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WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

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Newsletter

Market Comment

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The Australian Flag Carrier **Qantas Airways** announced a half-year loss of Australian A\$252 million (\$226 million), and a massive restructuring to deal with its faltering position as one of the world's premier airlines. **Qantas** reported 18 consecutive annual profits from when it was privatized in 1993 until 2011. **Qantas** and **Southwest Airlines** were the only two airlines worldwide to be judged investment-grade by **Moody's** and **Standard & Poor's**, until it forecast a loss in December. Now the rating companies have given the airline a Ba2 rating and BB+ rating respectively, and each reported a "negative outlook" for the carrier. **Qantas** Chief Executive Officer **Alan Joyce** reacted by deferring delivery of the airline's last eight A380s and three of 11 787-8 Dreamliners through Fiscal Year 2017. The airline also has 102 A320s and five 737-800s on backlog. **Qantas** said it would sell more than 30 of its older aircraft. The press reported that the **Qantas Group's** planned capital expenditure, net of operating lease liability, will be reduced to \$800 million in both FY15 and FY16, a total reduction of \$1 billion. The company plans to reduce total costs by A\$2 billion (\$1.8 billion) over the next three years. **Qantas** also announced productivity improvements, consolidation of business activities, new technology and procurement savings. The group will reduce its workforce by 5,000 full-time employees (representing 15 percent of its total workers) by FY17. **Qantas** will cancel the lease of its **Brisbane Airport** terminal facilities and return related assets valued at \$112 million to the airport owner. The group is conducting a broader structural review of its portfolio and no final decisions have been made on other assets, the airline said. **Qantas** suddenly fell from grace due to a price war with **Virgin Australia** as they fought for domestic and international market share. Both are trying to cope with high fuel prices, but **Virgin** is doing a better job. It earned a little over 12.15 Australian cents per seat kilometer in the past six months, while **Qantas** earned only A10.10 cents. On domestic routes, **Qantas** is paying approximately 3 cents more for non-fuel operating costs (at 11 cents per seat kilometer) than **Virgin** (reportedly 8.1 cents per ASK). Both airlines are flying themselves to the poor house, just like U.S. airlines did in the 1990s and 2000s. **Virgin Australia** reported a pre-tax loss of A\$49.7 million (\$44.6 million) and a net loss of A\$83.7 million (\$75.1 million) from July through December 2013. **Qantas** lost A\$252 million (\$226 million) pre-tax and reported a net loss of A\$235 million (\$210 million). The change was rapid; in the same period of 2012, **Qantas** earned a profit of

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A\$220 million (\$197.3 million), and **Virgin** reported net income of A\$23 million (\$20.6 million).

Mr. Joyce asked for governmental relief from Prime Minister **Tony Abbott**, but was partially rebuffed. **Mr. Abbott** turned down a request for a government guarantee of **Qantas'** debt, saying, "I have enormous faith in the ability of **Qantas** to compete and to flourish, but I think it is best placed to compete and to flourish if it is unshackled and un-propped up by government." The Prime Minister proposed legislation to amend the **Qantas Sale Act** (which privatized the airline in 1993) to remove conditions limiting ownership by a single foreign investor to 25 percent and all airline investors to 35 percent. A cap on foreign ownership at 49 percent will also be lifted. **Mr. Abbott** said earlier this week it was in Australia's interests for **Qantas** to "survive and to flourish" as a major employer for the country. "This government will do what it can to give [**Qantas**] a level playing field," he said, but the airline needed "to put its own house in order." "It's clear that the market **Qantas** operates in has changed, with structural economic shifts exacerbated by an uneven playing field in Australian aviation policy," **Mr. Joyce** said in a statement. The airline said **Virgin's** access to foreign funding, via its major shareholders has put **Virgin** at an advantage. **Virgin Australia** is officially an Australian airline, but it is 64 percent owned by non-Australian carriers, **Air New Zealand**, **Etihad** and **Singapore Airlines**, which are all partially government owned. It was able to raise as much as A\$316 million (\$283.4 million) last year. **Mr. Joyce** clearly wants to pick the deep pockets of a foreign investor or two, to reduce **Virgin's** perceived advantages. Currently, **Qantas** has to pay more to borrow money, due to the strong Australian dollar and its inability to tap foreign funding. **Qantas** also wants to remove government requirements that it remain headquartered in Australia, and have its main operations, maintenance and administration stay in country. This means **Qantas** may off-shore some of its operations. That part of the proposed legislation may run into opposition in the **Australian Senate**, where the **Liberal Party**-led coalition government is in the minority. Opposition **Labor Party** leader, **Anthony Albanese** said, "It's not an Australian airline if its head office is not in Australia, if its board is not in Australia, if its maintenance activity is not in Australia, if the majority of its ownership is not in Australia." If the legislature does not approve the changes in the **Qantas Sale Act** (dated 1992), the airline will remain at a competitive disadvantage. **Qantas** said in a statement, "We have consistently said that removal of foreign ownership provisions

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that apply uniquely to **Qantas** is an important longer term objective to create a fair and free aviation market in Australia. However, it's clear that such a move would have limited chance of passing through the Senate. A change in the act would allow the airline to split its international and domestic units to comply with other legislation that requires Australian-based international airlines to have majority local ownership, Mr. **Abbott** said. The flag carrier wants the option to have separate licenses for its domestic and international units. **Virgin** carried out the same split in In 2012.

Qantas still has a lot of cash on the balance sheet, but it will bleed it out unless the company does something about their predicament. The airline is expected to have to borrow money to pay for the A320s, 737-800s and 787-8s that it will receive in the next few years. Mr. **Joyce** said, "With the A\$2 billion cost reductions coming out, we can get back to profitability, and we can be paying down debt." Late last year, he forecast a profit in FY 2015 but that now seems optimistic. The airline intends to drop unprofitable routes, which hurts cash flow in the short term, and Mr. **Joyce** has cut his take-home pay by 36 percent (unlike most CEOs in the same predicament) which signals that he is serious about the task ahead. **AVMARK** thinks it is refreshing that management is reacting quickly to market changes, and that Mr. **Joyce** is not waiting for some miracle or bailout to solve the airline's problems.

Airbus Orders

Airbus booked 108 orders during February for the A320 Family, the A350 XWB and the A380, and it raised the number of A320neo customers to 50. The manufacturer delivered 44 A320 Family, A330 and A380 jetliners. **Amedeo** firmed up its contract for 20 A380s, which was originally announced at the 2013 **Paris Air Show**, and became the latest customer for the airplane. The A380s will be offered for lease by the subsidiary of **Doric GmbH (Doric Group)**. **Kuwait Airways** also firmed its commitments in February, and ordered 10 A350-900s and 15 A320neo (new engine option) aircraft as part of its fleet renewal plan. The flag carrier already operates A300, A310, A320, and A340 aircraft. **VietJetAir** completed its order for 14 A320ceo (current engine option) and seven A321ceo aircraft, along with 42 A320neo jetliners. The carrier is

Airbus Orders, Deliveries and Backlog February 2014

FEB ORD	FEB DEL	FEB CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			A318		
-0-	-0-	-0-	79	79	-0-
			A319		
-0-	3	-8	1,514	1,400	114
			A320		
71	22	-25	6,657	3,587	3,070
			A321		
7	12	-0-	1,991	895	1,096
			A330		
-0-	6	-0-	1,313	1,061	252
			A350		
10	-0-	-0-	824	-0-	824
			A380		
20	1	-0-	324	124	200
This Month			This Year		BL
108	44	-33	80	83	5,556

Airbus sold 13,895 aircraft and delivered 8,339 as of February 28, 2014. Thirty eight orders were cancelled. Total orders, deliveries and backlog include cancellations and order changes.

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expanding its network, and increasing the frequency of national and international flights. Existing customers cancelled eight A319 and 25 A320 orders, reducing the 2014 net orders to 80.

During February, Airbus delivered 37 A320 Family aircraft, including the first Sharklet-fitted A320s to **Aeroflot**. **Airbus** also delivered six A330s to **Air China, China Southern, CIT for Cebu, Hawaiian Airlines and Intrepid for Skymark Airlines**, the first Japanese carrier to operate the aircraft type. The manufacturer handed over another A380 to **Emirates**. Including the month's orders and deliveries, the **Airbus** backlog stood at 5,556 aircraft as of February 28.

VietJetAir, Vietnam, finalized its firm order for 14 A320ceo, seven A321ceo, and 42 A320neo aircraft in February. The airline took 30 purchase rights, and will lease eight A320ceos from third party lessors. The firm contract was signed at the **Singapore Airshow**. The first private airline in Vietnam, **VietJetAir**, took to the skies in December 2011 and now operates domestic and international flights with 11 leased A320s. The airline's 92 A320 Family aircraft were valued at \$9 billion (an average of \$100 million each) at list prices. They will be delivered from the last quarter of 2014 to the end of 2024.

Airbus' Latest Global Market Forecast (GMF) stated Indian carriers will need 1,290 new passenger aircraft valued at \$190 billion by 2032, to satisfy surging annual demand. Passenger traffic is growing at 8.6 percent annually, well above the regional Asia Pacific average growth rate of 6.1 percent and the world average of 4.7 percent. Approximately 73 percent of the 1,290 new aircraft will be for growth, and 27 percent will replace existing jets. The country will need 913 single-aisle airplanes (A320 Family and 737), 322 will be twin-aisles (A330, A350, 777 and 787), and **Airbus** forecast that 56 very large aircraft (A380 and 747-8) will also be purchased. The current fleet of 343 jets will more than triple to approximately 1,233 aircraft by 2032. **Airbus** said 36 percent of India's fleet will be wide-bodies, more than double today's level, due to growth of international and domestic routes needing larger aircraft. In 2032, Indian domestic traffic will be the world's third largest national market having grown by almost 10 percent per year. One in 20 Indians travel by air today, and this will increase to 25 percent of the population by 2032. **Airbus** currently has won more than 60 percent of new aircraft orders to date.

Doric Lease Corp. renamed itself **Amedeo** in February, and signed a firm contract for 20 A380s worth \$8.3 billion at list price. The lessor announced its intention to buy the 20 A380s at the **50th Paris Airshow** in June 2013. The final agreement was inked at the biennial **Singapore Airshow**. The A380s will be delivered between late 2016 and 2020, and the Dublin-based company has made progress in placing the large airliners with new customers. It expects to announce the first leases within a year. **Amedeo's** A380s can be fitted with 11-abreast seating in economy, which will add another 35 seats in tourist class. The lessor may move all premium seating to the upper deck, raising the A380s capacity to 558 seats.

Kuwait Airways, the national airline of Kuwait, confirmed its order for 15 A320neo Family aircraft and 10 A350-900 in February. It already operates three A320s, three A310s, five A300s and four A340s. **Kuwait** will use the A350-900s on its long haul routes, while the A320neos will operate its regional route network.

SaudiGulf, a new Saudi Arabian airline, has signed a firm contract for four A320ceos. They will be delivered in early 2015. The aircraft will be equipped with Sharklet fuel saving wing tip devices. The

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wholly owned subsidiary of the **Abdul Hadi Al Qahtani Group of Companies** was one of two airlines to recently win licenses to operate domestic and international flights from Saudi Arabia. The airline will increase the Kingdom's air transport services within the country and to international destinations. **SaudiGulf** plans to launch its operations out of Dammam, in the first quarter of 2015 followed by Riyadh and Jeddah. The airline ordered 16 **Bombardier** CS300s in January and optioned 10 more.

ANA Holdings selected seven new engine option A320neo and 23 A321neo aircraft as part of **All Nippon Airways'** fleet renewal strategy. The airplanes, list priced at \$3.6 billion (\$120 million each), will be delivered from 2016 to the end of 2023. **Avitas** put the actual discounted price at \$1.6 billion (\$53.33 million each). With this new order, all members of **Airbus'** latest aircraft families are now represented in Japan (A320 neo and ceo, A330, A350 and A380). All **Airbus** commercial aircraft family will be operated by Japanese airlines by 2020. **Airbus** said Japan has long been at the forefront of commercial aviation and today ranks as the sixth largest country in the world in terms of aircraft fleet in service (in the above 100 seats segment). There are five cities in Japan each with more than one million air passengers per month, underlining how critical air travel is to the country's transport infrastructure.

Airbus flew two more A350 XWB flight test aircraft (SN 002 & 004) in March, bringing its A350 XWB test fleet to four. The first two test aircraft (SN 001 & 003) have already performed close to 1,100 flight test hours and will share the other 1,400 flight hours with the new jets. A350-900 (SN 002) was painted in a special 'carbon' inspired livery, and it will be the first A350 to feature a full passenger cabin. This allows **Airbus** to start testing and validating all the cabin and passenger related systems. The first A350 XWB passenger flights in the Early Long Flights (ELF) program will start this spring.

Tiger Airways Holdings, Singapore, signed a Memorandum of Understanding (MOU) for the purchase of 37 A320neo aircraft for its future fleet renewal and growth. The deal is valued \$3.8 billion at list price, but **Tigerair** said it negotiated a 'significantly lower' purchase price. The airline group optioned 13 A320neos, and has the ability to switch to larger aircraft. The A320neos will be powered by **Pratt & Whitney** PW1100G engines and will be operated across the airline's Asia-Pacific route network. The firm orders will be filled from 2018 to 2025. As part of the new purchase agreement, the airline canceled nine of its 17 existing A320ceo orders (for delivery in 2014 and 2015) in favor of the more fuel-efficient A320neos. The order effectively delays near-term deliveries until 2018 and 2019. Two other airlines in the region, **AirAsia** and **Jetstar** have deferred some of this year's A320 deliveries in the face of overcapacity in the market. **Tigerair** was launched in September 2004 and now the holding company comprises three airlines, **Tigerair Singapore**, **Tigerair Mandala** (Indonesia) and **Tigerair Australia**. The group's network covers 50 destinations across 14 countries and currently operates an all-**Airbus** fleet of 48 A320-family aircraft which average less than three years of age. As of February 28, 2014, firm orders for the A320neo Family stood at 2,667 from 50 customers.

China and Europe reset aviation trade relations after a year of discord. China's President **Xi Jinping** flew to France in late March and watched **China Aviation Supplies Holding Company (CAS)** sign a **General Terms Agreement (GTA)** for the purchase of 70 **Airbus** jets worth up to \$10.2 billion. In a broad-ranging deal, Chinese airlines re-confirmed their purchase of 27 A330s (worth more than \$6 billion), and bought 43 A320 Family aircraft. The package could also include more A320s and A350 aircraft. To date, **Air China** is the only Chinese (not including Hong Kong) airline to buy the A350, having ordered 10 A350-900s. China remains the world's fastest-growing aviation market and so far

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Boeing has sold more of its wide-body jets (68 777 orders and 41 787 orders) than **Airbus** has (78 A330 and 10 A350 orders). Both companies are steeply discounting their aircraft to win China's business. **Airbus** has aimed its new A330-300 regional at China's crowded domestic market. The **China Eastern** announcement may be tied to the larger **Airbus** order.

China Eastern Airlines purchased 70 A320neo aircraft, marking the first purchase of the A320neo by a Chinese airline. **Airbus** has been actively marketing the upgraded A320 to Chinese carriers and expects to sell hundreds of A320neos in China. The deal is list priced at \$6.37 billion (\$91 million each), but the final price will be "significantly less than that" the airline said. The A320s will be delivered from 2018 through to 2020. The new planes will be used on its short and medium routes. The airline will trade in its seven elderly A300B4-600R widebodies this year. The purchase was approved by the carrier's board, but needs the approval of China's aviation authorities. **China Eastern** is China's third-largest airline and will grow by 13 percent by 2020 to meet demand in the country which is expected to become the world's biggest aircraft market by 2032. The **Civil Aviation Administration of China** eased regulations concerning budget airlines to encourage more companies to start operations and offer affordable air travel. The government may lower taxes on budget airlines to help lower their costs.

Airbus will boost A320 Family production to 46 per month in the second quarter of 2016. It currently manufactures 42 single-aisle aircraft per month. The production rate rise will be achieved gradually, with **Airbus** building 44 aircraft per month by the first quarter of 2016. Over the past five years, **Airbus** has steadily increased A320 Family production from 36 per month in December 2010, to 38 in August 2011, then up to 40 a month in the first quarter of 2012, and reaching 42 per month by December of that year. **Tom Williams**, **Airbus** Executive Vice President Programs, said, "Based on the healthy market outlook for our best-selling A320 Family and following a comprehensive assessment of our supply chain's readiness to ramp-up, we are ready to go to rate 46 by the second quarter of 2016. With a record backlog of over 4,200 A320 Family aircraft and the growing success of the neo, we have a solid case to increase our monthly output to satisfy our customers' requirement for more of our fuel efficient aircraft." The company has won 2,610 orders for the A320neo Family as of March 1, representing approximately 60 percent of the single-aisle market.

Airbus and its Chinese partners **Tianjin Free Trade Zone** and **Aviation Industry Corporation of China (AVIC)**, agreed to extend the **Tianjin Final Assembly Line China (FALC)** joint venture to build A320 Family aircraft in China for another 10 years. Phase II will cover the 2016 to 2025 period, which will expand deliveries to the whole Asian region, and will include final assembly of the A320neo Family from 2017 onwards. The plant can ramp up production to eight aircraft per month. **Airbus** and Chinese companies are exploring the establishment of a widebody aircraft completion center in China and the installation of cabin interiors by **AVIC** at Tianjin.

Airbus is officially offering an 11-abreast economy-class layout using 18 inch-wide (46cm) seats in its A380. The new configuration is made possible by raising the floor 2 inches in the wider part of the main deck of the superjumbo. **Amedeo**, the only leasing company to buy the A380, wants to become the launch customer for the layout. **Amedeo** CEO **Mark Lapidus** said, "We pushed **Airbus** very hard to get 11-abreast introduced, [adding] 35 to 40 extra seats." Based on a three-class layout with business and premium-economy cabins on the upper deck, **Amedeo** says an overall density of around 630-650

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passengers could be achieved through use of the new 11-abreast seating. The first of the lessor's A380s will arrive in 2016.

Boeing Orders

Boeing Sold 74 New Aircraft in February. Cargolux Airlines ordered its 14th **Boeing** 747-8F freighter in mid-February. Turkey's **SunExpress** finalized its order for 25 Next-Generation 737-800s and 15 737 MAX-8 airplanes. An **Unidentified Customer** (believed to be **Virgin Australia Airlines**) ordered nine 737 MAX aircraft in mid-month, and another **Unidentified Customer** ordered eight 737-800s. The **United States Navy** purchased 16 more P-8A Poseidon maritime patrol aircraft.

Boeing Delivered 50 Aircraft in February, including four 787s. It also handed over 36 737NGs, two 747-8s and eight 777s. The manufacturer lost nine 737NG orders last month.

In March, GECAS purchased five 737s and an **Unidentified Customer** bought eight 737s. Another **Unidentified Customer** purchased 71 737s in the last third of the month and **Boeing Business Jet** ordered one VIP 737BBJ. **Air Canada** finalized its order for 61 737 MAXs and an **Unidentified Customer** bought 25 737s on March 31. The manufacturer lost 28 737 orders at the end of the month.

Cargolux Airlines ordered its 14th 747-8 Freighter at the **Singapore Airshow** in February. The order was valued at \$357.5 million at list prices. **Cargolux'** interim president and CEO **Richard Forson** said, "The **Cargolux Board of Directors** approved the order of our 14th 747-8 Freighter almost 35 years to the day that the airline took delivery of its first 747 Freighter." **Cargolux** took delivery of the first production 747-8 Freighter in October 2011 and now has nine 747-8Fs in service. It was also one of the launch customers for the 747-400F Freighter and received the first 747-400F in November 1993. The all-**Boeing** carrier also operates 10 747-400Fs and -400SFs.

SunExpress, Turkey, finalized an order for 25 Next-Generation 737-800s and 15 737 MAX-8 airplanes, valued at more than \$3.8 billion at list prices. The airline optioned 10 additional 737 MAX-8s. The first

Boeing February 2014 Orders, Deliveries

FEB ORD	FEB DEL	FEB CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			737		
73	36	-9	11,639	7,936	3,703
			747		
1	2	-0-	1,538	1,484	54
			767		
-0-	-0-	-0-	1,110	1,061	49
			777		
-0-	8	-0-	1,548	1,178	370
			787		
-0-	4	-0-	1,031	122	909
This Month			This Year		BL
74	50	-9	105	95	5,085

Boeing sold 24,396 aircraft and delivered 19,311 as of February 28, 2014.

The Current Program includes sales and deliveries of 737s, 747s, 767s, 777s and 787s.

Sales totals are net – minus 12 cancellations.

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of the new -800NGs will arrive next year. The airline is jointly owned by **Lufthansa** and **Turkish Airlines**. It launched charter services with new 737-300s in April 1990 and began to operate 737-800NGs 10 years later. It currently flies 44 737-700s and -800s. The order is the largest in the airline's 24 year history.

The U.S. Navy is purchasing 16 more P-8A Poseidon Maritime Patrol and Reconnaissance aircraft. The contract is valued at \$2.4 billion, and will grow the maritime patrol fleet to 53. The order marks a transition from the preliminary low-rate production to full production. **Boeing** has delivered 13 P-8As to the Navy to date. The P-8A is based on **Boeing's** Next-Generation 737-800 commercial airplane, and the Navy plans to purchase 117 P-8As to replace its **Lockheed** P-3 fleet.

Boeing is having a hard time selling 11 of its earliest 787 Dreamliners even at half the list price. The planes are currently valued at \$1.1 billion (\$100 million each) and were ordered by **ANA**, **Royal Air Maroc** and other customers. The partially completed 787s are heavier and have a 1000 miles shorter range than new 787s. The planes have been parked at Everett, Washington, for about four years since completion. Their windows are covered in black plastic and 8-ton counterweights hang from the engine mounts to keep the aircraft balanced. The engines have not been installed yet. So far, two deals to sell the jets to customers have fallen through. **Norwegian Long Haul** was rumored to be interested in some of the 787s but it chose to wait for deliveries in 2017 and 2018.

Comair Limited announced its order for eight 737 MAX 8s in March. The order was placed in December 2013, and was valued at \$830 million (\$103.75 million each) at list prices. It is the first 737 MAX order from an African operator. Johannesburg-based **Comair** operates **British Airways's** regional Southern African routes as a franchise partner. It is also flies Africa's first low cost services as **kulula.com**, offering flights to South Africa's major cities. The company operates an all-**Boeing** fleet of 25 Classic and Next-Generation 737s for its **kulula.com** and **British Airways** brands. The eight 737 MAX 8s will support **Comair's** future expansion and fleet renewal. The airline also has four 737-800NGs on order for delivery in 2015 and 2016. The airplane's firm configuration was completed in July 2013, and the first flight is scheduled in 2016, with deliveries to customers beginning in third quarter of 2017.

SpiceJet Announced at the India Aviation 2014 its order for 42 737 MAX 8s. The order was previously listed as unidentified on the **Boeing Orders & Deliveries** website, and was valued at \$4.4 billion (\$104.75 million each) at list prices. **SpiceJet** has also ordered 42 737-800s, and six 737-900ERs, and it has taken delivery of 31 of the airplanes. The new 737 MAX 8s will be used to replace its oldest 737NGs.

Air Canada finalized its order for 61 737 MAX airplanes. They will be used to replace the airline's single-aisle fleet. The order was valued at \$6.5 billion (\$106.6 million each) at list prices, and consists of 33 737 MAX 8s and 28 737 MAX 9s, as well as 18 options and 30 rights to purchase additional 737 MAXs. The 737 MAX improves fuel efficiency and reduces carbon emissions by 14 percent, while reducing the operational noise footprint by 40 percent, compared to today's aircraft, **Boeing** said. Further, the company said, the MAX will incorporate the latest technology LEAP-1B engines from **CFM International** with other advancements including **Advanced Technology** winglets; also large flight deck displays and the **Boeing Sky Interior** to deliver the highest efficiency, reliability and passenger comfort in the single-aisle market. The 737 MAX has accumulated 1,934 orders since its launch in 2011, from 37 customers worldwide. Development of the 737 MAX is on schedule.

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All Nippon Airways (ANA) announced that it would buy six 777-300ER, 20 777-9X, and 14 more 787-9 airplanes for its strategic fleet renewal. **Boeing** valued the agreement with the Japanese airline at approximately \$13 billion at list prices, but it is assumed that ANA received a healthy discount. It has been estimated the actual sales price was \$7 billion. The airplanes will be delivered from fiscal 2017 to the end of 2027. The first 777-9X will not arrive until 2021. When the order is finalized, it will be recorded on **Boeing's Orders and Deliveries** webpage.

Japan Transocean Air (JTA) announced its selection of 12 Next-Generation 737-800 airplanes to replace its fleet of eight 737-400s. The selection contract was valued at \$1.1 billion at list prices and the discounted price was estimated to be \$580 million (\$48.33 million each). The new airplanes are scheduled to enter into service starting 2016. As part of the agreement, **JTA** will have the flexibility to switch to the 737 MAX family of airplanes. **JTA** was founded in 1967, and it is a member of the **Japan Airlines Group**. It operates regional services from its base in Naha, Okinawa.

Airlines in Russia and the Commonwealth of Independent States (CIS) are an important market for **Boeing**. The planemaker has recorded 117 orders from Russian airlines since 2006, another 56 orders from airlines in the CIS, and 50 737NG orders from **Avia Capital Leasing**. **Boeing** forecast in 2013 that the countries in the **Commonwealth of Independent States**, including Russia, Ukraine and Belarus, will buy 1,170 aircraft worth \$140 billion over the next 20 years. The company delivered seven aircraft to Russian airlines in 2013, which were list priced at \$2.1 billion. **Boeing** buys about 35 percent of its titanium from **VSMPO-AVISMA Corp.**, which is a subsidiary of **Russian Technologies**, a Russian state owned industrial conglomerate. **Rostec** also produces parts for the 787 Dreamliner, and 737 narrow-body jets and other models. Boeing intends to buy Russian titanium, aerospace design-engineering services and other services and materials, worth \$27 billion, over the next three decades. These trade deals could be cancelled if the United States places hard sanctions on the Russian Federation due to its conquest of the Crimea. **Boeing** spokesman, **Doug Alder**, said, "We are watching developments closely to determine what impact, if any, there may be to our ongoing business and partnerships in the region. We won't speculate on the potential impact of sanctions or any other potential government actions."

Regional Report

Abu Dhabi-Based Charter Operator Falcon Aviation Services signed a Letter of Intent (LOI) to buy one CS300 aircraft and optioned a second one in late February. **Falcon Aviation Services** is the first customer for CSeries aircraft in the United Arab Emirates. The company ordered two Bombardier Dash 8Q-400s at the **Singapore Airshow**. The planes will be fitted with a 78-passenger cabin, and are worth \$61 million (\$30.5 million) at list prices. **Falcon** operates a fleet of corporate jets for VIP charter flights, and a fleet of helicopters which serve the offshore oil and gas industry. The company also conducts search and rescue, aircraft management, maintenance, repair and overhaul, as well as consulting operations, **Bombardier** said.

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Bombardier Aerospace announced at the **FIDAE 2014 International Airshow** that **Adria Airways**, Ljubljana, Slovenia, purchased two CRJ900 NextGen regional jets. The 50 year old scheduled and charter airline has been a **Bombardier** customer since March 1997. It currently operates four CRJ200s, two CRJ900s and two CRJ900 NextGen regional jets. The order was valued at approximately \$92 million at list prices.

Also at FIDAE 2014, a Latin American customer, who requested to remain unidentified, signed a firm purchase agreement for one CRJ700 NextGen aircraft for use in special mission applications. The \$67 million contract included ancillary services and modification work to the aircraft, at list price. Details of the services and modification work were not disclosed.

China Express Airlines converted three conditional CRJ900 NextGen purchase agreements into a firm order. The airline placed conditional orders for five CRJ900 NextGens and optioned an additional eight CRJ900 NextGen aircraft in December, 2013, when it placed a firm order for three CRJ900 NextGens. The firm order for the three CRJ900s was list priced at approximately \$136 million. **China Express** is based in Chongqing, and provides regional passenger services to 44 cities throughout China with five 50-seat CRJ200s and nine 84-seat CRJ900 NextGens. Including the **Adria Airways** and **China Express** orders, **Bombardier** has recorded firm orders for 1,817 CRJ Series aircraft, including 344 CRJ900 and CRJ900 NextGen aircraft. Worldwide, CRJ Series aircraft are in service with more than 60 airlines.

Calgary-based WestJet Encore signed a firm purchase agreement for five Dash 8-Q400 NextGen airliners at the **2014 FIDAE Air Show** in Chile. The airline converted five of its 25 options booked by the carrier's parent company **WestJet** in August, 2012, along with **WestJet's** firm order for 20 Q400 NextGen airliners. The

Airbus Group wants to build a 90-seat ATR aircraft, but not right now. ATR's owners, **Airbus Group** and **Finmeccanica SpA.**, disagree about when to launch the larger aircraft program. **Marwan Lahoud**, **Airbus'** chief strategy officer, said ATR's existing product range, especially the 70-seat ATR 72, is now enjoying dominant market share after years of poor financial performance. Now, it is time to profit from ATR's sales, he said, without introducing a new program challenge that would "dilute" the financial benefits flowing from rising sales and deliveries. "We want to enjoy that success," he said. There is no divergence between **Airbus** and **Finmeccanica** except for timing. The partners are also discussing changing ATR's corporate structure from a GIE (*groupement d'interet economique*) entity to something more modern. They are not considering breaking up the joint venture, Mr. **Lahoud** said. ATR CEO **Filippo Bangnato** said the new plane would not be a stretch of the ATR 72 but a substantially new aircraft. The customer requests for the larger aircraft have become strident, and Mr. **Bagnato** thinks the new plane would support the company for the next 30 years. It seems **Airbus** is in no hurry to fund the billions of dollars to develop a new aircraft. **AVMARK** thinks ATR should milk the ATR 72 cash cow now, while the airplane is still profitable. The other option is to wait for sales and income to drop, and then try to raise money to design and build the replacement. **Airbus'** management were reluctant to develop the A320neo, fearing it would cut into A320ceo sales. Since launching the neo, **Airbus** has sold 2,600 of them, representing 62 percent of the A320 backlog of 4,200. Also being first in the market usually boosts sales. **Boeing** launched its 737 MAX a year after the A320neo and the MAX backlog is only half as large. ATR should offer its 90-seater while **Bombardier** is busy trying to perfect its CSeries trunkliner and is too preoccupied to launch a rival high-capacity turboprop.

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transaction was valued at approximately \$167 million at the Q400's published list price. The Dash 8Q-400s are scheduled for delivery from June through to December 2015. **WestJet Encore** will have a fleet of 25 Q400s by the end of 2015. The airline retains options for 20 more Bombardier Q400 NextGen aircraft for delivery between 2016 and 2018.

Hawaii Island Air (Island Air) ordered two Dash 8Q-400 NextGen turboprop airliners and took options for four more Q400 NextGens. The aircraft will be delivered in a dual-class, 71-seat configuration. The firm order was valued at approximately \$60.9 million at list price. If the airline exercises all its options, the contract value could increase to \$188 million. **Island Air** is Hawaii's leading regional airline and second oldest carrier.

Thai Low-Cost Carrier Nok Air converted two optioned Q400 NextGen aircraft to firm orders in March. The new order was valued at approximately \$64 million. The airline took the options in November, 2013, when it contracted for two aircraft and four purchase rights. **Nok Air** was the launch customer for the new extra capacity 86 seating option for the Q400.

Bombardier's Third CSeries Test Aircraft, FTV-3, flew on March 3 from Montreal-Mirabel International Airport. The flight occurred two months after FTV-2 joined the flight test program and nearly six months after first flight of FTV-1. Two more of the 110-seat CS100 variants are scheduled to enter the flight test programme later this year. The first two planes have accumulated about 100 flight test hours from September through end of February. The test fleet needs to average between 105-144 flight hours per month to complete the development phase as scheduled in the second half of 2015. So far, the aircraft program has suffered a delay of 18-24 months, due in part to delays by unnamed parts suppliers and software problems which caused postponements of the first flight from late 2012 to September 2013, **Bombardier** said. The company also said the CSeries program was testing several major innovations, including the initial flight test campaign of **Pratt & Whitney's** PW1500G geared turbofan engine, **Bombardier's** first full fly-by-wire flight control system and an aluminium-lithium fuselage.

Bombardier Aerospace sold two Bombardier 415 amphibious aircraft to the **Government of Newfoundland and Labrador**. The transaction was valued at approximately \$73.7 million based on list price. The contract included various product enhancements. The aircraft will be delivered in the second quarter of 2014 and in 2015. The **Government of Newfoundland and Labrador** bought its first piston-engined CL-215 in 1995 and its first Bombardier 415 aircraft in 2010. Newfoundland and Labrador have one of the largest fleets of **Bombardier** amphibious aircraft in Canada, and the country operates nearly 60 of the 165 CL-215, CL-215T and Bombardier 415 aircraft that have been delivered.

Bombardier's sale of aircraft worth \$3.4 billion to Russia will be delayed because Canada joined the sanctions after Russia annexed Crimea. Russia's state-owned **Rostekhnologii** signed a Letter of Intent in August 2013 to buy up to 100 Q400 turboprop aircraft. Russia intended to set up a Q400 assembly line as well. The definitive agreements were to be signed this year. So far, the sanctions have been rather mild, but they can be extended to financial services, energy, metals, mining, defense and engineering. **Bombardier** does not know the extent of the potential sanctions, whether they will escalate or how long the delay could be. The manufacturer sold \$250 million worth of products to Russia in 2013, but it forecast future revenues that would be much larger. Russia and other former Soviet republics could buy as many as 350 turboprops in the coming years, and the region is potentially a big market for the CSeries

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trunkliner. In 2013, the Russian leasing company **Ilyushin Finance Co.**, ordered at least 32 CSeries jets valued at about \$2.56 billion at catalog prices.

Bombardier is looking at building a combi version of the Q400 which would carry cargo and up to 50 passengers. CEO **Pierre Beaudoin** said, "Some customers are saying they'd like half-cargo, half-passengers, and we're looking at this. We would have a significant competitive advantage because our competitor can't do that. We look at our strengths to find new niches for the Q400 with customers that we don't have today." The current Q400 seats 71 to 86 passengers.

Embraer's Revenues Reached \$2.304 Billion in the fourth quarter and \$6.235 billion for the year, meeting the company's revenue guidance range of \$5.9 billion to \$6.4 billion. The fourth quarter and 2013 earnings before interest and taxes margins were 20.1 percent and 11.4 percent respectively, considering non-recurring items in the quarter. The company reported its operating cash flow was \$564.6 million during 2013, which increased the net cash position to \$429.3 million by the end of the year. For 2014, **Embraer** expects net revenues of \$6.0 billion to \$6.5 billion, which will come from growth in its **Defense & Security** segment, from the expected delivery of 92 to 97 jets in the **Commercial Aviation** segment and 25 to 30 large jets and 80 to 90 light jets in the **Executive Jets** segment. **Embraer's** backlog at the end of 2013 stood at \$18.2 billion, which was 46 percent higher than the \$12.5 billion reported at the end of 2012.

O-Bay Aircraft, Henan, China, signed a contract to buy 100 **Sukhoi** SSJ100 regional jets, valued at \$3.5 billion (\$35 million each). The privately owned company intends to manufacture SSJ100s in partnership with **Sukhoi** and two Chinese companies in Zhengzhou, Henan province. It will sell the jets to other Chinese carriers and will set up its own airline to fly the SSJ100. An un-named **O-Bay** executive said, "We are still in detailed discussions with **Sukhoi** for the China assembly plant which would be up and running by 2018. Part of the 100 jets would be manufactured in the China plant." **O-Bay Aircraft** studied the growth potential of the Chinese market and decided to compete against the state-backed **Commercial Aircraft Corporation of China** which makes the similarly-sized ARJ21 regional jet. So far, few Chinese airlines have purchased 70-100 seat regional jets because they prefer larger jets made by **Airbus** and **Boeing**.

Embraer Commercial Aviation rolled out its first enhanced E175 on March 12. The airplane was delivered to **SkyWest Airlines** at the end of the month. It featured a range of aerodynamic improvements that reduce fuel burn when compared to earlier E175s. The modifications included the introduction of a new optimized wingtip system, and the streamlining of aerodynamic surfaces. The modified E175's fuel consumption on a typical flight is 6.4 percent lower than the original E175. The enhanced variant will be the only version offered by **Embraer** until the E175-E2 come online in 2020. **SkyWest** ordered 40 E175s for **United Airlines** and 24 will be delivered in 2014. The E175s will be configured in a dual-class 76-seat layout. An additional 60 orders are reconfirmable, subject to **SkyWest** being awarded **Capacity Purchase Agreement (CPA)** contracts with its major airline partners. The agreement between **SkyWest** and **Embraer** also included options for another 100 E175s, taking the potential total order up to 200 airplanes. **United** has firm orders for 30 more E175 enhanced aircraft to be operated by **Mesa Airlines**. The first will be delivered during April. **Republic Airlines** will receive 24 E175s on behalf of **American Airlines** in 2014, and will accept its first enhanced E175 in April. It is unclear how many of the E175s will be the enhanced version.

Order Changes and Cancellations

Airbus Order Changes and Cancellations.

Air Serbia cancelled its eight A319 orders in February. The airplanes were ordered by its predecessor, **JAT Airways**, in 1998. **Frontier Airlines** cancelled 62 A320s and ordered another 18 A319s. The airline has taken delivery of two A320s and 19 A319s to date. **Frontier's** former parent company, **Republic Airways Holdings** acquired 20 A319 and 60 A320 orders. The holding company is a new customer for **Airbus**. **Republic** sold **Frontier** to **Indigo Partners** in December 2013. **Indigo** will turn **Frontier** into a super low-cost carrier, along the lines of **Spirit Airlines**. **Intrepid Aviation Group** exchanged its last A330-200F order for its seventh A330-200. **Airbus** has delivered 25 A330Fs and there are 13 more on backlog. **Singapore Airlines (SIA)** transferred its last two A330-300 orders to **Inception Aviation Holding Ltd.**, Monaco. **SIA** currently leases 26 A330-300s. **Qantas** said it would defer the eight remaining A380s it has on order. The length of the delay was not announced.

Boeing Cancellations and Changes. **Boeing** lost nine 737 orders in February when **Virgin Australia** cancelled nine of its 32 outstanding 737-800NG orders. The airline had 23 on backlog as of the end of February. An unidentified customer ordered nine 737 MAX aircraft during the month, and it is speculated that **Virgin Australia** was that customer. Previously unidentified customers for 737s, **China Eastern** (1 -700), **Hainan Airlines** (1 -800), **Shenzhen Airlines** (2 -800s), and **TUI Travel** (1 -800) were named when the five airplanes were delivered in February. The airlines are believed to have another 41 737s on order listed under the "unidentified" category. **Lion Air** changed two of its 737-900ER orders to the -800 model. The airline now has 17 -800s and 83 -900ERs on backlog. An unidentified customer ordered 30 777-300ERs in December 2012. Ten of the orders were assigned to **China Southern Airlines** in February. One of the 777s was delivered last month. **China Eastern Airlines** is believed to be the customer for the other 20 777s. **Qantas** will defer receipt of the final three 787 Dreamliners that were to be delivered to its budget airline, **Jetstar**.

AirAsia Group Will Slow its Growth in 2014 and 2015. The airline group, based in Indonesia, Malaysia, and Thailand, has taken 150 A320s over the last 13 years and has 350 more on order. The airline is deferring seven A320 deliveries this year and another 12 in 2015 to adjust to the growth of rival low cost carriers which are flooding the market with new capacity. Money-losing **Qantas Airways** announced that it suspended growth at its Singapore-based low-cost arm **Jetstar Asia**. The Australian flag carrier also said there were "major opportunities" remaining in the region, but "current market circumstances" had forced a halt. As mentioned in the February Newsletter, airlines in the Southeast Asian region have record numbers of single-aisle jets in backlog. The Asia-Pacific market remains the most promising region for travel growth and accounts for a third of **Airbus'** and **Boeing's** orders. The five-year jet-buying balloon may be leaking air and the more sober carriers are adjusting to the challenges of intense competition and inadequate infrastructure. CEO of **BOC Aviation**, **Robert Martin**, said, "There'll need to be some thinning of order books. The smart carriers will start doing that early. Airlines will still probably take the planes in the long term, but we won't see the same annual volume." **Steve Udvar-Hazy**, Chairman and CEO of **Air Lease Corp.**, said, "What some of these airlines are now finding is it's difficult to sustain 30 to 40 percent growth when you can't deploy those aircraft in high-density markets." Asian carriers have to reconsider the orders they placed with "a little bit of over-enthusiasm" in 2011, 2012 and 2013, he said. Their growth plans have bumped up against scarce landing slots in the major population centers in China, India and Southeast Asia. The possibility

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of delivery deferral gives **Air Lease Corp.** a chance to buy very young aircraft at bargain prices, he said, but where does **ALC** deploy them? About 44 percent of its portfolio is leased to Asian carriers. Discount carriers account for 25 percent of total seats in the Asia/Pacific region. Ten new airlines may join the 50 budget airlines already operating across the Asia-Pacific. The glut of capacity and surfeit of operators will force consolidation or bankruptcy as the cash deficient smaller carriers fail or merge. After a five-year boom, there are not enough new trained flight crews, terminals, runways and air traffic control systems to keep up with demand. Growth also depends on removing operating restrictions for airlines in the region. Indonesia is balking and may allow free access at a limited number of destinations. Mr. **Martin** said free access to new routes via so-called open skies is a key element of the low-cost business models. "Open skies may not appear as quickly as they wished for when they placed the original orders." He thinks the manufacturers may be able to re-direct deferred deliveries to Europe or the U.S., now that Europe has emerged from the recession and the U.S. market has consolidated.

Leasing Companies

GECAS Wants to Diversify its Leasing Portfolio by investing at least \$4 billion in ship financing and helicopter leasing. The lessor has become wary of investing in the A320ceo (current engine option) and 737NG, because airlines will be replacing them soon. Even though the demand for new A320s and 737s is strong, **GECAS CEO Norman Liu** said, "You have to be careful of the last-of-the line planes. We don't want to buy as much, but then we have to fill that gap unless we want to shrink. We are looking as they taper [production of existing models] to find replacement investments that are safe and secure." Lessors expect the value of the industry's best-selling jets will suffer when the new A320neo and 737 MAX aircraft are delivered. They burn up to 15 percent less fuel, making the newest of the current models obsolete. Lessors base their business on assets which hold their value for a predictable period of time. The manufacturers are offering steep discounts may make it financially attractive to buy the last batch of outgoing models. **GECAS** is spending up to \$7 billion per year to renew and expand its fleet of 1,700 aircraft, but now it is looking to invest up to \$2 billion to buy and rent out helicopters to oilfield service companies. It wants to offer \$2 billion worth of shipping loans through its debt financing department. Mr. **Lui** said that helicopters were of potential interest. "It is a different distribution process because of the different client base but it is something where **General Electric** has an existing rotor engine product." **Airbus Helicopters** said leasing was beginning to take off in the sector. Its helicopters sell for about \$20 million each. "We would like to get some scale over time - a couple of billion. On the other hand we want to do sensible deals; we could just do some loans through our **PK AirFinance** group," he said. **GECAS** was not interested in buying cargo vessels because there is

Delta Air Lines will sell and lease back 24 narrowbody aircraft. The deal includes 10 **Boeing** 737-900ERs and 14 **Bombardier** CRJ900s that will be delivered in 2014. The airline tendered requests for proposals to lessors in January, and it is believed that **CIT Transportation** won the completion. **CIT's** President **Jeff Knittel** told the press, "We just did a large placement for narrowbodies with a large US carrier," but did not give any details. **Delta** was looking at a combination of leasing and financing options for its 2014 deliveries to build up the number of leased aircraft in its fleet. The airline has already sold and leased back 737-900ER (SN 31927) with an unnamed lessor in February. It has 15 more 737-900ERs scheduled for delivery in 2014. **Endeavor Air**, a **Delta** regional operator completed four CRJ900 sale and leaseback transaction in February, including SNs 15304, 15306, 15307 and 15309. The regional airline expects to take delivery of 20 more CRJ900s in 2014.

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too much competition from the industry's established players, but it could fill the gap that the European banks left. Mr. **Lui** said it was too soon to order the newly-launched 777-X, which will enter service in 2020, and the market for the re-engined **Airbus** A330, dubbed the A330neo, may be too small for **GECAS** to be interested.

GE Capital Aviation Services (GECAS) signed a purchase-and-leaseback agreement with **TUI Travel** for two new Boeing 787-8 Dreamliners. The aircraft are scheduled for delivery in May and June 2014 and will become the first 787s in the **GECAS** fleet. **GECAS** will lease five new **Boeing** 737-800s to **Hainan Airlines** to help expand the carrier's fleet. The aircraft will be delivered in 2015 and will come from **GECAS'** existing order book with **Boeing**.

International Lease Finance Corporation (ILFC) has leased more than 50 of its 74 ordered Boeing 787 Dreamliners. **ILFC** is the largest customer for **Boeing's** newest aircraft and it has taken delivery of five aircraft already. **ILFC** has contracted Dreamliner lease agreements with **Aeromexico, Air Berlin, Air France, Ethiopian Airlines, KLM, LAN Airlines, Norwegian Air Shuttle, Royal Jordanian, Thai Airways, and Vietnam Airlines**. It also leased two 787 BBJs to VIP customers.

Aircastle purchased and leased back four **Boeing** 777-300ERs with **LATAM Airlines Group S.A.** The lessor will buy another four later this year. **Aircastle** acquired the eight aircraft at a cost of \$715 million (\$89.375 million each) during the first quarter of 2014.

SMBC Aviation Capital signed a lease agreement with **Juneyao Airlines** for one A320-200 aircraft in February. The aircraft were part of the direct order book with **Airbus**.

Air Lease Corporation (ALC) Boeing 777 Leases. ALC signed a long term lease agreement with **KLM**, the Netherlands, for a new **Boeing** 777-300ER. The aircraft will be powered by two **General Electric** GE90-115B engines, and is scheduled for delivery in 2016. ALC already leases **Airbus** A330-200s and A330-300s, and **Boeing** 777s and 737-800s to **KLM**. ALC announced the long term lease of one new 777-300ER to **Emirates**. It is scheduled for delivery in 2015. **Air Lease Corporation** leased six new **Boeing** 737-800NGs to **Korean Air**. They are scheduled for delivery in 2015 and 2016. The aircraft are from **ALC's** current order book with **Boeing**.

Air Lease Corporation reported another consecutive quarter of fleet, revenue and profitability growth. Revenues increased 28 percent to \$243 million for the three months ending December 31, 2013, compared to \$190 million in the same quarter of 2012. Revenues increased 31 percent to \$859 million for all of 2013, up from the \$656 million for the previous year. Income before taxes (IBT) rose to \$91 million (pretax margin of 37 percent) for the final quarter of 2013, an increase of 48 percent compared to \$61 million and a pretax margin of 32 percent in the last three months of 2012. IBT grew 44 percent to \$293 million in 2013, and the pretax margin was 34 percent. This compared well with the income before taxes of \$204 million (pretax margin of 31 percent) for 2012. The lessor recorded \$18.9 million in profits from aircraft sales, trading and other activity during 2013.

Engines

Air France-KLM chose **General Electric** GENx-1B engines to power its 25 Boeing 787-9s, and the dozen aircraft it will lease from **ILFC**. The engine order was valued at more than \$1.7 billion at list

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prices. **Air France-KLM** will provide their own maintenance and overhauls as part of the agreement with **GE**. The **SkyTeam** member ordered the 25 787-9s in December 2011. It has taken more than two years to evaluate competing offers from **GE** and **Rolls-Royce**. In the past, **Rolls** had reserved the right to maintain their engines and this was a sticking point between **Rolls** and the airline group. **Air France-KLM** will take delivery from October 2015 through January 2017, several months sooner than the previously reported 2016 to 2018 delivery schedule. The 787s will replace older widebodies in the airlines' fleets.

PrivateAir and **Boeing Business Jets** each chose **Rolls-Royce** Trent 1000 engines for two of the 787-8s that they have on order.

United Airlines picked **GE** GENx-1B engines for seven more 787-8s, eight 787-9s and 20 787-10s that it has on backlog.

Japan Transocean Air (JTA) chose the CFM56-7B engines to power the 12 **Boeing** 737-800NGs that it recently ordered. The engine order was valued at \$260 million at list price. **JTA** has the flexibility to switch to the LEAP-1B-powered Boeing 737 MAX. **JTA** is a member of the **Japan Airlines Group** and is based in Naha, Okinawa. The airline is a long-time **CFM** customer, having ordered a fleet of eight CFM56-3-powered 737-400s between November 1989 and December 1999. The airplanes operate domestic routes linking Okinawa with major Japanese cities as well as to other islands within Okinawa.

Pratt & Whitney PurePower PW1100G-JM Engines Sales. **ANA Holdings** selected the geared turbofan engine for the 30 A320neo Family aircraft that it purchased in March. The first A320s will be delivered in 2016. "ANA's selection of **Pratt & Whitney** for their A320neo fleet marks the first time a Japanese airline customer has ordered the PW1100G-JM engine," said **Dave Brantner**, President of **P&W Commercial Engines**. Further, "We appreciate ANA's confidence in the Geared Turbofan engine." **Tigerair** chose PurePower PW1100G-JM engines for the 37 firm A320neo aircraft that it will receive starting in 2018. "We will enter into service with an engine that meets or exceeds the fuel burn specifications as promised which will provide superior environmental and economic performance," said **Koay Peng Yen**, CEO of **Tigerair**. The engines promise greater fuel efficiency for the aircraft, and will deliver larger cost savings for the airline. "We can in turn pass these savings on to **Tigerair's** customers, so they enjoy even greater value when they fly with us," he said. **Tigerair** was established in 2004, and is a leading Singapore-based no-frills airline. It comprises three airlines, **Tigerair Singapore**, **Tigerair Mandalay** and **Tigerair Australia**. The group's network extends to over 50 cities across 14 countries in Asia Pacific. **Tigerair** currently operates 48 A320-family aircraft, averaging less than three years of age.

SpiceJet, an Indian low cost carrier, recently purchased 42 **Boeing** 737 MAX aircraft. They will be powered by **CFM International's** LEAP-1B engines. The engine portion of the order was valued at \$1.1 billion at list price. **SpiceJet** is a long-time **CFM** customer, and currently operates more than 40 CFM56-7B-powered 737-800 and 737-900ER aircraft.

Comair Limited, a South African private domestic airline operator, placed an order for LEAP-1B engines to power the eight Boeing 737 MAX 8s it ordered. **Comair** was the first African airline to order the new 737 MAX. The LEAP-1B is the sole powerplant for the 737 MAX which is scheduled to go into production in 2017. This engine order was valued at \$210 million at list price.

Airline News

Tiger Airways, Singapore, will allegedly sell or close its Indonesian joint venture, **PT Mandala Airlines**, unless it earns a profit this year. **Mandala** resumed flights in 2012 after **Tiger** bought a one-third stake. As of September, **Tiger** owned 35.8 percent of the re-named **Tigerair Mandala**, and Indonesian private equity firm **Saratoga** owned 51 percent. So far, the airline has lost Singapore \$40 million (\$31.6 million) from April through December for **Tiger**. An un-named source said neither large investor is willing to pump money into the joint venture, but a spokesman for **Tigerair Mandala** said both **Tiger** and **Saratoga** will support the company for a long period to ensure business sustainability. In February, **Tigerair Mandala** suspended nine routes equaling 40 percent of its capacity, while larger competitors **Garuda Indonesia** and **Lion Air** were adding more aircraft and routes. One analyst said, "The more [**Tigerair Mandala**] flies, the more it loses money as nearly every route is below break-even. **Tiger** is sub-scale in Indonesia. Either it gets out or grows out of trouble." Apparently it is choosing to shrink its way to profitability. If it sells or closes **Tigerair Mandala**, this would be **Tiger's** second market retreat; it agreed to sell its loss-making **Tigerair Philippines** unit to Cebu Pacific in January.

Batik Air, a premium service subsidiary of **Lion Air**, will take delivery of the first of **Lion Air's Airbus A320s** this year. It started flying in May 2013 and already operates six **Boeing 737-900ERs**. **Batik** will add six A320s and four 737-800s to its fleet in 2014, and use the planes to increase its daily domestic flights from 36 to 100, and double its local routes from 10 to 22. **Batik** plans to launch its first international route to Singapore in November or December, ahead of the peak New Year holiday season, if the regulators approve. The airline intends to attract some of Indonesia's 50 million annual domestic passengers to upgrade from budget airlines. So far it has a 90 percent load factor. **Batik's** services threaten **Garuda Indonesia** which flies 140 aircraft on 40 local as well as international routes.

Oneworld Alliance. **SriLankan Airlines** will join the **oneworld** alliance on May 1. The national airline of Sri Lanka will offer the alliance's complete range of services and benefits, including the ability to earn and redeem "Plus" points across **SriLankan's** network of 32 destinations in 20 countries across Asia, Europe and the Middle East, **oneworld** said. **TAM Airlines** and **US Airways** completed their transition to **oneworld** on March 31. From this date, the 140 million members of the established **oneworld** airlines' frequent flyer programs can earn and redeem awards and tier status points and receive all other **oneworld** benefits when flying on **TAM** and **US Airways**, **oneworld** said in a press release. Both airlines were members of the **Star Alliance** but switched after merging with **LAN Airlines** and **American Airlines** respectively.

The Global Airline Alliance, **SkyTeam**, welcomed **Garuda Indonesia** as its 20th member. It is the second airline from Southeast Asia to join. Indonesia's capital Jakarta is now an alternative gateway to and from South East Asia, and **Garuda** adds 40 new destinations to **SkyTeam's** global network. **Garuda** flies to 64 cities in 12 countries,

IATA Posts March Jet Fuel Prices. Fuel prices were remarkably stable in 2013. The association updates the world's average jet fuel price each week. On March 14, 2014, the average price of fuel was \$2.891 per gallon. The fuel price was \$3.005 per gallon on February 21, 2013. The March price was 3 percent lower than in February, and was 2.7 percent lower than in March 2013. The price of fuel is affected by location. It was only \$2.799 in the Middle East region and was as high as \$3.025 per gallon in Latin America. **IATA** estimated that the global airline industry's fuel bill will total \$124.2 billion in 2014. This will be a decrease of \$4.8 billion over 2013.

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including 40 domestic destinations. The airline boosts **SkyTeam's** presence in Australia with service to Brisbane, Melbourne, Perth and Sydney, and in Tokyo with flights to both **Narita** and **Haneda** airports. **Garuda** will increase its service to Europe in May this year with a new route between Jakarta and London's **Gatwick** airport.

Finnair and **S7**, Russia, will codeshare on **S7's** new service between Helsinki and **Domodedovo International Airport** as well as to selected onward S7 services from Moscow to Novosibirsk, Kazan, Rostov-on-Don, Samara, Ufa and Yekaterinburg. **S7** will codeshare on **Finnair** services from St. Petersburg and Yekaterinburg to Helsinki, and to onward services to the Finnish cities of Joensuu, Kuopio, Oulu, Rovaniemi, Tampere, Turku and Vaasa.

Hainan Airlines will take delivery of 27 new aircraft in 2014, and it will use them to expand its routes to the United States and Europe. The airline will have 158 aircraft in its fleet by the end of the year. The new deliveries will include four **Boeing** 787s and three **Airbus** A330s. A **Hainan** executive said it flies to Chicago and Seattle, and will start flying to Boston. The airline will launch direct services from China to Brussels, Berlin, and Moscow, and will begin a code-share service to Paris. Chinese airlines are ramping up their international services to meet demand by increasing numbers of outbound travelers from China.

American Airlines and **JetBlue Airways** terminated their interline traffic and reciprocal frequent flyer program agreements after **JetBlue** and **Etihad Airways** started their codeshare pact. **American** and **JetBlue** had cooperated on several routes from **Boston Logan International Airport** and New York's **John F. Kennedy International Airport**. The airlines stopped selling new interline tickets for travel on the other carrier on March 10, and as of April 1, customers could no longer earn frequent flyer miles on flights operated by the other airline.

El Al Israel Airlines partially financed the purchase of two new **Boeing** 737-900ERs with \$94.55 million worth of bonds issued by a Canadian bank in the US market. The jets will be delivered on March 25 and in July. The bonds will bear fixed interest of 2.623 percent and will be redeemed in 49 quarterly payments over 12 years. They will be guaranteed by the **Export Import Bank of the United States**.

Emirates will take delivery of nine **Boeing** 777-300ERs and 10 **Airbus** A380-800 superjumbos during the 2014-15 fiscal year. It needs to raise \$4.5 billion in the financial year beginning April 2014 to pay for the new aircraft, the airline said last year.

Bankruptcy of the Month

go! Stops. **Mesa Air Group** ceased its Hawaii operations on April 1, 2014. Since June 2006, **go!** served nearly five million passengers with safe, reliable, low-fare service, **Mesa** said. The decision to cease operations in Hawaii followed significant growth in the **Mesa's** flight operations on the mainland. It made a strategic decision to focus on maximizing its growth in the capacity purchase ñcodeshareð operations which comprise over 98 percent of the **Mesa's** business, the company said. **Jonathan Ornstein**, **Mesa's** Chairman and CEO, said, ñWith the significant expansion opportunities in flying large regional jets in contracted service, we are re-deploying the **go!** aircraft to support our existing mainland operations. An additional factor that we accounted for was the long term increase in the cost of fuel, which has more than doubled since **go!** began service and has caused sustained profitability to be elusive.ð **go!** started service with five **Bombardier** CRJ200 regional jets in June 2006, but its fleet

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shrank to only two CRJ200s by October 2012. The airline had intended to replace the 50-seat CRJ200s with 90-seat CRJ900s or E190s, but this never happened. **go!**'s operations were plagued with lawsuits with **Aloha** and **Hawaiian** and a failed joint venture with **Mokulele Airlines**. Regional inter-island services are still operated by **Ohana by Hawaiian** (ATR 42s), **Mokulele** (Cessna Grand Caravans) and **Island Air** (ATR 72s and Dash 8Q-400s). It is apparent that **go!** was operating gas guzzling jets in a turboprop market.

Cargo Pallet

Aeronautical Engineers (AEI) delivered the second 737-400 freighter (SN 24808) to **Sideral Air Cargo**, Brazil, in February. The airline ordered two more AEI 737-400SF passenger to freighter (P2F) conversions in March. The first aircraft is a high gross weight, 1995-model 737-400 (SN 25377) and it will be modified at **Commercial Jet Services** in Dothan Alabama in June 2014. The second will follow shortly thereafter. This order brings **Sideral Air Cargo's** freighter fleet to five, including one AEI 737-300SF and four AEI 737-400SFs. AEI boasts that "the backbone of the 737-400SF conversion product is the precision-built, all-new Main Deck Cargo Door (MDCD) and surround skins, which, along with the primary kit, are 100 percent built in the United States." The cargo door is situated to allow the first of ten full height containers to be positioned forward of the door, against the light-weight 9G barrier.

Vx Capital Partners ordered their second **Aeronautical Engineers** 737-400SF P2F conversion. The aircraft is a 1996-built, high gross weight 737-400 (SN 28490) and will be converted at **Airod Aerospace's** Kuala Lumpur facility. This order will bring **Vx Capital's** AEI 737-400SF freighter fleet to two.

PEMCO World Air Services (PEMCO) announced the redelivery of a 737-400 Combi aircraft to **First Air**, Canada. This was the first of two conversion projects for the Ottawa-based carrier. The combi will be used primarily within Northern Canada, providing a unique combination of cargo and passenger services, **PEMCO** said. The 737-400 Combi can carry four and a half pallets of freight and 72 passengers. The functional capability of this converted aircraft makes it ideal for accomplishing unique and difficult missions for **First Air**.

PEMCO finished its first 737-400F for **Air Incheon** in late 2013. The conversion was completed by **PEMCO's** partner and major MRO provider **STAECO**, China. **Air Incheon** specializes in transporting heavy equipment for the oil and gas industries between Korea and Russia. The airline focuses on underserved markets such as Khabarovsk region in Russia's Far East, but also flies to China, Japan and Ulan Bator, Mongolia.

Lufthansa Cargo postponed the conversion of its first of five 777F freighter options due to tough market conditions. The airline ordered five 777Fs in May 2011 and optioned another five. Three of the 777Fs have been delivered so far. The jets were intended to grow the fleet, but they are now replacing the oldest of **Lufthansa Cargo's** 14 MD-11 freighters, because the air freight market has not improved. The first 777F option was due to expire in the second half of this year, but **Boeing** agreed to let the airline postpone the decision by 13 months. The airline has benefited from its 6.6 percent reduction in operating costs last year, but its revenue shrank by 9.2 percent. The cargo unit earned an operating profit of \$77 million in 2013, \$28 million less than in 2012. **Lufthansa's** group-wide efficiency program contributed \$73 million profit last year. The market has benefited from the bankruptcy of several cargo airlines and the resulting 3 percent to 4 percent reduction in freighter capacity in 2013.

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DHL Express will add five **Boeing 737-400SF** freighters to its service routes in the Americas later this year. The deal was part of a multi-year service agreement with **Southern Air**. The first of the five aircraft rolled off the conversion line in April and the last will enter service this August. **DHL** will base two aircraft in Venezuela and three in the U.S. **Southern Air** and **DHL** also signed a new Flight Services Agreement which continues the operation of four 777 freighters for another 10 years.

Military Market

Airbus Defence & Space reported that the **Republic of Singapore Air Force** ordered six A330 MRTT air-to-air refueling aircraft. Singapore is the sixth nation to select the A330 MRTT. **Qatar** is buying two A330 MRTT aircraft for the **Qatar Emiri Air Force**. **Qatar's** choice of the A330 MRTT makes it the seventh nation to select the type. **India** is also in final negotiations to acquire six aircraft. A total of 17 A330 MRTTs are currently in service with the air forces of Australia, Saudi Arabia, the United Arab Emirates and the U.K., and another 17 are on backlog. The A330 MRTT is derived from the highly successful A330 commercial airliner and proven in-service as a tanker/transport with multi-role capability, **Airbus** said. The A330 MRTT can also be used as a pure transport aircraft able to carry up to 300 troops, or a payload of up to 49.5 tons/99,000 lb. It can also easily be converted to accommodate up to 130 stretchers for Medical Evacuation (MEDEVAC).

Aeronaves TSM has ordered one more MD-80SF passenger to freighter conversion from **Aeronautical Engineers (AEI)**. The aircraft is a high gross weight MD-82 (SN 49558) that was built in 1988. Starting in July, **Commercial Jet's** Miami facility will modify the aircraft. This order will bring **Aeronaves TSM's** MD-80SF freighter fleet to three, including two MD-82SFs and one MD-83SF. The airline received the first of two high gross weight MD-82SF freighter (SN 49342) in March. The 1987 model jet was converted at **Commercial Jet's** Miami facility. The airline is based in Saltillo, Coahuila México, and is the largest operator of the MD-80SF freighter. **AEI** said "When compared to the 737-400F the MD-80SF offers comparable volume and payload capability at a much lower direct operating cost per trip. This makes the **AEI** MD-80SF the most economic narrow body freighter currently available on the market today."

The Turkish Government Has Not Taken Delivery of its First A400M Atlas. **Airbus** CEO **Tom Enders** is frustrated with Turkey's failure to accept the third production A400M. "The aircraft is ready to go," he said. "It's the same aircraft that we delivered to the **French Air Force** that has been instantly operational and fit for flight. I find the situation increasingly unacceptable." Turkey ordered 10 A400Ms almost 11 years ago, but it is "still bargaining" over the delivery process with **Airbus**. The airplane was completed last year and was supposed to be in service by now. **Airbus** is scheduled to deliver 10 or 11 A400Ms this year. It is also working on upgrading the turboprop to its full capabilities, Mr. **Enders** said. The **French Air Forces'** first two first A400Ms have performed well on their mission to ferrying French troops to Mali to combat Islamic insurgents. Mr. **Enders** said **Airbus** will seek "support from other nations very soon" to pressure Turkey to honor its commitment. Belgium, France, Germany, Luxembourg, Spain, and the U.K. are the other core buyers for the A400M. Turkey is a 5.5 percent shareholder in the A400M program, and **Turkish Aerospace Industries** supplies fuselage and wing parts for the plane which is assembled in Seville, Spain. Mr. **Enders** is "not very optimistic" about selling more **Eurofighter** jets now that Germany halted deliveries after 143 units. The country has canceled the last tranche of 37 planes. "We'll have to ramp down production of this otherwise very impressive aircraft sooner rather than later." He made the statements to the press before Russia annexed the Crimea. **NATO** countries may decide to boost defense spending in the face of continued Russian

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threats to Ukraine. Central European nations are very nervous about the new expansionist Russia that seems to want to re-assemble the Soviet Union out of its former member states.

The Royal Australian Air Force (RAAF) ordered eight P-8A maritime surveillance aircraft in February 2014, subject to the outcomes of the government's **Defense White Paper** review. The first aircraft will be delivered in 2017, with all eight aircraft fully operational by 2021. The **RAAF** took options for another four P-8As. The **Poseidons** will replace the **RAAF's** AP-3C Orions, at a cost of approximately \$4 billion, including support facilities. The P-8A has an internal fuel capacity of almost 34 tons, offering the plane an un-refueled range of over 4,000 nautical miles (7,500 km) or the ability to remain on station for over four hours at more than 1,200 nautical miles (2,200 km) from base. The P-8A also has the capability for air-to-air refueling from the boom of A330 MRTT tankers, which enables the plane to operate for more than 20 hours. This makes it possible for the P-8As to patrol Australia's isolated Southern Ocean territories. This apparent loss of the **Malaysian** 777 in the far south of the Indian Ocean has made this capability very important. **U.S. Navy** P-8As do not have a refueling capability and its aircraft were flying a search pattern for only a few hours after arriving on station during the search for the **Malaysian** 777.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A319. Avianca/Taca Holdings took delivery of one -132/W (SN 5944) in February, and leased it to Avianca. Germanwings received another -132 (SN 5978). Private operator, **K5 Aviation**, Germany, accepted ACJ319-115/W (SN 5963).

Airbus A320. Airbus delivered 22 A320s in February. Aeroflot leased four of these A320s during the month. It leased winglet-equipped -214/W (SN 5974) from AWAS. It was the seventh of eight A320s that the airline will acquire from AWAS. Aeroflot also leased -214/W (SN 5967) from SMBC Aviation Capital, and two -214/Ws (SN 5970 & 5982) from ICBC Financial Leasing. LATAM Airlines Group received two -214/Ws (SN 5929 & 5950). The first entered service with LAN Airlines and the second was sold to Avolon and leased to Pegasus Airlines. AWAS leased the sixth of nine -232/Ws (SN 5979) to Thai Smile, and leased the first of two -232/Ws (SN 5996) to Volaris, Mexico. Volaris leased -22/W (SN 5988) from BOC Leasing. BOC also leased -232/W (SN

AWAS will lease two used A320-200s to its long-time customer VivaAerobus, to assist the Mexican ultra-low cost airline to transition to an all A320 family fleet. The first A320-232 (SN 2443) came from AWAS' existing portfolio (ex-Kingfisher) and was handed over in February and the second will arrive by July 2014. VivaAerobus operates intra-Mexico and international flights providing comfort, quality and international standards at market leading low fares, AWAS said. It currently operates 23 leased 737-300s, and the AWAS A320. It will also lease two used A320-232s (SN 2157 & 2210) from SMBC Aviation Capital shortly.

AWAS leased the third of four new A320 aircraft (-214/W SN 6025) to Vietjet, from its new order pipeline. Vietjet is an expanding low cost carrier operating a modern, all A320 fleet from Vietnam's three major economic and tourist hubs Ho Chi Minh City, Danang and Hanoi. It is the first private airline in Vietnam to be licensed to operate domestic and international flights.

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5968) to **Air Astana**. **AirAsia** leased -216/W (SN 5959) to **Thai AirAsia**. **Iberia** transferred newly delivered -232 (SN 5985) to **British Airways**. **China Southern Airlines** leased -214 (SN 5976) from **China Aircraft Leasing Ltd. (CALC)**, and took delivery of **Tianjin FAL**-built -232 (SN 5837). **Hong Kong Airlines** transferred **Tianjin FAL**-built -214/W (SN 5848) to **Capital Airlines**. **Airbus** delivered seven A320s directly to airlines. In India, **IndiGo** accepted -232/W (SN 5952), and **Go Air** purchased -214/W (SN 5990). **Lufthansa** received its 65th -214/W (SN 5972), and **easyJet** acquired -214/W (SN 5981) in Europe. In the Pacific Region, **Airbus** delivered one -232/W (SN 5962) to **Air New Zealand** and -232/W (SN 5971) to **Qantas**. The **Qantas** airplane will remain at Toulouse, France, until it is needed by **Jetstar**. Finally, **Airbus** delivered -214/W (SN 5984) to **Air Arabia** at **Airbus'** Hamburg, Germany facilities. The jetliner is the 22th A320 Family aircraft to be delivered directly to **Air Arabia**, a leading low cost-carrier in the Middle East and North Africa regions. The airline and its affiliates, **Air Arabia Egypt** and **Air Arabia Maroc** operate 37 A320s and have 22 more on order. The airplane was fitted with **Sharklet** winglets. **Air Arabia** took delivery of the 6,000th A320 Family aircraft, an A320-214/W (SN 6000) on March 6. The manufacturer has more than 4,200 single aisle aircraft to be delivered.

SMBC Aviation Capital delivered a new A320-214 (SN 6004) on lease to **Peach Aviation** in March. This aircraft is part of the **SMBC's** direct order book. The company bought a new A320-232/W from **Spirit Airlines** and leased it back. This was the first of a four aircraft sale and leaseback deal.

AirAsia India, India's newest airline, took delivery of its first A320-216/W (SN 6015), equipped with **Sharklets**. Chennai-based **AirAsia India** will take delivery of an additional nine aircraft this year to serve India's rapidly growing domestic air traffic. The A320s are powered by CFM engines and configured with 180 economy seats. The 10 aircraft will come from the 475 A320 Family aircraft ordered by the **AirAsia Group**. The new airline is a joint venture between **AirAsia Group**, **Tata Sons** and **Telstra Tradeplace**.

Avolon leased new A320-214/W (SN 5995) to **Pegasus Airlines** on March 24, 2014. This was the fourth A320 to be leased to **Pegasus**, the first was delivered in November 2013. All four were originally ordered by **LATAM Airlines Group** and purchased by **Avolon**.

Hong Kong Airlines took delivery of its first **Sharklet**-fitted A320-214/W (SN 6003) in late March. It was the airline's sixth A320 and entered service on March 27. The airplane was fitted with 174 seats in an all-economy class configuration and was **Hong Kong's** 23 aircraft.

Airbus A321. **Airbus** delivered a record 12 A321s in February, including another two -231/W Transcontinentals (SN 5975 & 5983) to **American Airlines**. **American** leased one -231/W (SN 5955) from **Aviation Capital Group**. **American's** merger partner, **US Airways** received its 93rd -231 (SN 5980). The airline has 28 more A321s on order. **TACA International Airlines/Avianca** took delivery of -231/W (SN 5936), and **Finnair**

AWAS leased one A321-232 (SN 3302) to long-time customer **Aegean Airlines**. This aircraft was previously leased to **Kingfisher**. The airline also leases four -231s from **ILFC**. **AWAS** has had a strong business relationship with **Aegean** for over the past 15 years, and originally provided 737 Classics to the airline. It is now replacing them with more modern A320 Family aircraft. In late 2013, **Aegean** announced the addition of 15 new destinations from Athens in 2014, reaching to 47 overall international destinations from the Greek capital.

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received -231/W (SN 5961). **Aviation Capital Group** leased -211/W (SN 5969) to **Thomas Cook Airlines**. **UTair** acquired -211/W (SN 5966), and **TAM Linhas Aereas** purchased -231/W (SN 5947). The airplane was sold to **SMBC Aviation Capital** and leased back. This aircraft was the second of four aircraft to be sold and leased back. **Vietnam Airlines** accepted -231 (SN 5958), and **China Eastern Airlines** acquired -231/W (SN 5998). **JetBlue Airways** has financing for four eminent A321 deliveries and plans buy five A321 deliveries for cash in 2014. **JetBlue** received -231/W (SN 5960) in February.

Avinco, an aircraft trading and portfolio management company, arranged the sale of A321-200 (SN 970) on behalf of **Nouvelair Tunisia**. This was the first aircraft of two to be sold. It was purchased by **Apollo Aviation Group** and will be leased to **Germania**.

GE Capital Aviation Services Limited (GECAS) purchased and leased back two A330-302s with **Finnair**. The parties signed a Memorandum of Understanding on December 13, 2013. The MoU also included sale and leaseback agreements for the first two **Airbus A350** on order. The contracts two are expected to be concluded in the second half of 2015, when the planes are delivered. The four aircraft are valued at approximately \$320 million.

Finnair and Novus Aviation Capital signed a Memorandum of Understanding to sell and leaseback two 330-302s. The first transaction was finalized and the second aircraft will be sold and leased back in June 2014. The value of the arrangement covering both aircraft is approximately \$110 million. **SkyWorks** acted as financial advisor to **Finnair** on this transaction.

CIT Aerospace leased the first of two A321-231s (SN 3397) to **SriLankan Airlines**. The aircraft is powered by **IAE V2533-A5** engines and was leased to **Qatar Airways** from February 2008 to December 2013. The second A321 is due later this year, and may possibly be one of the three remaining -231s (SN 3274, 3636 & 3669) that **Qatar** leases from **CIT**. **SriLankan** previously leased two A320s from **CIT**.

Airbus A330. **Airbus** delivered one -200 and five -300s in February. **Hawaiian Airlines** bought its 12th of 18 -243s (SN 1496). **Skymark Airlines**, Japan's third largest airline, leased its first two A330-343Es (SN 1483 & 1491) from **Intrepid Aviation Group**. The airline will lease another eight A330s. **Skymark** is the first Japanese carrier to operate the A330 wide-body aircraft. The aircraft are configured with 271 seats in an all-economy cabin. It will start scheduled flights from Tokyo **Haneda** to Fukuoka in April 2014. **CIT Aerospace** leased another -343E (SN 1495) to **Cebu Pacific Air**. **China Southern Airlines** acquired one -323E (SN 1494), and **Air China** accepted one -343E (SN 1493).

Airbus A380. **Airbus** delivered one A380-841 (SN 141) to **Emirates Airways** in February, for a fleet total of 45. The airline has 95 more on order.

Boeing

Boeing 737 NG. **Boeing** delivered 36 737s in February, including four -924ER/Ws (SN 42176, 42745, 43531 & 43532) to **United Airlines**, for a total of 82. Elsewhere in the Americas, **Delta Air Lines** received two -932ER/Ws (SN 31926 & 31927) for a fleet total of 16, with 84 more on order. **Alaska Airlines** received its 15th -990ER/W (SN 36355), and **American Airlines** took delivery of one -823/W (SN 33234). It was sold to **Aercap Leasing** and leased back. The **United States Navy** took

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delivery of its 24th -8FV-P-8A Poseidon (SN 42252). **GOL Transportes Aéreos** took delivery of two -8EH/Ws (SN 39633 & 39634) from its own backlog. It sold the first to **AerCap** and the second to **BOC Aviation**, and leased them back. **GECAS** leased one -86N/W (SN 35646) to **SAS – Scandinavian Airline System**, and one -86N/W (SN 41246) to **China Southern Airlines**. **Air Lease Corporation** leased one -81B/W (SN 41316) to **China Southern** and the airline received one -81B/W (SN 38965) from its own backlog. **Boeing** delivered only one -700 in February, a -79P/W (SN 39731) to **China Eastern Airlines**. It was leased to **China Eastern Yunnan**. Elsewhere in China, **Boeing** delivered -89L/W (SN 41094) to **Air China**, one 84P/W (SN 39208) to **Hainan Airlines**, and two - 87L/Ws (SN 37619 & 39141) to **Shenzhen Airlines**. **Babcock & Brown Asset Management** leased one -85C/W (SN 39335) to **Hebei Airlines**. **SMBC Aviation Capital** leased -85N/W (SN 39935) to **Shandong Airlines** and one -8U3/W (SN 39936) to **Garuda Indonesia**. The aircraft were part of the lessor's direct order book with **Boeing**. In Asia, **BOC Aviation** leased -8AL/W (SN 39064) to **Jet Airways**. **SilkAir** took delivery of its first Next-Generation 737-8SA/W (SN 44217). The delivery marked the start of the Singapore-based airline's transition to an all-**Boeing** fleet. **Boeing** will deliver another 23 -800NGs and 31 MAX 8s to **SilkAir** over the coming years. **Lion Air** received two more -8GPER/Ws (SN 38746 & 38747) for a total of 25. **Lion Air** sold one -8GPER/W (SN 38744) to **Avolon Aerospace** and leased it back. In Europe, **Norwegian Air Shuttle ASA** took delivery of the airline's 46th and 47th -8JP/Ws (SN 39030 & 41125) in February. Both aircraft are fitted with the **Boeing Sky Interior**, for which **Norwegian** was one of the launch customers. The first 737 with the interior was delivered in October 2010, and more than 1,000 have been delivered worldwide as of March 1. **Travel Service** leased -81D/W (SN 39437) from **AWAS**, and **Turkish Airlines** accepted two more -8F2/Ws (SN 40992 & 42003). **TUI Travel PLC** took delivery of two -8K5/Ws (SN 37240 & 44271) and leased them to **TUIFly** and **Jetairfly**, respectively. Elsewhere, **Ceiba Intercontinental**, Equatorial Guinea, received its first of three -8FB/Ws (SN 41157). The airline ordered the 737NGs in August 2010, and it also flies one 777-200LR. **Flydubai** acquired its 35th -8KN/W (SN 40263).

ILFC leased two used **Boeing** 737-800 to **Donghai Airlines**, China, and delivered them to the airline in March. The aircraft are powered by CFM56 engines and configured with eight first class and 159 economy class seats. **Donghai Airlines** is one of China's newest passenger airlines, although it was founded in November 2002 as a cargo carrier. It operates from **Shenzhen Bao'an International Airport** with seven 737-300Fs and will launch passenger service from Shenzhen to Beijing, Shanghai, Xi'an, Zhengzhou, Chongqing and other domestic destinations with three 737-800s. **Donghai** plans to start international routes to Southeast Asia in the upcoming years. Its CEO **Guoxin Su** said, "We've established a seven-year blueprint. For the next two years, we plan to add five to six aircraft to our fleet each year."

SMBC Aviation Capital purchased a new 737-823/W from **American Airlines** in March, and leased it back. This was the fifth of an eight aircraft sale and leaseback transaction. **SMBC** also sold two 737-800s to an un-named leasing company based in Ireland.

Avolon acquired its first 737-800NG on lease to **Garuda Indonesia**. The international aircraft lessor also leased the first of two 737-800NGs to **China Airlines** in March.

GE Capital Aviation Services (GECAS) purchased four 737-8EH/Ws (SN 39608, 39620, 39624 & 39632) from **VRG Linhas Aéreas S. A.** and leased them back. One 737 was delivered in December

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2012, two were delivered in 2013, and the last one was delivered in February. **VRG Linhas Aéreas** is the parent company of **GOL Transportes Aéreos**, which is the second largest carrier in Brazil, and operates a fleet of 140 aircraft to some 70 destinations. **Aerolíneas Argentinas** leased two new 737-800s from **GECAS** in March, to expand and modernize the carrier's fleet.

AWAS long-term leased the first of two new 737-800 to a new customer **Sunwing Airlines**, Canada. This aircraft comes from **AWAS'** existing new order pipeline. **Sunwing Airlines** has offered affordable flights from almost 40 cities in North America, to over 30 vacation destinations, since 2005.

Boeing Rolled Out the First Boeing Next-Generation 737 to be built at the increased rate of 42 airplanes per month, on March 19. The 737-800 will soon be delivered to **Air Berlin** and ultimately leased to **Transavia France**. The airplane is undergoing functional, systems and flight testing before being delivered in April. Since 2010, 737 production has risen about 33 percent from 31.5 to 42 airplanes a month. As previously announced, the production rate is scheduled to increase to 47 airplanes a month in 2017.

Boeing 747. Boeing delivered two 747-830 Intercontinentals (SN 37836 & 37837) to **Lufthansa** in February. The airline now has 11 of the new 747s in its fleet, and eight more on order.

Boeing 767. Boeing did not deliver any 767s in February. **TUI Travel plc** appointed **Skytech-AIC** to offer one 1998-built -300ER for sale or sale/leaseback with availability in 2015. The 767 is equipped with winglets and **General Electric** CF6 engines, and is currently operated by **TUI's** Dutch airline, **Arkefly**.

Boeing 777. Boeing delivered two 777Fs and six 777-300ERs in February. **Lufthansa Cargo** received its third 777-FBT (SN 41676) and **Korean Air** acquired its fourth of five 777-FB5s (SN 37641). **Aeroflot - Russian Airlines** took delivery of its sixth -3MOER (SN 41688), and **Air Canada** received its 15th and final -333ER (SN 43250). **China Southern Airlines** acquired its first of 10 -31BERs (SN 43219). **China Southern** plans to operate its first -300ER on its new route to the east coast of the United States. **Emirates** purchased its 61st -31HER (SN 41360), and has 59 more on order. **American Airlines** accepted its 11th of 20 -323ERs (SN 33541). **Biman Bangladesh Airlines** received its third of four -3E9ERs (SN 40120). **Air India** sold its three -237LRs (SN 36300, 36301 & 36302) to **Etihad Airways**. **Etihad** subleased two -35RERs (SN 35159 & 35160) from **Jet Airways** after they were returned by **Thai Airways International**.

Boeing delivered the second 777-22KLR (Longer Range) (SN 42296) to Turkmenistan's national flag carrier, **Turkmenistan Airlines**. The first -22KLR (SN 39548) was handed over in August 2010. The latest delivery coincided with the opening of a new terminal at the **Ashgabat International Airport**. The airline started to modernize its fleet in 1992 when the airline became the first in the **Commonwealth of Independent States** to order airplanes from **Boeing**.

Boeing 787. Boeing delivered four 787-8s in February. **All Nippon Airways** accepted three more -8s (SN 34509, 34516 & 42248) for a fleet total of 27, and has a nine on order. **Boeing Business Jets** sold BBJ 787-8 (SN 40053) to the **Saudi Arabian Ministry of Finance and Economy** in February. The VIP Dreamliner is stored and awaiting the fitting of an executive interior. **Boeing** said it would deliver three

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more BBJ 787s this year, and the manufacturer said customers had ordered 13 BBJ 787s to be delivered through 2018.

Regional Jet

Bombardier delivered four CRJ900 NextGens (SN 15304, 15305, 15306 & 15307) to **Delta Air Lines** in February. They were leased to **Endeavor Air**, for operation under the **Delta Connection** brand. The airline now has 17 CRJ900NGs in its fleet, another 23 on order, and 30 on option. In January, **Lufthansa Cityline** sold CRJ701ER (SN 10015) to **SkyWest Airlines** which stored it at Tuscon, Arizona.

Falko Regional Aircraft Limited (Falko), a global lessor focused on the regional aircraft sector, added a CRJ900 aircraft to its portfolio. The 2006-model regional jet was acquired from **Bombardier** and is on lease to **Mesa Airlines**. It is operated on behalf of **US Airways**, which is now part of the **American Airlines Group**.

SkyWest Airlines took delivery of the first EMBRAER 175 Enhanced aircraft in late March. The new aircraft features a new winglet and aerodynamic clamps and benefits from fuel burn that is 6.4 percent lower than the standard E175 model. It will be the only E-Jets version that the Brazilian manufacturer will offer until the E175 E2 enters service in 2020. The E175 enhanced will operate under contract for **United Airlines**. **SkyWest** has 39 more E175s on firm order for **United**, and will take delivery of 24 of them in 2014. The E175 Enhanced will enter service on the **Chicago O'Hare-Washington National** route on May 17. **United** has firm orders for 30 more E175 enhanced aircraft to be operated by **Mesa Airlines**. It will receive one standard E175 and its first E175 Enhanced in early April. The regional carrier's first aircraft will be upgraded with the new winglets in July. **Republic Airlines** will take delivery of 24 E175s for operation on behalf of **American Airlines** this year. The regional carrier did not say how many of them will be the Enhanced model.

Embraer delivered two EMBRAER 170-200 LRs (E175) (SN 17000386 & 17000387) to **Republic Airways** for operation on behalf of **American Eagle**. **Fuji Dream Airlines** accepted E175 (SN 17000391) in February. **BOC Aviation** leased EMBRAER 190 (SN 19000657) to **Air Astana**. It is the airline's ninth E190.

Sukhoi. **Sukhoi Civil Aircraft Company (SCAC)** delivered the first long-range version of the Sukhoi Superjet 100 to the Russian carrier **Gazpromavia**. The carrier received SSJ100LR (SN 95033) and put it into service between Moscow Vnukovo and Khanty-Mansiysk in Siberia on March 4. **Gazpromavia** has another nine of the long-range Superjet 100LRs on order. The SSJ100LR was fitted with 90 seats in an all-economy layout, and equipped with an increased-thrust version of the **PowerJet** SaM146 engines that give it a range of nearly 2,500nm.

Interjet received its sixth Sukhoi Superjet 100 (SN 95038) on March 16, 2014. The aircraft rolled out of **SuperJet International's** hangar in Venice, Italy, and took off from **Venice Marco Polo** airport on its ferry flight to **Interjet's** facilities in Toluca, Mexico. The aircraft stopped in Keflavik, Iceland, and Bangor, Maine, during its trans-Atlantic flight. **Interjet** reported that its five SSJ100s have more than 99 percent dispatch reliability and are utilized for an average of nine flight hours per day. They fly to nine cities in Mexico. **Interjet's** SSJ100s have accumulated almost 4,000 flight hours, as part of a total of over 40,000 flight hours accumulated by all the Superjets in service worldwide. The airline's seventh SSJ is currently being completed at **SuperJet International's** plant in Italy and is almost ready to be delivered. The airline has another 13 SSJ100s on order and 10 options.

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Sukhoi Civil Aircraft Company (SCAC) delivered the first of two used Sukhoi Superjet 100s (SN 95012) to a new Russian customer, **Centre-South Airlines**, in late March. The second aircraft (SN 95015) is due shortly. Both aircraft were leased from **VEB-Leasing** and will be operated for the benefit of **AtlasJet**, which is focused on arranging private and corporate charter flights. The first **Centre-South** SSJ100 was named after **Oleg Kuprikov** and the second will be named **Sergei Melnikov**. The aircraft was fitted with 12 seats in business class and 75 in economy. **Centre-South Airlines** is based in Belgorod, Russia, and has been operating in the business aviation market for more than 20 years. It also has 11 **Tupolev** Tu-134s in its fleet. The airline took advantage of **Sukhoi's** program of re-marketing SSJ100s that were traded in by **Aeroflot**.

Nordic Aviation Capital (NAC) will lease four ATR 72-500s to **Etihad Regional** as part of a multi-million dollar agreement. The four aircraft will be handed over by June 2014 and operated by **Darwin Airline**. The first two ATRs are SN 662 & 706. **Etihad Regional** currently operates eight 50-seat Saab 2000 turboprop aircraft. It will configure each ATR with 68 seats.

Nordic Aviation Capital sold one ATR 42-300 (SN 191) to **Rheinland Air Service**. **NAC** is the largest turboprop lessor in the world, and is a global aircraft leasing company dedicated to the worldwide sale, purchasing and financing of commercial jet and turboprop aircraft.

Turboprop Aircraft

ATR. TransAsia Airways, a Taiwanese full service airline, took delivery of its first new ATR 72-600 (SN 1133) in February. The airplane is the first of 12 ATR 72-600s ordered by **TransAsia Airways** as part of its fleet renewal and growth program. The other 11 -600s will gradually replace the airline's current fleet of eight ATR 72-500s over the next two years. **Thai Lion Air** received its first ATR-72-600 (SN 1134).

Bombardier. Rwandair Express accepted 8Q-402 NextGen (SN 4464) in February. The airplane was ordered in April, 2013. The airline received up to C\$25 million (\$22.7 million) in financing from the **Export Development Canada (EDC)**. The aircraft was list priced at about \$32.7 million. The **EDC** provided **Rwandair** with export credit financing for two **Bombardier** CRJ900 aircraft that were delivered in 2012.

US-Bangla Airlines, Dhaka, Bangladesh, acquired two previously owned Dash 8Q-400s from a third party in February. **US-Bangla** is scheduled to commence domestic operations in April 2014.

Viking. The manufacturer completed its 50th production DHC-6 Series 400 Twin Otter in March. **Viking** recorded Series 400 sales to 23 countries worldwide, and has delivered aircraft to 18 different customers so far. The largest customers are **CAVU Aviation Finance** in the U.S. (14 aircraft on order), the **Peruvian Air Force** (12 aircraft orders), **Vityaz Avia**, Russia (11 orders), and **Global Aerospace Logistics**, the UAE, with commitments for 8 aircraft. The largest commercial operator is **MASwings**, a subsidiary of **Malaysian Airlines**, which has already received four of six Series 400 Twin Otter on order, and will receive the 50th **Viking** aircraft in early April. **Viking** provides Original Equipment Manufacturer (OEM) support for the worldwide fleet of **de Havilland Canada** legacy aircraft (DHC-1

March 2014

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through DHC-7) and forms part of **Westerkirk Capital**, a Canadian private investment firm with substantial holdings in the hospitality, aviation, and real estate sectors, the company said.

Antiques and Other Junque

The Royal Air Force retired its last **Lockheed TriStar** tanker/transport on March 24, after 30 years of operation. The TriStar provided air-to-air refuelling for the **RAF** and troop transport for the military. It recently played a key role in sustaining the **RAF's** ñairbridgedò with Afghanistan, and made 1,642 flights into the country, carrying approximately 250,000 passengers to and from the theater of operations. The **RAF** operated six ex-**British Airways** L1011-500s as K1/KC1 tanker/ transports and three ex-**Pan Am** -500s as C2 passenger transports. The tankers were modified by **Marshall Aerospace**. The last six operational aircraft were to be sold to an US entrepreneur but the deal has stalled over finance and export permissions. All nine airplanes are to be scrapped unless a deal can be signed. The **RAF** also retired its last **Vickers VC10** tankers in September 2013, after 47 years in service. The VC10s and L1011s were replaced by **Airbus A330-200 MRTTs**.

Red-Eye Aerospace acquired an **ATR42-300** for teardown. The disassembly work started in March at **Avcraft**, in South Carolina.

All Nippon Airways (ANA) formally retired its last **Boeing 747-481D** (SN 25644) in April, after operating the Jumbo Jet since December 1978. This marks a milestone in the passenger type's gradual disappearance from the major airlines's fleets. The domestic variant of the 747-400 operated its last flight from Okinawa to Tokyo **Haneda**, and ends 747 passenger service in Japan. The type was widely used by **ANA** and **Japan Airlines**, one of the 747's launch customers. **ANA** took delivery of its first two -100SR (Short Range) models in December 1978 and operated three other variants of the 747, the -200B, -400s and the -400D (Domestic). The airline ordered a total 47 747s and operated 39 of them at one time in the late 1990s. It started replacing the type with 777s in the early 2000s, trading in the -100SRs to **Boeing** and converting some of the -200Bs into freighters. **ANA** retired its last three long-haul -400s at the end of 2011, and it has gradually phased out its last eight -400Ds since then. The airline decided not to order the high-capacity A380 or 747-8I for domestic service but has fitted its seven 777-381s with 21 business class and 503 tourist seats for domestic trunk routes.

ANA subsidiary **Nippon Cargo** continues to operate seven 747-400F and five 747-8F freighters and the **Japan Air Self-Defence Forces (JASDF)** flies two 747-400 government transports.

Accidents and Safety

From Aviation Safety Foundation

Malaysia Airlines lost **Boeing 777-2H6ER** (9M-MRO, SN 28420) during its flight from Kuala Lumpur, Malaysia, to Beijing, China, on March 8. There were 227 passengers and 12 crew members on board. Flight MH 370 deviated from its planned flight path after midnight and apparently crashed in the southern Indian Ocean seven or eight hours later. Since then a dozen nations have dedicated ships and aircraft to look for the wreckage. On March 15, Malaysian authorities reported that ñwith a high degree of certaintyò, the **ACARS-Aircraft Communications Addressing and Reporting System** was

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disabled and then the aircraft's transponder aircraft location reporting system was switched off as well. The 11-year-old aircraft had recently undergone maintenance.

US Airways Airbus A320-214 (N113UW, SN 1141) was substantially damaged in a takeoff accident at **Philadelphia International Airport** on March 13. The flight crew aborted the takeoff due to smoke in the number 1 engine the **FAA** said. The nose gear touched down again and collapsed. The nose came to rest in the grass off the runway. Two of the passengers were injured during the emergency evacuation. The aircraft was delivered in 2000; it is currently stored at the airport.

Yemeni Air Force Antonov An-26 (1177, SN 6507) was substantially damaged by a belly landing accident in the remote desert area of Hadhramaut, Yemen, on March 2. The airplane sustained damage to the propeller tips and fuselage. It was carrying supplies from Sana'a to the Masila oilfield with two crew members and four soldiers on board. They survived, only to be captured by anti-government tribesmen in the area.

Libyan Air Cargo Antonov An-26 (5A-DOW, SN 11809) was destroyed in an accident near Grombalia, Tunisia, on February 21. The six crew members, two patients and three medics on board the ambulance flight were killed. The airplane came down approximately 20 miles from **Tunis-Carthage Airport** after the pilot had reported engine problems to the Tunis air traffic controller.

Guicango Embraer EMB-120 Brasilia (D2-FFZ, SN 120212) was damaged in a forced landing accident near **Lukapa Airport**, Lunda Norte, Angola, on February 25. The press reported the airplane suffered engine problems en route from Luanda to Dundo. The airplane came to rest on rough terrain and sustained substantial damage to the undercarriage, the engines and wings. The 24 year old airplane will probably be written off. None of the 14 passengers or three crew were injured.

Jet2 Boeing 737-8K2 (G-GDFC, SN 28375) was substantially damaged while landing at **Funchal Airport**, Madeira, Portugal, on February 17. The effects of wind shear caused the aircraft to develop a high sink rate. The aircraft landed heavily and bounced about 300 meters. The pilot continued the landing and eventually the tail struck the runway. The airplane suffered some deformation of the outer surface of the fuselage and significant skid marks on the underside of the rear fuselage. An inspection showed some bent struts and cracks on two fuselage frames that sustained structural damage from the contact with the runway. The airplane was 15 years old at the time of the accident and it will be returned to service.

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Since its establishment in 1962, AVMARK has been providing consulting management services to all sectors of the aviation community. From offices in Washington DC and Singapore, together with associates based in United States (North America), Ecuador (South America), Spain (Europe), Congo (Africa), New Delhi (India and Asian Market), we serve a worldwide clientele. Our staff is comprised of professionals with extensive, successful careers in technical, commercial and managerial areas of aviation enterprises; combining real world operational experience with sophisticated analytical tools to provide our clients with the most effective solutions to their problems.

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AVMARK's Small Transport Aircraft Catalogue (STA); designed as an easy to use reference guide to compare the operating and cost parameters of 35 regional jet and turboprop aircraft.

Sample of Avmark Publications

SMALL TRANSPORT AIRCRAFT CATALOG

STA is designed as an easy to use reference guide to compare the operating and cost parameters of 35 regional jet and turboprop aircraft. Information includes development history, current production status, configuration and operating performance and costs as reported to the DOT. Pictures of each aircraft are also included.

SMALL TRANSPORT AIRCRAFT
A Catalog of New and Used Commuter / Regional Aircraft
2004
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MARKET OVERVIEW

Most dynamic and fastest growing segment in the world using old generation propeller aircraft to 90 million passengers using state of the art

Airline Association (RAA):

Aviation:

DOT:

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ATR 42-300

In Service: 1985 Orders: Out of Production Deliveries: 284

Specifications	
Accommodations	
Passengers*	46
Pilot	2
Cabin Attendants	1
Powerplant	
2 Pratt & Whitney PWC120 Turboprops	1,800 SHP / 1,342 kW
Hamilton Propellers	4 blades
External Dimensions	
Length	74 ft 8 in
Wingspan	60 ft 7 in
Height	24 ft 11 in
Weight	
Empty	48,815 lb
Max Ramp	56,155 lb
Max Takeoff	53,510 lb
Max Landing	22,875 lb
Max Ramp	10,325 lb
Max Takeoff	9,920 lb
Max Landing	40.53 lb / sq ft
Max Ramp	10.23 lb / cu ft

Standard Equipment: Right engine Propeller Brakes, Airsarch Air Conditioning, Stall Warning.

Optional Equipment: KLN 900 GPS/W, FMS, Area Navigation (RNAV), Microwave Landing System, VLF Omegat Long Range Navigation System, Dual Honeywell AZ-800 Digital Air Data Computers, PA System, HF Radio, Collins Avionics in place of King Avionics, CAT II.

Avionics: EDZ 820 Electronic Flight Instrument System (EFIS) - 4 CRT's for dual Attitude and Heading Reference Systems (AHRS), Dual Autopilots, Dual GPS, Dual King Gold Crown VHF Nav, Radios, DME, Radio Altimeter, Honeywell P-800 Weather Radar.

Price List

Years Built	Base (\$ mil)
85-99	2.0

ATR 42-300 85-99 2.0

Direct Operating Costs (\$ per block hour)

Utilization (Block Hours / Year)	
Average Stage Length (nm)	100 300
Flying Operations	
Flight Crew, Salaries / Expenses	\$198 \$188
Fuel, Oil, Taxes	\$173 \$162
Other	\$3 \$3
Aircraft Costs	
Insurance	\$3 \$3
Maintenance	\$478 \$415
Depreciation	\$62 \$62
Rentals	\$318 \$318
Total Direct Operating Costs	\$906 \$833
Cost per Available Seat Mile - \$	12.33 8.65
Cost per Airplane Mile	\$5.67 \$4.44
Cost per Seat Block Hour	\$16.67 \$15.1

Note: Data from DOT Airline Reports.

ATR 42-300

PAYLOAD VS. RANGE

Range (nm)

Distance (nm)

ATR 42

THE AVIONS DE TRANSPORT REGIONAL (ATR) first flew in August 1984, and entered service in December 1985 with the French regional Air. The aircraft is a joint venture between Aerospatiale of France and Aeritalia of Italy. The ATR 42's name originally designated it as a 42 passenger aircraft, but subsequent reduction of the forward baggage compartment now allows for a seating configuration of up to 50 passengers.

The baseline aircraft is the ATR 42-300/320 powered respectively by PW120/121 engines. The latest version is the ATR 42-500 powered by PW127s engines and Hamilton six-bladed propellers. Thus increasing the payload to 12,015 lb and the cruise speed to 300 kts.

The standard front cargo door allows the aircraft to be quickly converted from a passenger layout to freighter. Unique among turboprops, is the integration of a Propeller Brake on the right engine, which allows running of the engine in "Hotel Mode" to provide aircraft electrical power and air conditioning without the inconvenience and safety hazards of a rotating propeller.

The ATR 42 and ATR 72 have a very high degree of commonality, allowing for cross-crew qualification, and a common spare parts holding.

TYPICAL CABIN CONFIGURATION

48-seats in a four-abreast layout with a center aisle. Access to the cabin is by an air stair at the rear passenger door, and a modular galley in the rear of the aircraft is serviced through the same door. A standard toilet is located in the rear of the aircraft behind the passenger door. Baggage is accommodated in overhead bins on both sides of the cabin, under seat storage, in an externally accessed forward and aft baggage compartment, and in a closet.

US \$ 350.00

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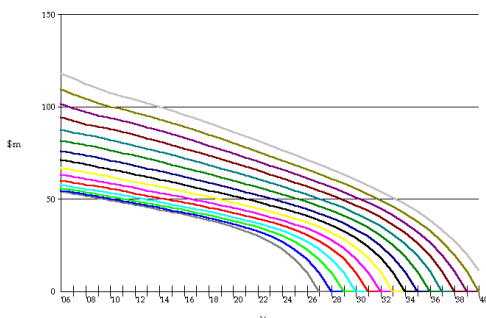
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CAVAS Graph



Profit & Loss Report

Aircraft Type	Period	1	2	3	4	5	6
REVENUES (US\$)							
Passengers	49,328,754	49,270,739	49,212,559	49,154,213	49,095,701	49,037,189	48,978,677
Freight & Mail	8,879,176	8,868,733	8,858,261	8,847,758	8,837,226	8,826,673	8,816,141
Other Revenue	986,575	985,415	984,251	983,084	981,914	980,744	979,574
TOTAL OPERATING REVENUE	59,194,505	59,124,887	59,055,070	58,985,055	58,914,841	58,844,627	58,774,413
VARIABLE EXPENSES							
Fuel	6,918,975	6,917,340	6,915,670	6,913,977	6,912,265	6,910,533	6,908,781
Landing Fees	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823
Enroute Charges	392,440	392,440	392,440	392,440	392,440	392,440	392,440
Pax Commissions	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313
Freight Commissions	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876
Food & Supplies	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194
Passenger Liability Insurance	379,590	379,590	379,590	379,590	379,590	379,590	379,590
TOTAL VARIABLE COST	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212
SEMI-VARIABLE EXPENSES							
Crew Salaries & Expenses	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760
Maintenance & Engineering	587,650	587,650	587,650	587,650	587,650	587,650	587,650
TOTAL SEMI-VARIABLE COST	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410
TOTAL OPERATING COST	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622
OPERATING PROFIT OR LOSS	29,985,883	29,916,265	29,846,448	29,776,343	29,706,129	29,635,915	29,565,701
D-CHECK ADJUSTMENT							
Cumulative Hours	4,830	9,650	14,459	19,257	24,045	28,833	33,621
Cumulative Dollars	315,000	0	0	0	0	0	0
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646

Profit & Loss Report

Aircraft Type	Period	1	2	3	4	5	6
FIXED EXPENSES							
Station Overhead	346,597	345,923	345,249	344,575	343,901	343,227	342,553
Maintenance Burden	176,295	351,824	526,586	700,581	873,810	1,047,039	1,220,268
Other Overhead	0	0	0	0	0	0	0
TOTAL FIXED COST	522,892	697,747	871,835	1,045,156	1,217,711	1,390,266	1,562,821
TOTAL OPERATING COST	31,464,497	32,185,749	32,903,601	33,618,052	34,329,104	35,039,156	35,749,208
General and Admin. Allocation	1,573,225	1,609,287	1,645,180	1,680,303	1,716,455	1,752,607	1,788,759
TOTAL COST	33,037,722	33,795,036	34,548,781	35,298,355	36,045,559	36,791,763	37,537,967
OPERATING PROFIT OR LOSS	26,156,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646
D-CHECK ADJUSTMENT							
Cumulative Hours	4,830	9,650	14,459	19,257	24,045	28,833	33,621
Cumulative Dollars	315,000	0	0	0	0	0	0
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646

Select Aircraft Type

Available Aircraft

- Airbus A300B4-600R
- Airbus A300B4-600RF
- Airbus A310-200
- Airbus A310-200F
- Airbus A310-300
- Airbus A310-300F
- Airbus A318
- Airbus A319-100
- Airbus A320-100
- Airbus A321-100
- Airbus A321-200
- Airbus A330-200
- Airbus A330-300
- Airbus A340-200
- Airbus A340-300
- Airbus A340-500
- Airbus A340-600
- Airbus A350-800
- Airbus A350-900
- Airbus A380-800
- Avro RJ-100
- Avro RJ-70
- Avro RJ-85
- BAe 111-200/300/400/500

Picture

Selected: Airbus A340-300

Description: Widebody 4 Engine Passenger

Manufactured: 1992 To 2006

Values: \$54.00m \$118.00m

Estimated Life: 35 years File No. 013

Search Term

Add Modify Delete OK

Aircraft: Airbus A340-300 - Widebody 4 Engine Passenger

CAVAS Figures

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2007	54.00	54.61	55.83	57.66	60.10	63.14	66.80	71.07	75.94	81.43	87.52	94.23	101.54	109.47	118.00
2008	52.85	53.49	54.70	56.56	58.99	62.01	65.62	69.95	74.86	80.37	85.52	92.18	99.12	106.73	115.25
2009	51.68	52.36	53.61	55.43	57.85	60.84	64.42	68.69	73.65	79.18	84.76	90.48	96.97	104.20	112.39
2010	50.49	51.19	52.46	54.29	56.70	59.67	63.24	67.50	72.44	77.95	83.52	89.34	95.81	103.44	111.63
2011	49.28	49.99	51.27	53.10	55.50	58.46	62.01	66.25	71.17	76.66	82.32	88.24	94.91	102.84	111.03
2012	48.05	48.77	50.05	51.88	54.28	57.23	60.77	64.99	69.89	75.37	81.02	86.94	93.91	102.04	110.23
2013	46.80	47.52	48.80	50.63	53.03	55.98	59.51	63.72	68.61	74.08	79.73	85.75	92.91	101.24	109.47
2014	45.53	46.25	47.53	49.36	51.76	54.71	58.23	62.44	67.32	72.79	78.44	84.36	91.61	99.94	108.17
2015	44.25	44.97	46.25	48.08	50.48	53.43	56.95	61.15	66.03	71.50	77.15	83.07	89.51	97.04	105.27
2016	42.96	43.68	44.96	46.79	49.19	52.14	55.66	59.85	64.72	70.19	75.84	81.76	88.39	96.02	104.25
2017	41.67	42.39	43.67	45.50	47.90	50.85	54.36	58.55	63.42	68.89	74.54	80.46	87.09	94.72	102.95
2018	40.38	41.10	42.38	44.21	46.61	49.56	53.06	57.25	62.12	67.59	73.24	79.16	85.79	93.42	101.65
2019	39.09	39.81	41.09	42.92	45.32	48.27	51.77	55.96	60.83	66.30	71.95	77.87	84.50	92.13	100.36
2020	37.80	38.52	39.80	41.63	44.03	46.98	50.48	54.67	59.54	65.01	70.66	76.58	83.21	90.84	99.07
2021	36.51	37.23	38.51	40.34	42.74	45.69	49.19	53.38	58.25	63.72	69.37	75.29	81.92	89.55	97.78
2022	35.22	35.94	37.22	39.05	41.45	44.40	47.90	52.09	56.96	62.43	68.08	73.90	80.53	88.16	96.39
2023	33.93	34.65	35.93	37.76	40.16	43.11	46.61	50.80	55.67	61.14	66.89	72.71	79.34	86.97	95.20
2024	32.64	33.36	34.64	36.47	38.87	41.82	45.32	49.51	54.38	59.85	65.50	71.32	77.95	85.58	93.81
2025	31.35	32.07	33.35	35.18	37.58	40.53	44.03	48.22	53.09	58.56	64.21	70.03	76.66	84.29	92.52
2026	30.06	30.78	32.06	33.89	36.29	39.24	42.74	46.93	51.80	57.27	62.92	68.74	75.37	82.99	91.22
2027	28.77	29.49	30.77	32.60	35.00	37.95	41.45	45.64	50.51	55.98	61.63	67.45	74.08	81.70	89.93
2028	27.48	28.20	29.48	31.31	33.71	36.66	40.16	44.35	49.22	54.69	60.34	66.16	72.79	80.41	88.64
2029	26.19	26.91	28.19	30.02	32.42	35.37	38.87	43.06	47.93	53.40	59.05	64.87	71.50	79.12	87.35
2030	24.90	25.62	26.90	28.73	31.13	34.08	37.58	41.77	46.64	52.11	57.76	63.58	70.21	77.83	86.06
2031	23.61	24.33	25.61	27.44	29.84	32.79	36.29	40.48	45.35	50.82	56.47	62.29	68.92	76.54	84.77
2032	22.32	23.04	24.32	26.15	28.55	31.50	35.00	39.19	44.06	49.53	55.18	60.90	67.53	75.15	83.38
2033	21.03	21.75	23.03	24.86	27.26	30.21	33.71	37.90	42.77	48.24	53.89	59.61	66.24	73.86	82.09
2034	19.74	20.46	21.74	23.57	25.97	28.92	32.42	36.61	41.48	46.95	52.60	58.32	64.95	72.57	80.80
2035	18.45	19.17	20.45	22.28	24.68	27.63	31.13	35.32	40.19	45.66	51.31	57.03	63.66	71.28	79.51
2036	17.16	17.88	19.16	20.99	23.39	26.34	30.82	35.01	39.80	45.27	50.92	56.64	63.27	70.89	79.12
2037	15.87	16.59	17.87	19.70	22.10	25.05	29.24	33.43	38.22	43.69	49.34	55.06	61.69	69.31	77.54
2038	14.58	15.30	16.58	18.41	20.81	23.76	27.94	32.13	36.93	42.39	48.04	53.76	60.39	67.91	76.17
2039	13.29	14.01	15.29	17.12	19.52	22.47	26.66	30.84	35.63	40.94	46.59	52.31	58.94	66.56	74.79
2040	12.00	12.72	14.00	15.83	18.23	21.18	25.37	29.56	34.35	39.82	45.47	51.19	57.82	65.44	73.62
2041	10.71	11.43	12.71	14.54	16.94	19.89	24.08	28.27	32.46	37.93	43.58	49.20	55.83	63.45	71.65
2042	9.42	10.14	11.42	13.25	15.65	18.60	22.79	26.98	31.17	36.64	42.23	47.85	53.47	61.09	69.32
2043	8.13	8.85	10.13	11.96	14.36	17.31	21.50	25.69	29.88	35.35	40.97	46.59	52.21	59.83	68.05
2044	6.84	7.56	8.84	10.67	13.07	16.02	19.21	23.40	27.59	31.74	37.36	42.93	48.55	56.17	64.40
2045	5.55	6.27	7.55	9.38	11.78	14.73	18.92	23.11	27.30	31.45	36.96	42.54	48.16	55.78	64.01
2046	4.26	4.98	6.26	8.09	10.49	13.44	17.63	21.82	25.91	30.16	35.67	41.29	46.90	54.52	62.73
2047	2.97	3.69	4.97	6.79	9.20	12.15	16.34	20.53	24.72	28.91	34.42	40.03	45.64	53.26	61.47
2048	1.68	2.40	3.68	5.50	7.91	10.86	15.05	19.24	23.43	27.62	33.13	38.74	44.35	51.97	60.18
2049	0.39	1.11	2.39	4.21	6.62	9.57	13.76	17.95	22.14	26.33	31.84	37.45	43.06	50.68	58.89
2050	-0.90	-0.18	1.10	2.92	5.33	8.28	12.47	16.66	20.85	25.04	30.55	36.16	41.77	49.39	57.50



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