on the crash of a Malaysia Airlines Boeing 777-200 in Ukraine on July 14, 2014 has concluded that the aircraft broke up after a surface-to-air missile exploded close to the flight deck. All 298 occupants of flight MH17 were killed. The Board established that the weapon system used was identified on the basis of the damage pattern on the wreckage; the fragments found in the wreckage and in the bodies of crew members; and the way the aircraft broke up. The findings are supported by the data from the flight recorders. The Board also said airspace over eastern Ukraine should have been closed by authorities, given the ongoing armed conflict in the area.

A Million Drones for Christmas

The FAA has predicted that as many as one million small unmanned aerial vehicles (UAVs) – drones – could be sold during the Christmas holiday in the US. Rich Swayze, Assistant Administrator for Policy, International Affairs and Environment, said the FAA is trying to inform the public about safety issues associ-

ated with small UAVs. Meanwhile, Hawaiian Airlines President and CEO Mark Dunkerley, speaking at a recent aviation conference, said: "From an operating perspective, [small UAVs are] a very serious issue and there's considerable concern that it's going to end in tears."

British Airways 777 Incident

The US National Transportation Safety Board's (NTSB's) update on the engine failure of a British Airways Boeing 777 at Las Vegas on October 6 has pinpointed the specific location of the failure, which sparked a fire that forced the pilots to abort the take-off. "Engine examination revealed that a portion of the stage 8-10 spool in the

high-pressure compressor [HPC] section had failed, liberating fragments that breached the engine case and cowling," the NTSB said. "Additional pieces of the HPC spool were recovered from inside the engine and retained for metallurgical examination. The fracture initiated in the HPC stage 8 disk web, a part of the stage 8-10 spool."

A Singapore Airlines Airbus A330-300 suffered a nose gear retraction incident on the morning of 11 October while parked at Changi Airport. The aircraft, 9V-STG (c/n 1012), had been undergoing a landing gear system check at the time of the incident, which caused significant damage to the nose gear wheel well and radome, while Door 1L — which was attached to an air-bridge — was sheared off. An engineer, who was onboard the jet at the time, was unhurt.

ROY CHOO

Gear Retraction in Singapore



DATE	REG'N	C/N	TYPE	OWNER	FATALITIES	LOCATION	NOTES
Sep 15	C-FXLO	52022	Pa-31-350	Keystone Air Service	-	Canada	Crashed into trees after take-off
Sep 15	N928RK	61	DHC-3 Turbo Otter	Rainbow King Lodge	3	USA	Crashed after take-off
Sep 15	n/k	n/k	Mil Mi-8	Syrian Air Force	2	Syria	Shot down by rebels
Sep 15	A7-BAC	36010	777-3DZ	Qatar Airways	-	USA	Damaged after hitting approach light on take-off
Sep 16	RA-35141	1G112-23	An-2R	Yenisei Airline	-	Russia	Substantial damage after forced landing in woods
Sep 21	N22JS	721-28	Aero Commander 680	Private	-	USA	Crashed on landing
Sep 21	N813CA	0894	Ce 421B	Blue Hansa	-	USA	Damaged in undercarriage collapse on landing
Sep 24	YU-BSW	0248	Ce 421B	STS Avijacija	1	Bosnia	Crashed into mountains
Sep 25	PR-GXP	41163	737-8EH	Gol Linhas Aéreas	-	Brazil	Damaged after runway excursion prior to take-off
Sep 25	N302JA	0611	Ce T310Q	Celestial Knights	1	USA	Crashed into woods
Sep 25	VH-FGK	0852	Ce 550	Yulgilbar Pastoral	-	Australia	Damaged in rejected take-off and runway excursion
Sep 25	C-GTXW	30386	Curtiss C-46A	Buffalo Airways	-	Canada	Damaged after emergency gear up landing
Sep 28	N177PG	54051	Pa-23 250	Private	-	Bahamas	Ditched after loss of engine power
Sep 30	LX-LGH	4420	Dash 8-Q402	Luxair	-	Germany	Undercarriage collapse after aborted take-off
Oct 2	C-GCMD	12101	Pa-31	KASI Aviation Services	1	Nicaragua	Crashed on geological survey flight
Oct 2	PK-BRM	741	DHC-6-300	Aviastar Mandiri	10	Indonesia	Impacted terrain en route
Oct 2	DU-SD4	132	DHC-6-200	Skydive Dubai	-	Dubai	Crashed on landing
Oct 2	n/k	n/k	C-130J Hercules	USAF	13	Afghanistan	Crashed shortly after take-off
Oct 3	HK-3909G	12070	Pa-31-325	Private	2	Colombia	Crashed shortly after take-off
Oct 3	G-BYCP	BB-966	B200 King Air	London Executive Aviation	2	UK	Crashed shortly after take-off
Oct 4	S-8527	4444	C-130H	Iran Air Force	-	Iran	Struck by wing of A320 on ground
Oct 4	EP-ZAI	376	A320-231	Zagros Airlines	-	Iran	Struck C-130 on pushback on ground
Oct 5	N577ZB	1663-12	Aero Commander 680	Private	2	Venezuela	Crashed into desert
Oct 6	9G-SBB	E3123	BAe 146-300	Starbow	-	Ghana	Damaged in runway overrun on landing
Oct 11	XW229	1185	Westland Puma	RAF	5	Afghanistan	Destroyed in landing accident
Oct 12	YA22382	2382	Ce 208B	Afghan Air Force	2	Afghanistan	Crashed into terrain
Oct 12	SU-BMZ	129	A300B4-203F	Tristar Air	-	Somalia	Forced landing off airport after fuel problem
Oct 14	N33FA	0502	Ce 421B	SD Management	2	USA	Crashed after engine problems
Oct 14	PR-MIC	0841	Ce 208B	Microsurvey Aerogeofisica	3	Colombia	Crashed into terrain on survey flight
Oct 18	HK-3917G	P-410	B60 Duke	Private	6	Colombia	Crashed into houses shortly after take-off
Oct 19	LV-ZSZ	235	Learjet 35	Top Air	-	Argentina	Destroyed in take-off accident

Safety with Proflight Zambia

Rigorous application and enforcement of international safety standards are vital to ensuring continued confidence in the industry locally and overseas, said the Commercial Director of Proflight Zambia, Keira Irwin, at the recent African Aviation Safety Works symposium on African aviation safety.

Proflight Zambia has completed the second of three workshops under the International Air Transport Association (IATA) Operational Safety Audit (IOSA) initiative as part of its work towards achieving the top safety accreditation standard in the global aviation industry. Attaining IOSA accreditation will raise the carrier's safety credibility so that it can more easily agree code-share agreements with international airlines, and possibly make a case for exemption from the EU ban list on Zambian-registered aircraft.

JANUARY 2016 ISSUE... Deadline: **Wednesday 18th November** • On-sale: **Wednesday 9th December**

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The idea of a low-cost long-haul airline has been around for decades, but while many have tried, very few have succeeded. However, this trend is rapidly changing, particularly in the Asia-Pacific region where a growing middle class is creating new leisure travel demand, and markets in the region are often separated by vast distances.

For now, it remains a niche sector and, with high set-up costs and no guarantee of short-term profitability, most of the region's leading long-haul budget carriers are offshoots of deep-pocketed flag carriers.

One such example is Scoot, which was established in 2011 as an international medium- to long-haul no-frills subsidiary of Singapore Airlines (SIA).

The carrier adopted an ambitious growth strategy from the outset – since launching its first service (from Changi to Sydney) on June 4, 2012, it has expanded its network to cover 16 destinations, including four in

Scoot is an important string to SIA's bow and enables the group to serve previously inaccessible markets.

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ANDREW HUNT

Scoot

Dream Start

fly

JA

Backed by its parent company, Singapore Airlines Group, 'young at heart' budget carrier Scoot has grown at an unprecedented rate since it launched operations in 2012. The arrival of its first Boeing 787s has enabled it to embark on an even more ambitious expansion plan, as **Roy Choo** reports.



otitude

Scoot CEO Campbell Wilson poses alongside his 'Scootees' at the handover of the carrier's first Boeing 787 Dreamliner in February 2015. ROY CHOO

Australia along with Bangkok, Osaka, Seoul, Taipei, Tokyo and a host of secondary cities in China.

Scoot is also popular with the travelling public. It recently carried its five-millionth passenger and, this year, ranked as one of independent review company Skytrax's top ten low-cost airlines in the world (and third in Australia/Pacific).

Market-Driven

The SIA Group has seen its passenger traffic slump over the past decade in the face of



mounting pressure from its rivals – particularly the Gulf's 'big three' airlines, Emirates, Etihad Airways and Qatar Airways, and the proliferating number of low-cost carriers

operating in the region.

Scoot is the cornerstone of a long-term strategy to restore growth and capture a bigger share of the growing leisure market.

The SIA offshoot's CEO, Campbell Wilson, told *Airliner World*: "The [low- >>



cost carrier] LCC revolution came to Southeast Asia in 2003 and, within eight years, the penetration rate had risen to 30% in Singapore.

"Although we had that covered with Tigerair [a Changi-based no-frills airline part-owned by SIA], the natural progression was for people to want to fly longer than just [the] four hours then available on narrowbody LCCs.

"It was unreasonable to expect people to jump straight from there to premium SIA and we were starting to see other airlines introducing longer-haul LCC services. That was a threat both to the Singapore hub and the wider SIA Group – hence Scoot was started to fill that low-cost medium- to long-haul gap."

Rather than making its new subsidiary an arm of the existing Tiger Airways brand, SIA was keen that it developed its own distinct identity and elected instead to introduce an entirely new (and wholly controlled) company.

Scoot's launch was aided by an elite band of experienced executives seconded from SIA – including Wilson – though this team has since been largely replaced by new hires.

The Singaporean flag carrier also financed Scoot's \$221 million start-up capital, along with a subsequent cash injection of \$319m in May 2014 to fund the acquisition of a new fleet of Boeing 787 Dreamliners.

On a Budget

Eager to get the new airline up and running and at minimal cost, SIA initially transferred five 777-200ERs across to the low-cost division (increasing to six in late 2013).

The jets, originally equipped with a three-class layout, each underwent an \$8m refurbishment before redelivery. This included the installation of a 402-seat high-density cabin with 370 in Economy and a further 32 in ScootBiz, which is comparable to the Premium Economy product offered by many full service carriers.

Scoot's initial network development was aggressive and, within the first year, it had launched services to 11 destinations across Australia and Northeast Asia.

After a whirlwind start, the pace was decidedly slower in year two – new routes were opened to just two points, Hong Kong and Perth – and a planned hiatus enabled the carrier to rationalise and consolidate its operations.

Destination Changi

Though Scoot is predominantly a point-to-point carrier, its rapid growth can be largely attributed to its hub at Changi. Singapore is well-established as a strategic crossroads between Europe, Asia and Australia and this gives the LCC access to a high volume of transit traffic, both from its own flights and through its interline part-

Scoot is the cornerstone of Singapore Airlines Group's long-term strategy to restore growth and capture a bigger share of the growing leisure market.

AIRTEAMIMAGES.COM/TEK

OPPOSITE • Boeing 777-212ER, 9V-OTA (c/n 28507), was one of six examples transferred from Singapore Airlines to assist with Scoot's launch. The aircraft are now giving way to new-build 787 Dreamliners.

AIRTEAMIMAGES.COM/TEK

Scoot's initial fleet of Boeing 777s each underwent an \$8 million refurbishment before entering service, including the installation of a 402-seat high-density cabin.

AIRTEAMIMAGES.COM/DR FRIKKIE BEKKER



nerships with SIA Group affiliates and other third-party airlines.

These connections are aided by the budget carrier's pay-to-access 'Scoot-Thru' service, which means passengers can remain airside at Changi (rather than having to clear immigration) and pick up boarding passes for their onward flights via the carrier's transfer desk.

Elsewhere, Scoot and sister airline Tigerair expect to see further increases in transit traffic as they implement seamless booking across their websites.

As a wholly owned subsidiary of SIA, Scoot's network planning is done jointly with its parent company to broaden the group's footprint. "Because of our much lower cost structure compared to SIA, we can fly to untapped markets that would otherwise be unprofitable with a premium product," Wilson explained. "As an example, Scoot flies to secondary Chinese cities – Hangzhou, Nanjing, Qingdao, Shenyang and Tianjin – with an airfare half that of a premium carrier and at a price that people are prepared to pay, thus allowing the SIA group to expand its reach."

Jeddah and Hangzhou, previously destinations of SIA and its regional affiliate Silkair respectively, have been turned over to Scoot



scoot

IATA	TZ
ICAO	SCO
Callsign	SCOOTER
Hub	Singapore Changi
Fleet Size	9
Destinations	16
Website	www.flyscoot.com



Scoot's energetic and outgoing cabin crew, known as Scootees, are an important part of the carrier's image.

SCOOT

as the LCC's widebody aircraft and lower fare structure are better suited to meet market demand.

Surprisingly, Scoot competes directly against SIA to several destinations, but these are on carefully monitored routes where demand is sufficient to support both low-cost and full service offerings.

"We were the first airline to launch low-cost services in the Singapore-Sydney market," Wilson noted. "In the six months since we started flying, we increased the overall market by 33% and the vacation segment by a whopping 69%."

A Dream Start

Scoot's original fleet of second-hand 777s was always intended as an interim arrangement and its business plan

called for the replacement of the jets, which have an average age of 18 years, with more efficient aircraft from 2017 onwards.

This renewal programme accelerated after a strategic review by SIA revealed the 20 787-9 Dreamliners the flag carrier had ordered in 2007 would no longer meet its requirements.

Wilson explained: "With the amount of real estate SIA had given to First and Business Class, it concluded that it couldn't carry an economical number of passengers onboard. That's when we stepped in – we renegotiated the contract, converted ten of the orders to the smaller 787-8 and transferred their ownership to Scoot."

The first Dreamliner, 9V-OJA (c/n 37112), aptly named *Dream Start*, >>



"Because of our much lower cost structure compared to SIA, we can fly to untapped markets that would otherwise be unprofitable with a premium product."

Scoot CEO **Campbell Wilson**

was delivered to the LCC amid much fanfare in February 2015. It has since been joined by eight more (five 787-9s and three -8s), with deliveries due for completion by 2019.

Their arrival has enabled Scoot to gradually withdraw its 777s, the first of which was placed in storage in September – at the time of writing, just one, 9V-OTC (c/n 28509), remains in the fleet. It is currently used for charter flights, though its future beyond the end of 2015 is unclear.

Scoot has fitted its 787-9s with 375 seats – ScootBiz sits 35 in a 2-3-2 layout while the Economy cabin, which has nine-abreast seating, accommodates 340 passengers. The smaller -8 is similarly configured, with 21 and 314 in ScootBiz and Economy respectively.

Notably, the Dreamliner cabin features are almost indistinguishable from the 777's, save for the pay-to-access Wi-Fi and in-seat power supply. "Our original assessment of what we needed proved

to be quite accurate on the 777 so there wasn't a need to reinvent the wheel on our new fleet,"

Wilson said.

Like many

LCCs, Scoot has a strong focus on ancillary revenue and has introduced various innovations such as the child-free 'ScootSilence' cabin and the 'ScoopTV' in-flight entertainment system over which passengers can stream movie content to their own devices via Wi-Fi.

The arrival of the 787 has helped drive up Scoot's average load factors while, more significantly, the new Boeing jet is markedly more efficient than its ageing counterpart – the carrier reducing its average fuel burn per seat by 20%.

Moreover, operating both the -8 and -9 variants of the 787 has given Scoot the ability to 'right size' and better match capacity with demand. Wilson explained: "We have more freedom to maintain frequencies with the smaller aircraft [as demand dictates] and we can also open up more destination options on routes that are otherwise unable to support a 375-seat aircraft year round."

The new corporate logo and livery introduced by Spirit Airlines earlier this year led Scoot to make a tongue-in-cheek swipe at the US ultra-low-cost carrier on social media.



Scootitude

Scoot has won much acclaim for its unique marketing activities and high level of consumer engagement. Its Facebook page had attracted more than 50,000 fans before the carrier had even taken to the air, while various social media campaigns have helped it build a community of followers and then keep them engaged.

One of the first was a competition

ScootBiz features spacious seating, in-seat power supply, wi-fi internet and complimentary meals and is comparable to the Premium Economy product offered by many full service carriers.

ROY CHOO





encouraging fans to suggest potential taglines for the company while another gave the public the opportunity to directly influence the cost of air fares with the airline.

The carrier has also shunned 'corporate speak' in favour of a more human approach, and humour features widely in its advertising. Scoot is also not afraid to push the boundaries, particularly in the largely conservative

Asian market.

Among the more notable promotions was ScootBiz and its "seven inches of extra pleasure" tagline, a firm favourite with the company's CEO, who said: "The conservatism of the market, and that what we did was fresh, enabled us to attract public attention and consolidate our brand presence.

"We didn't take ourselves too seriously and simply prepared ourselves to have

The carrier celebrated Singapore's Golden Jubilee by applying special markings to Boeing 787-9, 9V-OJE (c/n 37116). The red balloons carry the names of various local businesses.

AIRTEAMIMAGES.COM/
ANDREW HUNT

Scoot's first Boeing 787-9 Dreamliner, 9V-OJA (c/n 37112), is appropriately named 'Dream Start'.

AIRTEAMIMAGES.COM/
DIPANKAR BHAKTA

some fun."

The airline adopts a similar approach when dealing with competitors – the new corporate logo and livery introduced by Spirit Airlines earlier this year led Scoot to make a tongue-in-cheek swipe at the US ultra-low-cost carrier on social media. A video, narrated by Wilson himself, highlights the similarities between their respective branding and ends with the CEO saying: "We're not mad, we're flattered.

"To [Spirit] CEO Ben Baldanza, thank you for spreading our brand to the other side of the world."

Scoot followed this up by mailing the US carrier a toolkit "to help Spirit properly replicate our brand" and even went as far as naming a 787-9, 9V-OJC (c/n 37114), *Inspiring Spirit*.

Scoot's personality can be summed up by 'Scootitude', a self-coined term that covers not only the carrier's quirky and humorous attitude but is in fact the chief guiding principle for its internal culture.

"The Scootitude concept is about how we are different from our competitors," Wilson told *Airliner World*. "In the beginning it was just a blank canvas – we weren't sure what it was. That was partly deliberate because we wanted our staff to define it for themselves.

"We ask our cabin crew [known as Scootees] to be themselves and have some fun – the props they use during their regular onboard performances are their bread and butter. The end result has been a level of customer service that is more genuine rather than forced."

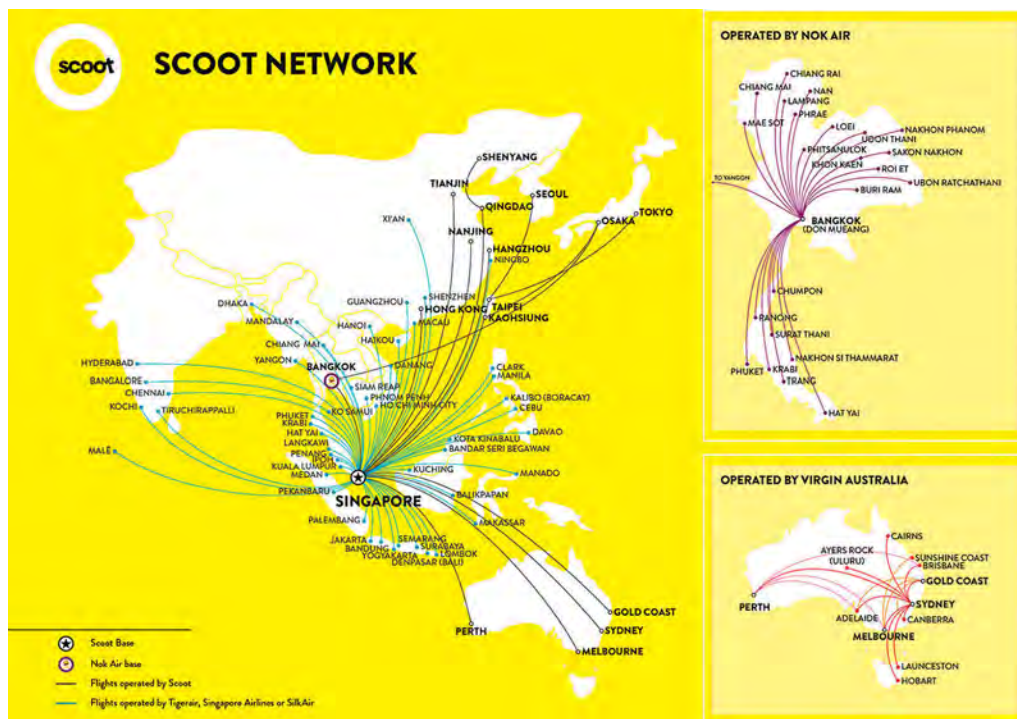
Out of the Red

Scoot's hub in Singapore offers unparalleled connectivity to destinations in the Asia-Pacific region. However, a national population of fewer than 5.5 million people has forced the carrier to look elsewhere for growth opportunities and, in December 2013, it entered a joint venture with Thailand's Nok Air to establish Bangkok-based subsidiary NokScoot. >>



scoot – Current Fleet

Type	Registration	c/n	I/n	Name	Delivered
Boeing 777-200	9V-OTC	28509		Goin' Scootin'	Mar 1, 2012
	9V-OFA	37117	314	(Eight Treasures)	Jul 16, 2015
Boeing 787-8	9V-OFB	37118	335	Lickity-Split	Aug 29, 2015
	9V-OFD	37120	349	Scootalicious	Oct 25, 2015
	9V-OFD	37121	375	-	(On Order)
	9V-OFE	37122	415	-	(On Order)
	9V-OFF	37123	474	-	(On Order)
	9V-OJA	37112	240	Dream Start	Feb 2, 2015
Boeing 787-9	9V-OJB	37113	272	Barry	Mar 4, 2015
	9V-OJC	37114	284	Inspiring Spirit	Apr 23, 2015
	9V-OJD	37115	308	Big Yella Fella	May 28, 2015
	9V-OJE	37116	316	Maju-Lah	Jun 26, 2015
	9V-OJF	37119	337	-	Oct 10, 2015



Wilson commented: "It's a strategic investment for us to help Nok Air and the Thai Airways Group to compete in the low-cost long-haul segment from Bangkok. It complements Scoot as NokScoot could funnel traffic to us from destinations that would not otherwise be economical for us to operate from."

Closer to home, Scoot has been intensifying its partnership with fellow SIA Group carrier Tigerair since the granting of anti-trust immunity by the

Singapore competition authorities in August 2014.

Both airlines are now cross-selling on each other's flights and feeding traffic onto one another, and have implemented joint ventures on several common routes. Scoot has also expanded its virtual network through interline agreements with Nok Air and Virgin Australia.

The introduction of the Dreamliners into service, combined with falling fuel prices, has led to renewed

The current route network of Scoot and its partners. SCOOT

Singapore Airlines believes Scoot's strategy of co-operation and fleet expansion will lead the carrier to profitability. VICTOR PODY

speculation that Scoot could potentially launch long-haul services to Europe, and North America. But Wilson remains non-committal: "Europe and America are vanity destinations and that's dangerous territory financially."

"There's a lot to do closer to home – we see a lot more opportunities in China, India and Japan with plenty of million-plus population cities and a growing middle class."

Scoot is yet to turn a profit (the carrier posted a \$20m loss for the first quarter of the 2015 financial year), but SIA remains optimistic that the LCC's current strategy of co-operation, partnerships and fleet expansion will provide a suitable platform for long-term profitability.

There's little doubt, however, that Scoot is an important string to SIA's bow. The group is now able to take advantage of previously inaccessible markets and can meet demand at both the low-cost and full service ends of the spectrum. **1/17**

"There's a lot to do closer to home – we see a lot more opportunities in China, India and Japan with plenty of million-plus population cities and a growing middle class."

Scoot CEO **Campbell Wilson**





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Acronyms and abbreviations have become an intrinsic part of business speak. In the commercial aviation business their usage has become unavoidable and in the following table we try to guide you through some of those most commonly-used examples in the pages of Airliner World. This list will be regularly updated.

AAIB	Air Accidents Investigation Branch (UK)
ACAS	Airborne Collision-Avoidance System
ADR	Accident Data Recorder
ALPA	Air Line Pilots Association (US)
ANS	Airborne Navigation System
APU	Auxiliary Power Unit
ATC	Air Traffic Control
ATP	Advanced Turbo-Prop (BAe)
ATS	Air Traffic Service
BAe	British Aerospace (now renamed BAE Systems)
CAA	Civil Aviation Authority (UK)
CDA	Continuous Descent Approach
CEO	Chief Executive Officer
CIS	Commonwealth of Independent States (formerly Soviet Union)
c/n	Construction number
combi	Aircraft that routinely carry passengers and cargo on the main deck at the same time
CVR	Cockpit Voice Recorder
dB	Decibel
DfT	Department for Transport (UK)
DME	Distance-Measuring Equipment
EADS	European Aeronautic Defence and Space Company

EASA	European Aviation Safety Agency
ERAA	European Regions Airline Association
EROPS	Extended-Range OperationS
ETOPS	Extended-range Twin-engine OperationS
FAA	Federal Aviation Administration (US)
FAI	Fédération Aéronautique Internationale (France)
FAR	Federal Aviation Regulations (US)
FBO	Fixed Base Operator
FDR	Flight Data Recorder
FL	Flight Level (usually expressed in hundreds of feet)
FOD	Foreign Object Damage
GA	General Aviation
GAPAN	Guild of Air Pilots And Navigators (UK)
GDP	Gross Domestic Product
GE	General Electric
GEICAS	GE Capital Aviation Services
GMT	Greenwich Mean Time
GNS	Global Navigation System
GPS	Global Positioning System
GPU	Ground Power Unit
IACA	International Air Carrier Association
IAP	International Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Air Line Pilots Associations
IFR	Instrument Flight Rules
ILFC	International Lease Finance Corporation
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
INS	Inertial Navigation System
JAA	Joint Aviation Authorities (European)
LCC	Low-Cost Carrier
LCD	Liquid Crystal Display

LED	Light-Emitting Diode
localiser	Steering guidance element of an ILS system
LORAN	Long Range Aid to Navigation
MD	Managing Director
MLS	Microwave Landing System
MLW	Maximum Landing Weight
MoD	Ministry of Defence (UK)
MoU	Memorandum of Understanding
MRO	Maintenance, Repair and Overhaul
MTOW	Maximum Take-Off Weight
NASA	National Aeronautics and Space Administration (US)
NATO	North Atlantic Treaty Organization
NBAA	National Business Aircraft Association (US)
OFT	Office of Fair Trading (UK)
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
pax	Passenger
P&W	Pratt & Whitney
PPL	Private Pilot's Licence
PR	Public Relations
RFP	Request for Proposals
RVR	Runway Visual Range
SARS	Severe Acute Respiratory Syndrome
SID	Standard Instrument Departure
STAR	Standard Terminal Arrival Route
STOL	Short Take-Off & Landing
TCAS	Traffic alert and Collision-Avoidance System
TWR	Tower – airport control tower
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VOR	VHF omni-directional range (radio beacons)

key

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