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AVMARK INC.®

WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

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Newsletter

Market Comment

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Convergence. AVMARK noticed that three items in the news this month seemed to be related – aircraft safety, delays in development and certification of new aircraft and the ‘human factor’. IATA reports that 2014 was the safest year in terms of the number of fatal crashes per million flights. IATA said more than 3.3 billion people (nearly half the world’s population) flew on 38 million flights (30.6 million by jet, 7.4 million by turboprop) and there were 13 fatal crashes that caused 939 fatalities. The accident rate was approximately 0.23 per million flights equaling one accident per every 4.4 million flights. This was more than half the five-year (2009-2013) average rate of 0.58 per million flights per million flights, but the average number of fatalities in that period was 517. The 2014 fatalities numbers were skewed by the loss of two **Malaysian** 777s. The industry saw significant improvements in the crash and fatality rates in the CIS and Africa regions, which were the worst performers. This is due to the retirement of elderly, ill-maintained aircraft, infrastructure improvements and better training of flight and maintenance crews. One’s chances of being struck by lightning in the United States was 1 in 1.9 million, more than twice the chance of boarding an airliner that will be involved in a fatal accident.

Bombardier is again delaying certification and delivery of its C Series airliner. In part, the delays were due to events, such as the engine fire that grounded the test fleet for six months. The program was also delayed by the complexity of bringing a 21st century airliner into service. Newly-developed technologies need to be tested diligently and extensively, and all glitches are remedied. Other recent aircraft programs have been delayed. The **Airbus** A350 entered service only six months later than planned, but the bigger and more complicated A380 was delayed by more than two years. The **Boeing** 787 was famously late to enter service, and **COMAC** finally certified its ARJ21 in late 2014, after several postponements. These cost the manufacturers more money than was budgeted, but each program will be much better than prior aircraft developed before 2001. In the “good old days”, the certification program was shorter. The **Douglas** DC-3 was put into service only six months after the first flight, and the **Boeing** 707 entered service ten months after its first flight.

A **Germanwings** A320 crashed into the French Alps in March. The Cockpit Voice Recorder was recovered and the transcript of the recording was leaked early in the investigation. It is alleged that the co-

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pilot deliberately flew the aircraft into the ground while the pilot was locked out of the cockpit. For many years, pilot union's complained that if an airliner crashed and the aviation authorities could not find a cause, they would blame it on pilot error. Now it appears that with so few fatal crashes, and the sophistication of modern airplanes, the pilots **are** the most likely cause of accidents. There are many reasons for this, including flight crew complacency—the airplane flies itself and the pilots monitor the computer and rarely operate the controls. Also the huge increase in the number of pilots means that many are younger and have fewer flight hours than the average pilot in the past. Then there have been problems with pilots deliberately crashing their aircraft. The **New York Times** reported that at least five other airliners were wrecked by a member of the flight crew since 1982, including a **Linhas Aereas Mocambique** E190, an **Egyptair** 767, a **Silkair** 737, a **Royal Air Maroc** ATR 42 and a **Japan Airlines** DC-8. There is speculation that **Malaysian** Flight MH370 was intentionally diverted off course by one of its flight crew, but there is no proof. It seems that the human factor is now a primary cause of air crashes and airlines must now focus more intensely on that subject.

The **National Transportation Safety Board (NTSB)** suggested that airline install cameras in the cockpit to visually record what happens before and during an incident. This would be in addition to the voice recorder. The **Air Line Pilots Association** strongly “opposed cockpit imaging recorders because the benefits of video imaging are vastly overrated, and because far more effective and efficient tools exist that will not only obtain the safety data necessary to accurately investigate an accident, but also help to prevent future accidents,” said **ALPA** VP, Captain **Paul Rice**. Pilots believe the airline would use the video record as evidence of poor piloting skills or discipline. Basically the pilots are afraid they could be fired for making a mistake even if the error did not endanger the aircraft. Capt. Rice said, “History has shown that in the current environment it is impossible to safeguard the privacy of cockpit voice recorders, much less cockpit image recorders. When cockpit voice recorders were originally installed, it was done with clear expectations about pilot privacy. Those expectations have not been met. These recordings can find their way into the news media. Given the significant technological concerns that exist, **ALPA** does not believe that the costs and pilot privacy issues are outweighed by any purported benefits.” In this era of constant surveillance, the pilots are not being paranoid. Unfortunately, they have chosen a profession that is highly structured and regimented. Pilots are

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forbidden to drink a specified number of hours before flying, they must sleep a minimum number of hours before flight, they cannot eat the same meal as their crew mate (to avoid the crew being incapacitated by food poisoning), they cannot smoke cannabis even where it is legal, and a myriad other rules governing their behavior. The intrusion of cameras in the cockpit is another imposition in the name of safety that is now justified. The flight crews will also face increased scrutiny into their mental and physical health as well. Unfortunately, airline flight crews have diminishing expectations of privacy on the job, so they had better accept that fact or find employment flying VIPs around in Gulfstreams.

Airbus Orders

Airbus Sold 18 A320neo (new engine option) and five A320ceo (current engine option) aircraft to an **Unidentified Customer** (believed to be **Qingdao Airlines**, China). **AirAsia** exchanged nine existing A320ceo orders for nine more A320neos. The Malaysian budget operator now has 47 A320ceos on order and its A320neo orders rose to 304.

Airbus delivered 37 A320 Family jetliners, eight A330s, and one A380, to a total of 26 customers. At the end of the month, **Airbus'** backlog stood at 6,332, comprising 5,085 A320 Family jetliners, 305 A330s, 779 A350s and 163 A380s.

Air Lease Corporation (ALC) firmed its order for 30 A321LR and 25 A330-900neo aircraft. **ALC** was first customer to sign up for **Airbus'** newest widebody, the A330neo, when it announced a commitment to buy the 25 A330-900neos at the **2014 Farnborough International Airshow**. **ALC** was also the first to commit to the A321LR (previously known as the A321neo 97T), the newest variant of the A321neo. The

Airbus Orders, Deliveries and Backlog February 2015

FEB ORD	FEB DEL	FEB CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			A318		
-0-	-0-	-0-	79	79	-0-
			A319		
-0-	1	-0-	1,472	1,434	38
			A319neo		
-0-	-0-	-0-	49	-0-	49
			A320		
5	22	-9	4,753	3,889	864
			A320neo		
27	-0-	-0-	2,844	-0-	2,844
			A321		
-0-	14	-0-	1,585	1,050	535
			A321neo		
-0-	-0-	-0-	755	-0-	755
			A330		
-0-	8	-0-	1,352	1,167	185
			A330neo		
-0-	-0-	-0-	120	-0-	120
			A350		
-0-	-0-	-0-	780	1	779
			A380		
-0-	1	-0-	317	154	163
This Month			This Year		BL
32	46	-9	28	82	6,332

Airbus sold 15,299 aircraft and delivered 8,967 as of February 28, 2015. Nine orders were cancelled. Total orders, deliveries and backlog include cancellations and order changes.

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lessor signed a Memorandum of Understanding for 30 at the program's launch in January 2015. The firm order increased **ALC's** A321neo commitment to 90 aircraft. "**ALC** is always ahead of the game and we are very happy to have them on board from the start with our latest A321LR and A330neo models," said **John Leahy**, **Airbus** Chief Operating Officer – Customers. "We listen very carefully to our customers and are clearly seeing that our strategy to constantly improve our products through incremental innovations" is working. **ALC's** total firm orders for **Airbus** aircraft stands at 53 A320ceo Family, 140 A320neo Family, 15 A330s, 25 A330neos, and 25 A350 XWB. The A321LR will be able to fly longer routes of up to 4,000 nm, with 206 passengers in a comfortable two-class layout. It offers the each passenger the possibility to carry up to three bags. The first A321LRs will be delivered in 2019. The A330-800neo and the A330-900neo were launched in July 2014 and first deliveries are scheduled in the fourth quarter of 2017. The A330neo will incorporate aerodynamic enhancements and new cabin features, and it will be powered by the latest generation **Rolls-Royce** Trent 7000 engines.

Turkish Airlines signed a firm order for four A330-200F freighter aircraft in March, which will be operated by its **Turkish Cargo** subsidiary. The additional aircraft will help to boost the company's expansion in the cargo market. The first of the A330Fs is due in April, and the rest will be delivered in April 2016, October 2016 and January 2017. **Turkish Cargo** already operates five A330-200Fs, and the new order will enable the airline to quickly meet the growing cargo market demand. **Turkish Airlines** operates 139 **Airbus** aircraft, including 91 A320 Family aircraft, two A310 freighters, 17 A330-200s, 18 A330-300s, five A330-200Fs and six A340s. The new A330Fs are replacing the two A310Fs. "The A330-200F is capable of carrying a payload of 65 to 70 tons for up to 4,000 nautical miles. With unit costs similar to larger freighters, it is the ideal aircraft for opening new routes and developing networks with minimum risk," **Airbus** said. Further, "the technologically advanced design and continuous improvements since the program launch make the A330-200F today's most modern and efficient mid-size freighter." Until March, the A330F order book had actually been shrinking, to a low of 38. Over the past few years, **Intrepid Aviation** exchanged its 20 A330Fs for a like number of passenger A330-200s and -300s. Nine airlines currently operate 30 A330Fs and there are now 12 in backlog.

Airbus Will Increase A320 Production to 50-Per-Month in 2017. The manufacturer and suppliers agreed they could raise A320 Family component production to match a 50 per month rate in the first quarter of 2017. **Airbus** plans to build 48 A320s per month during 2016. They are currently completing 42 aircraft and will raise production to 46 aircraft a month by the second quarter of 2016. **Airbus** is adjusting the A330 production rate downward to six a month from the first quarter 2016 as it transitions towards the A330neo. Executive Vice President – Programs, **Didier Evrard**, said, "We work closely with our supply chain, assess our manufacturing capabilities and decide on the most appropriate rate. On widebodies, we are adjusting A330 production in preparation for transition to NEO while in parallel the A350 XWB is on a steep ramp-up." Some industry analysts worry that the commercial aerospace cycle has peaked and the additional production capacity is not needed. Also **Airbus** will start building the new A320neo in late 2015, which will further add to the suppliers' problems of meeting production goals. Many of these same suppliers are also being pressed by **Boeing** to build more parts. The U.S. manufacturer plans to raise 737 production to 47 a month in 2017 and to 52 in 2018. It currently completes 42 737s every month. Apparently **Boeing** is consulting with suppliers on whether they could handle 58 737s per month.

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RwandAir, the national airline of the Republic of Rwanda, signed a Memorandum of Understanding (MoU) to buy one A330-200 and one -300 each, worth \$500 million at list price. **RwandAir** is a new **Airbus** customer and the first airline in East Africa to commit to acquire the A330. **RwandAir's** A330s will be delivered in the second half of 2016, and will be equipped with **Rolls-Royce** Trent 772B engines. The flag carrier will deploy the new A330s on medium and long-haul routes from its home base at Kigali to destinations throughout Europe, the Middle-East and Asia. The airline had planned to buy two early-model 787-8s (line number 17 & 19) but apparently the deal is still in limbo. The airline signed a letter of intent to buy two 787-8s. **RwandAir** CEO **John Mirenge** said the carrier's purchase plans aren't final and that it wouldn't take any 787s until 2017, which means it will probably buy new-build 787s and not the ones on **Boeing's** back lot.

Airbus Group reported its net income rose 59 percent to €2.34 billion (\$2.65 billion) on revenue that increased by 5 percent to €60.7 billion (\$68.74 billion). Commercial aircraft earnings increased by 68 percent to €2.6 billion (\$2.9 billion) as that unit's revenues rose by 7 percent to €42 billion (\$46.85 billion), partially due to delivery of five more A380s than in 2013. They delivered a record 629 aircraft in 2014, up three from the 626 deliveries in FY 2013. The company had a stronger than expected fourth quarter when earnings before one-off items rose 21 percent to €1.476 billion on revenue that had grown by 9 percent. During the period, **Airbus** delivered several A400M military transports, the first A350 and 185 other commercial jets, nearly 30 percent of the year's production. **Airbus** CEO **Tom Enders** said, "We achieved a significant improvement in profitability and cash generation in 2014 thanks to a record order book and strong operational performance in most areas. We delivered more commercial aircraft than ever before, including the first A350 [during the year], and our net orders were, once again, more than twice the number of deliveries. We are focused on tackling our various operational challenges, including the A350 and A400M ramp-up and costs, first A320neo deliveries, boosting helicopter sales, and continuing the reshaping of our defense and space portfolio." **Airbus** also reported positive free cash flow of €2 billion including €900 million from divestments. It forecast even higher revenue and a slight increase in operating earnings for 2015. The manufacturer is juggling its production rates. It will increase deliveries from 42 A320 Family per month to 46 per month next year, while it will cut A330 production from the current nine, down to six per month in the first quarter of 2016. **Airbus** took a charge of €551 million (\$618 million) due to further delays to the A400M military transporter. The program's total charges have risen to more than €4.75 billion. Mr. **Enders** told his stockholders, "We confirm the A380 [production] break-even for 2015." The program has not recouped its development investment, but it means that individual aircraft will no longer be built and delivered at

Airbus Celebrated the Delivery of its 9,000th Aircraft at a ceremony in Hamburg, Germany, on March 20, 2015. The A321-200 (SN 5295) was delivered to **VietJetAir**, Vietnam, and joined the carrier's all-A320 fleet which operates on its fast-growing Asia-Pacific network. **VietJetAir** launched operations in December 2011, and now flies 20 A320 Family aircraft on a network covering Vietnam and a growing number of destinations across Asia. The A321 was the first of seven ordered in February 2014 as part of a major order for 14 A320neos and 42 A320neos, and 30 A320 Family options. **Airbus** delivered the first A300 in 1974. It developed a product line that includes the single-aisle A320 Family, and widebody families, comprising the A300/A310, the A330/A340, the all-new A350 XWB and the flagship double-deck A380. The 9,000th delivery came less than two years after **Airbus** delivered its 8,000th aircraft in August 2013. Over the past 10 years, **Airbus** has doubled its delivery rate to more than 600 aircraft per year, a number that is set to rise further as the demand grows.

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a loss. The company delivered 30 A380s last year and had 165 on a backlog. **Airbus** received 1,456 net commercial aircraft orders (1,503 net orders in FY 2013), and a backlog of 6,386 aircraft at year-end. Its sales for 2014 were worth €166.4 billion, and €216.4 billion in 2013, and the year-end order book was valued at a record €857.5 billion at year-end, way up from the €680.6 billion backlog for 2013. **Airbus Group** forecasts the world economy and air traffic will grow in line with prevailing independent forecasts and assumes no major disruptions. It expects to deliver slightly more aircraft in 2015 than it did in 2014 and sees its commercial aircraft order book will continue to grow.

Emirates Airline's CEO Tim Clark said the airline was looking at 50 to 70 twin-aisle A350 or 787 aircraft. "We have to establish exactly what [the number] would be, but much would depend on the Dubai hub growth." **Emirates** cancelled an order for 70 A350s last year, because the plane did not fit **Airbus'** original specifications. At the **ITB** travel fair in Berlin, Mr. **Clark** also said the airline was considering **Rolls-Royce** engines for the last 50 A380 aircraft it has on order. Its first 90 A380s are, or will be, equipped with GP7200s from **Engine Alliance**, a joint-venture between **General Electric** and **Pratt & Whitney**.

Emirates Ups the Ante for the A380neo.

President **Tim Clark** said the airline was now looking at buying up to 200 A380neos to replace its current fleet and drive further expansion. The flag carrier currently flies 58 A380-800s and has another 82 on order. The airline plans to retire its A380s after 12 years in service, which means the oldest will leave the fleet when (if) the first A380neos arrive in 2020. Mr. **Clark** told the press, "If we're lucky, [the A380neo] will give us a 10-13 percent reduction in seat costs per mile. We understand they're compiling the business case and an element of that will be the **Emirates** order." He expects the A380neo will be powered by **Rolls-Royce** Trent XWB engines. If **Airbus** launches the A380neo, **Emirates** is expected to buy **Rolls-Royce** Trent 900 engines for the last 50 of its A380s that are on order. The first 90 A380s are powered by **Engine Alliance** GP7200 engines. So far, **Airbus** has demurred and said it would launch the neo 'if it made business sense.' Previously, Mr. **Clark** had dangled the carrot of 60-80 A380neo orders, but now he has more than doubled his promise to 200, to induce **Airbus** to spend another billion or so dollars on the 'new and improved' model. Since the original model has not broken-even after 154 deliveries (163 more on backlog), it is proving to be a hard sell to the **Airbus** management. If **Airbus** launches the A380neo, the operators may want to switch their current orders to the new type and cannibalize the backlog for the standard A380. We have seen this happen with the A320 and A330 families after the neo version was launched. The upside is that **Airbus** sold several thousand A320neos and lost only a hundred (or so) A320ceo orders. The down side is that the manufacturer had to cut the near-term monthly production rate of the A330ceo because most airlines want the neo version after 2017. There is now a gap between the last A330 delivery and the first A330neo entry into service. Another consideration is that **Emirates** will be putting relatively young A380s on to the secondary market in five years, further threatening sales of new A380-800s. So far there is no secondary market for A380s and little way to evaluate their potential sale price.

Boeing Orders

Boeing Sold 72 Aircraft in February. **Alaska Airlines** ordered six more Next-Generation 737-900ERs, for a total of 42. **Korean Air** purchased five more 777F freighters to replace elderly 747-400F freighters. The flag carrier already operates four 777Fs. **Ryanair** ordered three more 737-800NGs, for a total of 53, with 174 in backlog. One **Unidentified Customer** (believed to be **Air Austral**) bought two 787-8s, and another **Unidentified Customer** purchased three 737-800s. Late in the month, **Boeing**

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reported that an **Unidentified Customer** ordered 50 737 MAX aircraft. **Silk Way Airlines** signed a firm order for three 747-8Fs. The manufacturer lost one 787 order and four 737 orders in February. As of February 28, **Boeing** had sold 79 new aircraft and lost five previous commitments, for a net increase of 74.

Boeing delivered 63 new airplanes in February, including 43 737s, one 747, one 767F, six 777s and a dozen 787s.

March Orders. **GECAS** bought two more 737s. **All Nippon Airways** ordered three 787-10s. Two different **Unidentified Customer(s)** purchased one 737 each. Other customers committed for two 777s and 30 787s in late March. One 737 order was cancelled.

Alaska Airlines purchased six **Boeing** 737-900ER Extended Range aircraft, valued at \$594 million (\$99 million each) at current list prices in February. Four of the -900ERs will be delivered in 2016 and two will arrive in 2017. **Alaska** has 42 737-900ERs and 37 737 MAX jets on order. **Alaska** will replace its 20 737-400s, as 19 new -900ERs are handed over in 2016.

Korean Air purchased five 777 Freighters, valued at more than \$1.48 billion (\$300 million each) at current list prices. The new freighters will be delivered between 2015 and 2017 and replace **Korean Air's** oldest 747-400Fs, which average 15 years of age. The airline currently operates 17 747-400 freighters, five 747-8Fs and four 777Fs. Korea's flag carrier now has two 747-8Fs and six 777Fs on backlog.

Transavia announced its order for 17 Next-Generation 737-800s and three options in February. The firm contract was signed in September 2014 and was previously attributed to an unidentified customer on the **Boeing Orders & Deliveries** website. The jets were valued at \$1.6 billion (\$94.1 million each) at current list prices and they will be delivered between January 2016 and the end of 2018. **Boeing** has sold more than 6,800 Next-Generation 737s to customers worldwide.

Ryanair ordered three more Next-Generation 737-800s valued at \$280 million (\$93.33 million each) at current list prices. They will be delivered in early 2016. The Irish low-cost carrier now has unfilled

Boeing February 2015 Orders, Deliveries

FEB ORD	FEB DEL	FEB CANX	TOTAL ORD	TOTAL DEL	BACK LOG
737					
62	43	-4	12,712	8,428	4,284
747					
3	1	-0-	1,540	1,503	37
767					
-0-	1	-0-	1,114	1,070	44
777					
5	6	-0-	1,832	1,274	558
787					
2	12	-1	1,072	247	825
This Month			This Year		BL
72	63	-5	74	113	5,748

Boeing sold 25,800 aircraft and delivered 20,052 as of February 28, 2015

The Current Program includes sales and deliveries of 737s, 747s, 767s, 777s and 787s. Sales totals include five cancellations.

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orders for 174 Next-Generation 737-800s and 100 737 MAX 200s – with options for another hundred MAX 200s. **Ryanair** CEO **Michael O'Leary** said, "These **Boeing** aircraft orders will allow us to expand our fleet to over 520 aircraft and to increase our traffic to 160 million customers per annum by 2024, creating some 10,000 new positions for pilots, cabin crew and engineers, as we continue to grow tourism, routes and jobs across Europe." **Ryanair** operates the largest all-**Boeing** fleet in Europe with more than 300 737-800s in service and it is the biggest customer for the airplane type, having ordered 531 in its history.

All Nippon Airways (ANA) finalized the order for three 787-10 Dreamliners that was announced in January 2015. The three planes were list priced at approximately \$900 million. With this order, **ANA** becomes **Boeing's** newest 787-10 customer and the first airline in Asia to operate the entire family of Dreamliners. The 787-10 is the longest member of the 787 family, and offers greater passenger and cargo capacity, and a high degree of commonality with the smaller 787s. The 787-10 will be 25 to 30 percent more efficient than the airplanes it replaces and more than 10 percent better than anything offered by the competition for the future, **Boeing** said.

Air Tahiti Nui has announced its commitment to purchase two 787-9 Dreamliners, and another two will be leased from **Air Lease Corporation**. The order will be worth \$514 million (\$257 million each) at current list prices, and will be posted on **Boeing's Orders & Deliveries** website when finalized. The four 787s will arrive in the fourth quarter of 2018, and will replace five A340-300s which were delivered between 2001 and 2005.

Swiss International Air Lines (SWISS) announced that they will purchase three additional 777-300ER (Extended Range) airplanes, valued at \$990 million at list prices. **SWISS** ordered six 777-300ERs in 2013, and the first will be delivered in 2016. The airline is part of the **Lufthansa Group** and currently serves 69 cities across 37 countries from Zurich, Basel and Geneva international air-ports. They operate a fleet of more than 90 **Airbus**, **AVRO** and **Bombardier** airplanes. The new 777s will be

Azerbaijan-based Silk Way West Airlines signed an order for three 747-8F freighters in February and the planes were valued at more than \$1.1 billion at current list prices. Industry analysts said the real price **Silk Way West** will pay is closer to \$196 million each. The cargo market has been depressed for years, and the 747-8F has sold very slowly, to the point that **Boeing** booked zero net orders (two orders & two cancellations) for the jet in 2014. The new order boosts the 747-8 backlog to 15 freighters and 22 passenger planes. The manufacturer is currently completing 18 747-8s per year, but will slow production to 16 jets per annum this autumn. The **U.S. Air Force** will buy two Presidential 787-8s for delivery in 2018. The Air Force One deliveries could mark the end of **Boeing's** venerable Queen of the Skies, unless there is a jump in demand for more freighters. The 787-8I is being supplanted by the 777X in the passenger market.

Silk Way West is a member of the **Silk Way Group**, which includes 23 companies working in aviation and related services. The airline currently flies five **Boeing** airplanes, including three 747-400Fs and two 747-8Fs (which are leased from **GECAS**). Its sister company, **Silk Way Airlines** operates a fleet of seven, Stage IV-compliant **Ilyushin** Il-76TD-90SWs and three **Antonov** An-12BKs.

Boeing completed two 747-83QFs (SN 60117 & 60118) in May and June 2014 respectively. They were originally allocated to **Silk Way Airlines**. **Atlas Air** cancelled the purchase of three 747-87UFs, including the -8F (SN 37564) which first flew in April 2013. The other two freighters were sold to **Saudi Arabian Airlines**. It is assumed that **Silk Way West** will acquire these three 747-8Fs.

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used on ultra-long routes to such cities as San Francisco, Los Angeles, Sao Paulo, Bangkok, Hong Kong, Shanghai, Peking, Johannesburg and Singapore. The nine 777s will replace most of the 15 A340-313Xs that were delivered between 1996 and 2004.

Hainan Airlines, China, is ready to order 30 787-9 Dreamliners, list priced at \$7.7 billion (\$256.7 million each). If a firm contract is signed, this would be the biggest order for the 787 since 2013. The airline disclosed its plans to the **Shanghai Stock Exchange** and it will take delivery of the first 787-9 by 2021. **Hainan** already operates nine 787-8s and has one more on order. The airline wants to expand its international network to serve the growing demand for travel by the Chinese middle class. **Boeing** has 467 orders for the -8, 466 total -9 sales and 139 orders for the -10, as of February 28, 2015.

EVA Air will order **Boeing** widebodies to renew its fleet, Chairman **Kuo Wei Chang** announced. Mr. **Chang** said the airline would grow its fleet from the current 62 aircraft, up to 100 in the next five years. **EVA** will replace eight older 747-400Fs with five new 777Fs. Later, it will order at least 10 787-10 Dreamliners and an undisclosed number of 777Xs. **EVA Air** is participating in the design of the new 777-9X, which is the most likely variant the airline will order. They will replace three passenger 747-400s, and some of the 19 777-300ERs in its fleet. The Taiwanese airline had evaluated the A330neo and the A350-1000, but decided to stick with **Boeing**. It operates 11 A330-200s, and three A330-300s. It is considering the purchase of five A321neo jets which would supplement its medium-haul fleet of twelve A321neos. It currently leases four 152-seat MD-90s from its subsidiary, **Uni Air**, which will be replaced by four leased A321-200s that are due in 2015. The carrier is also studying the A320neo and the 737 MAX for its narrowbody needs.

Oman Air ordered 20 **Boeing** 737s, including Next Generation 737s, which will be delivered

United Airlines Chief Financial Officer **John Rainey** said the 777-300ER could be a quick fix in markets where **United** needs additional capacity to meet demand. The airline is considering whether to swap some of its backlog of **Boeing** 787 Dreamliners for the larger 777-300ER. He said **United** had no plans to purchase the updated **Boeing** 777X. The swap would help **Boeing** which needs to sell more 777-300ERs. The manufacturer has a backlog of 272 777-300ERs and 777Fs, which will be built by early 2018, leaving a one-year gap before it delivers the first 777X in 2019. **Boeing** might have to cut prices to sell more -300ERs or cut the production rate to stretch its backlog while it makes the switch to the 777X. The former would be to **United's** benefit. Mr. **Rainey** said the change of aircraft types would not add new orders to **United's** books, and that it would not be a massive conversion. A decision on the swap would be made shortly. He said the 777-300ERs could be delivered before 2018, when the first of **United's** 35 similarly sized **Airbus** A350-1000s will arrive. Mr. **Rainey** ruled out buying the 747-8; the airline will retire two 747-400s this year. **United** may consolidate all of its 747s to one base and put 777s on the affected routes. **United** had approximately \$4.4 billion cash on hand on December 31, and it may use some of the cash to pay for about half of the cost of 25 new airplanes that will be delivered in 2015. The rest of planes' cost will be borrowed. The airline has financing in place for another 22 aircraft that are due this year. The airline will spend \$1 billion to buy back its shares, but it has no plans to pay dividends, which were suspended in 2008. Mr. **Rainey** said the airline could rely on class-A certificates, with rates at less than 4 percent, for future aircraft financing. The certificates require a borrower to put up more cash than other classes of certificate carrying higher rates. "That's really affordable money," he said, calling the class-A certificates "an effective way to de-lever" **United's** balance sheet.

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from 2017, and the 737 MAX which will be available from 2019, CEO **Paul Gregorowitsch** said. Ten of the 737s will be purchased directly from **Boeing** and the rest will come from leasing companies.

Regional Report

Flymojo, a New Privately Held Malaysian Airline intends to buy 20 **Bombardier** CS100 aircraft for \$1.47 billion. When signed, this will be the first order in Southeast Asia for the long-delayed CSeries jet. The Letter of Intent (LoI) allows the airline to buy 20 more aircraft, which would raise the value of the deal to \$2.94 billion (\$73.5 million each) at list prices. The LoI was announced at the **Langkawi International Maritime and Aerospace (LIMA) Exhibition**, Malaysia. The CSeries entry into service has been delayed for years and the program has suffered from cost overruns. The smaller CS100 started test flights in 2013 and the larger CS300 flew in February. **Bombardier's** sales campaigns to low-cost carriers in Southeast Asia have been foiled by stiff competition from **Airbus** and **Boeing**. A firm order from **flymojo** will give **Bombardier** a foothold in the region. **Fly Mojo Sdn Bhd** will begin flying in the first quarter of 2016 and will focus on regional routes between the Malay Peninsula, Sabah and Sarawak. The full-service airline will be based at **Senai International Airport** in Johor Baru, near Singapore. It will also fly out of a secondary hub at Kota Kinabalu, Sabah, shortly after its launch. **Flymojo** wants to secure interim aircraft from **Bombardier** before the first CS100 arrives in December. The company is backed by private equity funds, and will finance the aircraft through sales and lease-back. **Bombardier** booked firm orders for 243 and commitments for 360 CSeries aircraft. The **flymojo** LoI was signed only days after **Austrian Airlines** declined to buy the CSeries.

Air Madagascar, the national airline, signed a contract to purchase three ATR 72-600s for approximately \$77 million. The first aircraft will be delivered in 2017. As mentioned last month, the airline agreed to lease two new ATR 72-600s from the Irish leasing company **Elix Aviation Capital**. The first was delivered on March 18, and the second will be delivered in April. The arrival of the five ATRs will enable **Air Madagascar** to replace its current fleet of one ATR 42-500 and two ATR 72-500s. This will significantly increase seat capacity on its main domestic routes, while offering passengers the highest levels of comfort, **ATR** said. The flag carrier is a long-time **ATR** customer, having introduced its first ATR 42-300 in 1996, and it has operated the ATR -500 series since 2005. As of March, more than 110 ATRs are in use by more than thirty operators in 27 countries in Africa and the Middle East. More than 500 ATR -600s have been sold worldwide and the **ATR** series -600 has become the most successful under-90-seat regional aircraft in the last five years.

Bombardier Plans to Display the CSeries aircraft at the **2015 Paris Air Show**, marking the first time that the jet will appear at a prestigious aviation exhibit. It missed the **2014 Farnborough Airshow** due to an engine failure on the test aircraft in May 2014. Analysts see a high-profile air show as a crucial part of the sales program. The airshow is scheduled for June 15 to 21. **Bombardier's** program is approximately two years behind schedule, and it will cost about \$5.4 billion, about \$1 billion more than was estimated a year ago. The first 125-passenger CS100s is now due for delivery in early 2016. The CS300, with up to 160 seats, is expected to enter service in mid-2016. **Bombardier** completed about 1,080 hours of flight tests on four CS100s and has flown the CS300 twice. The type needs to fly 2,400 hours before it can be certified. So far, the CSeries either meets or exceeds the company's performance targets, the company said.

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Bombardier Delayed CSeries Delivery Again.

The first CSeries CS100 will be handed over to an unnamed launch customer in early 2016. The airplane should receive Canadian certification in late 2015, Chief Executive Officer **Alain Bellemare** said. Previously the manufacturer said the entry into service was “on track for the second half of 2015.” The company’s shareholders approved a C\$1.1 billion (\$875 million) equity issue, that together with a \$2.25 billion debt sale, the transaction will give **Bombardier** “the financial capacity to complete our projects,” Mr. **Bellemare** said. The company is now “looking at all sorts of strategic options” for its aerospace and train making units, he said. He is looking at many possibilities, including strategic alliances, partner-ships, joint ventures and asset sales.

Qatar Airways Chief Executive Akbar Al Baker

said the airline is no longer interested in ordering any **Bombardier** CSeries jets due to the delays in putting the new single-aisle aircraft into service. “We have completely forgotten about it because you cannot wait indefinitely,” he said at the **ITB** travel fair in Berlin. He also said that **Qatar** would wait a few more years before deciding to order any more A380s. “I have to see the performance, I need at least a couple of years to see what added benefit this airplane has compared to the other types that we’re operating,” he said. **Qatar** started flying the A380 last year and has four in service. The fifth and sixth aircraft have been rolled out of the Toulouse factory and another two will be delivered this year. The last two are due in 2016-2017.

Embraer delivered 30 commercial and 52 executive (38 light and 14 large) jets in the fourth quarter of 2014, and ended the year with 92 commercial and 116 executive (92 light and 24 large) aircraft deliveries, which met the company’s delivery forecast for 2014. Its backlog on December 31, 2014, was worth \$20.9 billion, 15 percent more than the \$18.2 billion backlog reported at the end of 2013. Revenues in the quarter rose to \$2,045.5 million, and reached \$6,288.8 million during the year, which also met the 2014 revenue guidance range of \$6.0 to \$6.5 billion. The company’s earnings before interest, taxes, depreciation and amortization (EBITDA) margin were 13.8 percent in the fourth quarter, and for fiscal year 2014 the EBITDA margin was 13.2 percent. The margin was within the expected range of 13 to 14 percent for the year. **Embraer** finished the year with a cash balance of \$2,423.6 million and a net debt position of \$84.5 million. The company expects its net revenues to range from \$6.1 billion to \$6.6 billion. It anticipates delivering 95 to 100 jets in the **Commercial Aviation** segment and 35 to 40 large jets and 80 to 90 light jets in the **Executive Jets** segment, and **Defense & Security** revenues of \$1.1 to \$1.25 billion in 2015.

Mesa Air Group, Phoenix, Arizona, signed a firm purchase agreement for seven CRJ900 NextGen aircraft at the **International Society of Transport Aircraft Trading (ISTAT) Americas 2015** conference held in **Mesa’s** hometown. Based on the list price of the CRJ900 NextGen aircraft, the firm order is valued at approximately \$326 million (\$46.6 million each). **Mesa Airlines** is one of the largest CRJ900 aircraft operators, and it currently operates 57 CRJ900 aircraft with 79 seats in a dual-class interior and 20 CRJ700 with 66 to 70 seats in a three-class interior.

Palma Holding, Dubai, signed a firm purchase agreement for an additional Q400 NextGen aircraft. Under a joint venture with **Ibdar Bank BSC**, the 67-seat, dual-class aircraft will be leased to **RwandAir**, Kigali, Rwanda. The airline currently operates two dual-class **Bombardier** CRJ900 NextGen regional jets, and one Q400NG. **Basel Al-Haq-Issa**, Chief Executive Officer, of the **Ibdar Bank** said, “With these purchase and lease agreements, together with **Palma**, we continue to expand the

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use of Islamic financing in the African aviation sector. Our previous cooperation, which facilitated the lease of four Q400 NextGen aircraft, was the first Islamic financing deal in the African aviation sector, and we will continue to look for opportunities to replicate and build on this success.” **Palma/Idbar** ordered four Q400NGs in November 2013, and took options for four more, and recently leased the airplanes to **Ethiopian Airlines**. **Bombardier** has booked firm orders for a total of 538 Q400s and Q400NGs, and has delivered Q400s to approximately 50 owners and operators in more than 40 countries.

Embraer Booked Five Firm E175 Orders from U.S. regional operator **Republic Airways**. The deal is valued at \$222 million (\$44.4 million each) according to the plane maker. The contract will be included in the 2015 first-quarter backlog. The aircraft, configured in two classes with 76 seats, are expected to be delivered in mid-2016. **Republic** ordered 47 E175s in January 2013 and 50 more aircraft in September 2014. After this sale, the airline retains 32 options for the E175. **Embraer** said the E175 has dominated the 76-seat class in North America, over the past two years, capturing around 80 percent market share.

KLM Cityhopper, KLM’s regional subsidiary, ordered 15 E175s and two E190s, and optioned 17 additional E-Jets. The optioned aircraft will be delivered to **KLM Cityhopper** or **Air France’s** regional subsidiary **HOP!** The firm order is list priced at \$764 million and if the options are exercised the deal will be worth \$1.5 billion (\$46.9 million each). The E-Jets will be fitted with single-class cabins and will join **KLM Cityhopper’s** 28 E190s. The airline will retire its last 19 Fokker F70s when the E-Jets are delivered.

SuperJet International, the joint venture between **Finmeccanica-Alenia Aermacchi** and **Sukhoi Holding**, announced that **Interjet**, Mexico, confirmed its options to buy 10 more Sukhoi Superjet 100s. **Interjet** ordered 15 SSJ100s and took five options in 2011. The options were taken

Indonesian Aerospace is considering re-launching the airliner variant of the CN235 transport aircraft. The airliner is provisionally designated the N245, and **Indonesian Aerospace** thinks it could build two prototypes in the 2017-2018 time period, company Director of Production, **Arie Wibowo**, said. The 35-50 passenger regional turboprop “would be a spoke-to-spoke aircraft,” he said. The Indonesian airframer expects to develop the new variant and produce two prototypes for \$200 to \$250 million, with funding coming from the **Indonesian Government**. The CN235 was originally launched as a regional airliner and military transport by **CASA**, Spain, and **IPTN**, Indonesia, in 1980. The first prototype flew in November 1983. The first production aircraft flew in August 1986 and it was certified by the **FAA** on December 3, 1986. The first CN235 entered service on March 1, 1988. More than 230 CN235s are in service with military and government operators, but the CN235 was a failure in the civil market. **Indonesian Aerospace** is thinking of re-designing the tail-empennage to remove the cargo ramp. The N245 would require alternate production stations parallel to the main CN235 line. They are considering replacing the CN235’s **General Electric** CT7 engines with the **Pratt & Whitney** PW127, allowing the civil airliner to fly at 25,000 feet, higher than the typical operating altitude of the CN235. The N245 is expected to fill the market niche between its 19-passenger N219 and the much larger ATR 42 and Dash 8 Q400. When the CN235 was launched, the market was crowded with competitors such as the **de Havilland Canada** Dash 8-100, **Dornier** 328, **Embraer** Brasilia, **Fokker** 50, **Saab** 340, and **Shorts** 360. This time there are no new 30-50 seat turboprops on the market. More than 2,600 aircraft were delivered in this category since 1980. Half of them are still in service, but only **ATR** and **Antonov** still offer a new-build, 50-seat turboprop.

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up in July 2012 at the **Farnborough Air Show**. At the **ALTA Leaders Forum**, Panama, in November 2012, **Interjet** added the 10 options which were executed on March 2. The orders were valued at \$350 million (\$35 million each). The airline now has 30 SSJ aircraft in service or on order.

VLM Airlines, an Antwerp-based regional carrier, announced that their Sukhoi Superjet 100 LR (SSJ100-95LR) regional aircraft will enter service in the third quarter of 2016. Delivery was postponed from April 2015 to enable **European Aviation Safety Agency (EASA)** certification of features on the long-range variant, including takeoff and landing flaps settings, which have been modified from the **EASA**-certified base model Superjet. The flaps will bring significant performance enhancements. **Sukhoi** said the long-range capabilities of the aircraft are expected to be very beneficial to **VLM**, enabling the airline to add new, commercially attractive destinations to its expanding scheduled route network. **EASA** should certify the long-range version of the Sukhoi Superjet 100 by the end of 2015. More “significant performance enhancements” to the SSJ100 can be implemented in 2016. The Superjet’s short take-off and landing capability was a central reason for its selection by **VLM**. The airline wants to operate the SSJ at **London City Airport**, where aircraft can only operate if the manufacturer has gained a special steep-approach approval. It can fly to other small airports that cannot be served by A320s and 737s. In October 2014, **VLM** signed a Letter of Intent with **Ilyushin Finance Co.** to lease up to four SSJ100 LRs and it took options to purchase 10 aircraft. **VLM** is the first western European customer for the Superjet, and the airline started scheduled flights earlier this year with **Fokker** F50 turboprops.

Order Changes and Cancellations

Airbus Reported Several Order Changes and Cancellations in February. **AirAsia** exchanged nine A320ceo orders for a like number of A320neos. This was **Airbus’** only cancellation in 2015. **SMBC Aviation Capital** changed three A320ceo orders to three A321ceos. One undisclosed A320ceo order was attributed to **Spring Airlines** upon delivery, and **Tigerair** claimed two undisclosed A320ceo orders.

Boeing Reported Five Cancellations in February. **Boeing Business Jets** dropped one of the two VIP 787-9s that were ordered in July 2006. **COPA Airlines** cancelled four 737-800s that it ordered in 2010 and 2013. **Boeing** announced these customers when 737s were delivered during the month, including one -800 for **Shanghai Airlines**, two -800s for **Hainan Airlines**, one -800 for **China Eastern Airlines**, one -800 for **Shenzhen Airlines**, one -800 for **Shandong Airlines** and one -800 for **Luxair**. **Lion Air** changed five of its 737-900ER orders to the 737-800 type. The airline has 24 -800s and 45 -900ERs in backlog.

Air Canada and **American Airlines** revised their existing 787 order books. **Air Canada** opted to

Iberia will take early delivery of the eight A330-200s it ordered in 2014. They will join the long-haul fleet 14 months earlier than initially planned. Delivery was pushed forward to the December 2015 – November 2016 period. The A330-200s will replace **Iberia’s** eight A340-300s, and will offer economic and environmental advantages as well as greater comfort and more services for passengers. **Iberia** is speeding the upgrading of its entire long-haul fleet with new cabins, fittings, and entertainment and communications systems. The airline’s parent, **IAG**, ordered 24 new long-haul aircraft for **Iberia**, in the past several years. It bought eight A330-300s that were delivered in 2013 and 2014, eight A330-200s for delivery in 2015 and 2016, and eight A350-900s which will partially replace 17 A340-600s by 2020.

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convert six 787-8 orders into 787-9s, while **American** switched five 787-9s to the smaller 787-8 model. It now has 19 -8s and 21 -9s on order and two -8s in service. **Air Canada** has eight -8s in service and orders for seven -8s and 22 -9s.

MIAT – Mongolian Airlines deferred the delivery of its two outstanding 737-800NGs until the 2019-2020 period. The airline is considering converting the orders to the 737 MAX variant. The 737s and one 767-300ER were ordered in 2011, and the 767 has been delivered. The airline may order several 787s for delivery in the next three to four years.

Air Baltic confirmed that the first of its 13 **Bombardier** CS300s has been delayed until September 2016. The airplane was originally scheduled to arrive by the end of this year. The Latvian flag carrier holds options for seven more CS300s and it intends to finance the fleet by selling them for lease back. The CS300s will replace Air Baltic's fleet of eight 737-300s and five 737-500s which now fly throughout Europe, the CIS, and the Mediterranean.

UTair Express transferred six **Sukhoi** SSJ100 orders to **Aeroflot** which assigned the delivery positions to **Donavia**. The regional jets will be delivered by May 2015. The SSJs are part of **Aeroflot's** commitment to buy 20 SSJs that was signed in January.

KLM Royal Dutch Airlines delayed delivery of two of the 10 787-9s that **Air France** ordered for it. The first Dreamliner will be handed over this October. The airline did not specify which slots will be affected. **KLM** is under pressure to cut spending along with sister company **Air France**, which cut more than 5,000 jobs since 2011. The 787-9 is list priced at \$257.1 million and the profitable Dutch carrier is being pushed to slash costs because its parent reported 15 percent lower earnings in 2014. **Air France** also deferred three widebody airplanes, and delayed delivery of its 11th and 12th A380 superjumbos until after 2018. **KLM** plans to cut investments by €600 million in 2015 and 2016, due in part to delivery postponements.

Leasing & Finance

AerCap Holdings N.V. repossessed six **Boeing** 757s and three 767s from Russian airlines in December 2014. CEO **Aengus Kelly** said, "Russian exposure does not represent unusual risk: significant collateral is held, cost basis of aircraft is low, and aircraft can be removed as needed. In total, the number of aircraft in Russia has been reduced by 17." The lessor said the nine aircraft were "accessed and removed within 72 hours with minimal loss, and are all now under letters of intent to be leased or sold." Mr. **Kelly** said the lessor holds \$700 million of maintenance reserves, security deposits, and letters of credit on aircraft leased to Russian carriers. Its net exposure in Russia totals \$2.2 billion, and the assets are appraised at \$2.8 billion, based on the average of half-life current market values. Mr. **Kelly** reported that **AerCap** sold one **Airbus** A340-300, two A340-600s, one **Boeing** 737 Classic, one 737-700, one 757-200, one 747, one 767-300ER and one MD-11, for a net gain of \$25.8 million. The lessor also sold three A320s and four 737 Classics from its managed portfolio. Further, **AerCap** parted out three A340-600s.

Air Lease Corporation (ALC) will long-term lease two new **Boeing** 737 MAX 8 aircraft to **Travel Service** (Czech Republic). Both aircraft are scheduled for delivery in spring 2018 and 2019 and come from **ALC's** order book. **ALC** announced long-term lease agreements with **Air Austral** for two new **Boeing** 777-300ER aircraft. Both aircraft are scheduled for entry into service in the fall of 2016 and were ordered from **Boeing**.

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GE Capital Aviation Services (GECAS) signed a contract to lease three new **Boeing 737-800** aircraft to new customer **Air India Express**. Deliveries are scheduled for 2016 and the planes were part of **GECAS'** order backlog. **Air India Express** is the low-cost subsidiary of **Air India** and operates a fleet of 17 737-800s to some 30 destinations.

AWAS Aviation Capital Ltd. is selling 90 passenger planes to **Macquarie Group Ltd.** The aircraft are leased to 40 airlines and are worth \$4 billion. **Macquarie** is raising at least A\$500 million (\$391 million) to fund the acquisition. The new planes will join the 130 already in its portfolio. **Macquarie** said the transaction, which will be consummated over the next year, should add 5 percent to its earnings per share in the first full year. Chief Executive Officer **Nicholas Moore** plans to move the company toward stable businesses such as leasing, funds management and lending, and away from trading and advisory. **Macquarie** will fund the purchase through capital raising, existing sources and third-party financing, and it will require A\$600 million in capital. They will sell A\$500 million in new shares. Its **Macquarie AirFinance** unit purchased **GATX Air** in 2006, and bought 53 planes from **International Lease Finance Corp.** in 2010. Narrow-body aircraft comprise 90 percent of its current portfolio. **AWAS**, which is 75 percent owned by London-based **Terra Firma Capital Partners Ltd.**, may leave the leasing business in the coming years, **Terra Firma's** Chairman **Guy Hands** said. The **Canada Pension Plan Investment Board** owns the other 25 percent of **AWAS**. For now, the lessor will continue to own and maintain more than 200 aircraft in its portfolio and will expand that fleet through sale and leaseback transactions with airlines, and through secondary aircraft purchases. **AWAS** received a non-binding bid to buy planes by Chinese billionaire **Li Ka-shing's Cheung Kong Holdings Ltd.** That lessor contracted to buy 45 planes worth \$1.89 billion from several companies, including **BOC Aviation**, **GECAS** and **Jackson Square Aviation**.

BOC Aviation Pte. Ltd. announced its total revenue was \$988.4 million, 8 percent higher than last year and its net profit after tax was \$308.6 million, a rise of 11 percent over 2013. Its total equity was \$2.1 billion and its total assets grew 12 percent to \$11.4 billion at year-end. **BOC** maintained liquidity of \$367.4 million in cash and fixed deposits, and had 230 owned and 20 managed aircraft in its portfolio, which were eased to 60 airlines in 31 countries. It took delivery of 57 new aircraft, ended the year with 201 aircraft on order, and sold 33 owned and five managed aircraft. **BOC** signed 74 leases for new aircraft and five leases for used airplanes. The lessor's new orders include 43 **Airbus A320** family aircraft, 80 **Boeing 737NG** family and two 777-300ER aircraft.

Aircraft Type	Owned Aircraft	Managed Aircraft	Acft Orders *	Total # of Aircraft
A320ceo family	103	5	60	168
A320neo family	0	0	44	44
A330 family	10	6	5	21
737NG family	82	6	40	128
737-800	0	0	50	50
MAX	0	0	50	50
777-300ER	15	0	2	17
777-300	2	0	0	2
E190 family	14	0	0	14
Freighters	4	3	0	7
Total	230	20	201	451
* Includes commitments under purchase and leaseback transactions				

The Brunei and Oman Sovereign Wealth Funds are partnering to establish an aircraft leasing firm with capital of 200 million Omani rials (\$520 million). **Oman Brunei Aviation Leasing (OBALC)** will

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be 60 percent owned by **Oman Brunei Investment Company (OBIC)** which in turn is a joint venture between Oman's **State General Reserve Fund (SGRF)** and the **Brunei Investment Agency**. **SGRF** will hold another 30 percent and 10 percent is owned by other investors. **Abeer Al Abduwani**, chief executive of **OBIC** said, "Aircraft leasing represents an attractive investment product and in due course we will be offering institutional investors the opportunity to participate in the sector through an aviation leasing fund." All major airlines in the Gulf region, including **Emirates**, **Etihad** and **Qatar Airways** are "investing in aircraft," she said. "The Gulf countries are also investing heavily on airport development. There is a huge demand for aircraft from Asian airlines as well." The newly formed joint venture will be based in Muscat, and will purchase aircraft and place them on lease to major airlines in the Middle East and globally, including the national carrier **Oman Air**. She said that **Oman Air** intends to expand its fleet and start services to several new destinations such as Singapore. "Aircraft leasing represents an attractive investment product and in due course, we will be offering institutional investors the opportunity to participate in the sector through an aviation leasing fund," added Ms. **Al Abduwani**.

Engines

CFM International sold CFM56-5B engines to **CIT Aerospace** to power five new **Airbus A321ceo** aircraft. The order was valued at \$100 million at list prices, and the aircraft will be delivered between 2015 and 2016. **Jean-Paul Ebanga**, President and CEO of **CFM International** said the CFM56-5B is the engine of choice for the **Airbus A320ceo**, having been selected to power 55 percent of all aircraft currently in service or on order. More than 6,640 CFM56-5B engines have been delivered as of January 31, 2015. **CFM** claims its engines offer the best reliability, durability, low cost of ownership, and world-class customer and product support. The CFM56-5B is the only engine that can power every model of the A320 family, from the small A318 up to the A321, with the same bill of materials. **CFM International** has delivered 27,368 CFM56 engines to more than 530 operators around the globe.

Pratt & Whitney is raising list prices of its fuel-efficient PurePower PW1000G Geared Turbofan (GTF) engine, across the product line, to reflect the significant value these engines are expected to provide customers following entry into service, the company said. The new pricing starts in 2015. **Pratt & Whitney** said it continues to achieve impressive test results on the PurePower engine family, which has completed more than 15,000 hours and 30,000 cycles of testing. The GTF engine family has met or exceeded all technical expectations and customer commitments. Demand for the PurePower Geared Turbofan engine is very strong with more than 6,300 orders, including options, from 60 customers from 30 countries. The GTF engine is offered on the A320neo Family, the **Bombardier** CSeries, the **Embraer** E-Jet E2, **Irkut** MS-21 and the **Mitsubishi** MRJ.

BOC Aviation ordered **IAE International Aero Engines** V2500 engines to power 12 new A320 family aircraft. **IAE International Aero Engines** is an aero engine consortium led by **Pratt & Whitney** in collaboration with **Pratt & Whitney Aero Engines International GmbH**, **Japanese Aero Engines Corporation** and **MTU Aero Engines**. **Robert Martin**, Managing Director & Chief Executive Officer of **BOC Aviation** said, "This new order continues to demonstrate our confidence in the V2500 engine as a fuel-efficient workhorse that has powered more than 140 aircraft in our history, and will power a significant portion of our A320 family fleet on order. The A320 family is a key aircraft type in our fleet, and our longstanding relationship with **IAE** enables us to provide an attractive airframe and engine solution for our global customer base."

Airline News

The CAAC (Civil Aviation Administration of China) Approved Jiangxi Airlines, a new joint-venture between **Xiamen Airlines** (60 percent) and the Jiangxi provincial government (40 percent). The airline will acquire five **Boeing 737** aircraft and operate them on domestic routes between Nanchang and Beijing, Shanghai, Guangzhou, Shenzhen and Chengdu. It plans to grow its fleet to eight aircraft in 2016 and to over 30 aircraft by 2020. **Jiangxi** intends to launch international routes to Thailand, Singapore, Malaysia, Korea and Japan, and eventually long-haul routes to the Australia, Europe, and the U.S. **Xiamen** will provide aviation professionals such as pilots, cabin crew, and MRO staff to **Jiangxi**. The airline believes this is a good time to launch domestic carriers in China, because local governments offer partnerships which can provide favorable tax terms and land resources, as well as reduced operating costs for landing and ground handling fees. Provincial governments hope to stimulate economic growth through the launch of locally owned airlines. Jiangxi Province is located between Hunan and Fujian in south east China and its capital is Nanchang.

IATA Posts March 2015 Jet Fuel Prices. The association updates the world's average jet fuel prices each week. On March 13, the world's average price of fuel was \$1.643 per gallon, 7.5 percent lower than the February 2015 price of \$1.849. It was also 42.8 percent less than in March 2014. The price of fuel is affected by location. It was only \$1.579 in the Middle East region and was as high as \$1.666 per gallon in Latin America. In Asia, fuel costs \$1.652 per gallon. Fuel fell to \$1.663 in Europe and to \$1.632 in North America. Since last year, fuel costs in those regions dropped by 41.3 and 43.6 percent respectively. **IATA** estimated that the global airline industry's fuel bill will total \$71.0 billion in 2015. This will be a decrease of \$83.8 billion from 2014.

Qatar Airways said it wants to increase its share of **International Consolidated Airlines Group (IAG)** beyond the 9.99 percent stake it bought in January. Chief Executive **Akbar Al Baker** said, "Yes, we would like to increase our stake in **IAG** at a later date. We have just taken a shareholding. We could add value to them and they will add value to us." **IAG** is the owner of **British Airways**, **Iberia** and **Vueling**, and wants to buy a major share of **Aer Lingus**. **Qatar** wants to forge closer ties to the company which has two major European hubs and strong transatlantic networks. "We will look at other acquisitions of airlines but we look at airlines that don't take the resources of **Qatar**, or attention of **Qatar** management, to fix issues. We will always go after goldsmiths, not scrap dealers," Mr. **Al Baker** explained. **Qatar** may take a shot at buying into **IndiGo**. He said, "I think domestic airlines in India are inefficiently run [except] **IndiGo**. If we have the opportunity to acquire a stake in **IndiGo**, we shall be very pleased to do so."

Thai Airways International will sell some of its non-core assets, worth 15.5 billion baht (\$481 million) to recover from hits to its bottom line due to cutting its fleet and workforce. The military junta which has ruled Thailand since May 2014, ordered the airline to reform. They appointed President **Charumporn Jotikasthira** to turn the company around. It suffered operating losses for the last two years due to bloated costs, tough competition and a severe drop in tourism due to political unrest in the country. **Thai** also has the highest debt among Southeast Asian airlines, at \$5.9 billion. Mr. **Charumporn** may sell off **Thai's** 39 percent stake in **Nok Air** and its 23 percent of **Bangkok Aviation Fuel Services**, as well as hotels and land. He intends to cut costs and capacity by around 20 percent. The company will sell 24 airplanes to shrink its fleet to 77 by the end this year. The company will dispose of its six **Airbus A340s** and some of the 15 **Boeing 747-400s**, he said, which will incur impairment charges. The airline announced it will ground its remaining five A340-600s (SN 677, 681, 689, 710 & 953), four more 1995-

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era A330-321s and two 747-4D7BDF freighters (SN 24458 & 24459) on March 29. The company will also sell five grounded A300B4-622Rs (SN 782, 784, 785, 786 & 787), its four retired A340-541s (SN 624, 628, 698 & 775), some of its oldest 777-2D7s and its last four 737-4D7s (SN 26611, 26614, 28701 & 28704). The proposed voluntary employee retirement plan could incur charges of around 5 billion baht (\$160 million) in 2015. **Thai** will cut routes and reassign aircraft to raise the load factor to 80 percent from the current 68.9 percent. **Thai** will receive two 777-300ERs and two 787-8s this summer. If the first aircraft sales do not earn a significant profit then Mr. **Charamporn** will consider selling up to 20 more aircraft.

Orenair (Orenberg Airlines), Russia, suffered from a dramatic downturn in passenger numbers as well as the severely weakened Russian rouble, so it will borrow 1 billion roubles (16.55 million) from its parent **Aeroflot**. The loan has a three year-term at 20 percent interest per annum, and it will be used for its outstanding aircraft lease payments. The airline currently operates sixteen 737-800s and three 777-2Q8ERs on domestic routes and flights to Germany and Tajikistan. **Orenair** is returning the three 777s to **AerCap**. The airline lost 4.2 billion roubles (\$67.77 million) the last financial year, which was the largest of any of the **Aeroflot Group's** subsidiaries.

The Kuwait Government refused to cover **Kuwait Airways'** 145 million dinar (\$490 million) losses that were incurred during the past two years. Finance Minister **Anas Khalid Al Saleh** demanded the airline shoulder its own debts as it prepares to become a publicly listed company. **Kuwait** accumulated \$1.5 billion worth of debt between 2004 and 2012, and in 2013, the airline received \$500 million compensation from the **Iraqi Government** for damages from the invasion in 1990. It recorded losses for all but one year since the early 1990s. The debt was assumed by the government as part of its plans to privatize the airline. The airline received its first new aircraft in 17 years when it leased five new A320-200s from **AWAS** from December 2014 through March 2015. **Kuwait** will lease another seven A320s shortly. It will take delivery of 10 A350-800s by 2020. It is expected that the new fleet should save tens of millions in maintenance costs and help the airline get back into the black. **Kuwait** is one of the worst performing airlines in the region and had a market share of only 14 percent.

BoA – Boliviana de Aviación will replace its eleven 737-300s and one -500 with newer, Next Generation models. The airline will lease the twelve 737NGs at a cost of \$1.5 million per unit or approximately \$20 million per year (\$125,000 each per month). The first two used 737-700s have already been leased from **AerCap** and will be joined by three 737-800s later this year. **BoA** also leases two 767-300ERs from **AWAS** and will add a third from the same lessor shortly.

Icelandair Group will add two **Boeing** 767-300s to its fleet of 23 757s. The 767s will arrive in the spring of 2016. The **Group** plans to replace its **Air Iceland** subsidiary's five **Fokker** F.50s fleet with three newer **Bombardier** DHC-8 Q400s. The airline also operates two Dash 8 Q200s. The elderly Fokker 50s will be sold.

Bankruptcy of the Month

Skymark Airlines relinquished leases of 10 A330-343s as of March 13. The airline leased four from **Intrepid Aviation**, and intended to lease three more. One A330 was leased from **CIT Aerospace** and delivered; two more were planned. The five A330s have been stored in **Haneda Airport**, Japan, since

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January 31. The carrier's President, **Masakazu Arimori**, said he was looking to transfer the leases to other airlines. It was reported that **AirAsia X** expressed an interest in taking over the leases, which is odd, since the Malaysian low-cost, long-haul carrier was also reported to be suffering from over-capacity problems recently. **Skymark** was the first and, so far, only A330 operator in Japan. Its jets were delivered with 271 seats in a 2-3-2 low-density single-class configuration. The standard three class configuration has been 295 seats while the two-class cabin can seat 335 passengers. **Skymark** used the A330s on Japanese trunk domestic routes from **Tokyo Haneda** to Fukuoka, Sapporo and Naha, but the planes were too large for the market and the carrier was forced to sell premium-class seats at a loss to keep its load factor up. **Airbus Group** is still demanding \$700 million in compensation for the six cancelled A380 superjumbo jets. **Airbus** filed the request to **Tokyo District Court**, which is handling the bankruptcy. The debt is a large part of the more than ¥200 billion (\$1.7 billion) in **Skymark** liabilities. The airline's debt has more than doubled since it filed for bankruptcy protection on January 28. The weaker yen pushed up its costs by ¥71 billion yen (\$603 million). In spite of the huge financial hole, **ANA Holdings**, **Orix Corp.** and **H.I.S. Co.** each said they intend to support **Skymark**. **AirAsia Bhd.** and **Hainan Airlines** also applied to support the Japanese carrier, so they must see some value in the airline. It still holds 36 valuable takeoff and landing slots at **Haneda**, which **SMBC Nikko Securities** estimates are worth about \$612 million in annual revenue. President **Arimori** has cut flights and pared expenses to help lift **Skymark's** margins before the airline presents a restructuring plan by the end of May. Mr. **Arimori** said the airline should post an operating profit by July, because it cut capacity and costs by dropping the A330s.

Ten Airways, Romania, filed for bankruptcy protection in a Bucharest court in March. It has a fleet of three MD-82s and two MD-83s, which are currently on the ground at various Romanian airports. The airline had its **Air Operators Certificate (AOC)** revoked by the Romanian civil aviation authority a month ago but the **AOC** was reinstated. The carrier specializes in ACMI/charter operations and briefly operated a low-cost subsidiary called **Fly Romania**. Last year it lost several ACMI contracts and its principal backer **Ovidiu Tender** was sentenced to 11 years in prison for his alleged involvement in a money laundering scheme. The airline's employees are the largest creditor group.

SpiceJet Ltd., an Indian budget carrier that was flirting with bankruptcy, said it resolved its dispute over six leased **Boeing 737NGs** with their owner **Wilmington Trust SP Services (Dublin) Ltd.** **Wilmington Trust** will withdraw court proceedings and refrain from trying to deregister aircraft according to the agreement. **SpiceJet** must settle with the lessors of another 11 737s. **SpiceJet** said the deal resolves the future of three planes but it struggles with intense competition, low fares and high costs. India's aviation regulator ordered six airplanes to be deregistered and the **Delhi High Court** also reserved an order in a similar case for five more **SpiceJet** aircraft. Taxes and wages have been paid, and talks with lessors are continuing, the company said in a statement. Chief Operating Officer **Sanjiv Kapoor** said the airline was appealing the court order. In 2008, India signed the **Cape Town Convention**, which defines the rights of aircraft owners and lessors during payment defaults, but enforcement by Indian courts and the regulatory agency have been spotty. In spite of the currently lessors' problems getting their planes back, the airline has received offers to lease more than 20 aircraft from other lessors. **SpiceJet** wants to add eight or nine 737s in April, and plans to have a fleet of three dozen jets by the end of 2015. It still flies 15 **Bombardier Q400s** as well as 18 737NG aircraft. It was reported that the Q400s would be returned to their financiers and **SpiceJet** would operate an all 737 fleet. Those plans may have changed. **Martin Consulting** mentioned that the company's "credibility with lessors is probably at its worst," but it

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should be able to bring lower-cost, older planes into its fleet. This may reflect the lessors' optimism that the airline will survive, and possibly their desperation to place their jets somewhere. **SpiceJet** is India's fourth-largest carrier by market share, behind **IndiGo**, **Jet Airways** and **Air India**, in descending order. It has not posted a profit for six straight quarters.

Technical

Jet Aviation Basel was chosen by **Boeing Business Jets (BBJ)** to complete the VIP interiors of two **Boeing 777-300ERs** that will be delivered to an undisclosed Asian client. The project will start immediately and will be completed in the third quarter of 2018. **BBJ** opened an intense and competitive bidding process to achieve its customers' detailed requirements, **Jet Aviation** said. Its Director, Market Development & Completions Sales, **Matthew Woollaston** said, "We have invested heavily in process and product improvements for popular wide-body platforms such as the 777 in order to bring VIP interiors to the next level of quality and precision. This is a fantastic opportunity for us to showcase our new capabilities."

British Airways (BA) will retrofit its 10 newest **Airbus A320s** with Sharklet wing-tip devices under a fuel-efficiency program. It is expected to start work in the next few months. Sharklets can be easily fitted to the newer A320 airframes, because the wings were built to the production standards required to accommodate the modified wing-tips. Older A320s can be retrofitted after the wing structures are reinforcement, but **BA** said it had no immediate plans to upgrade more than 10 jets. **BA's** parent company **IAG**, will harmonize A320 Family specifications such as avionics, galleys, and cabin crew seating across the **British**, **Iberia** and **Vueling** fleets. **IAG** reported it was developing single specifications for the group's **Airbus A350s**, which will be delivered to **BA** and **Iberia**.

Boeing Received 330-Minute Extended Operations (ETOPS) Approval from the **U.S. Federal Aviation Administration (FAA)** for the **Boeing 747-8 Intercontinental**. This was the first time a four-engine airplane received this type of design approval. Although ETOPS was a requirement for twin-engine airplanes since the 1980s, the regulations were recently applied to the design of passenger airplanes with more than two engines. ETOPS approval is now required for four-engined passenger airplanes built after February 2015 so that they can fly more than 180 minutes from an alternate airport. The 747-8's design was approved to fly up to 330 minutes from a landing field. The 747-8s can now fly long-distances more directly on virtually any worldwide city pair routing. Flying long-distance routes directly helps our customers fly even more efficiently – saving fuel and emitting less carbon dioxide, **Boeing** said. Eighty-three 747-8Is and 747-8Fs are in service with 11 customers, and have logged more than 619,000 flight hours and more than 101,000 flight cycles.

Cargo Pallet

Lockheed Martin is Promoting its LM-100J multi-purpose freighter at the **Avalon Airshow 2015**. The company wants to attract orders for its civil derivative of the C-130J Super Hercules airlifter from existing L-100 customers and new operators looking for an aircraft to support niche missions. The LM-100J will be able to operate from short, unprepared airfields without ground support infrastructure and require only minimal cargo-handling equipment. The aircraft will be built on the C-130 production line in Marietta, Georgia, where **Lockheed** has built Hercules since 1954. So far, Australia's **ASL Aviation Group** is the only LM-100J customer. It signed a Letter of Intent for up to 10 of the commercial

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freighters at the **2014 Farnborough Airshow**. Final assembly of the first civilian aircraft will begin in 2016, and be delivered in 2018. **Lockheed Martin** said potential government customers have expressed interest in the LM-100J. It will still be export-controlled even after removal of most of the military equipment. The company said it could not export to “some countries, but for the most part we expect to have a pretty open market commercially.” **Lockheed** built more than 100 civilian L-100s from 1964 to 1992. Many of those aircraft are still in operation by commercial and government customers. One such customer, **ASL Aviation Group**, owns and leases out five 737-800s, four ATR 42s, and five ATR 72s to third-party airlines. **ASL’s** subsidiary airlines operate two **Airbus** A300 freighters, six Hercules aircraft, seven 737-700s, 12 737-400s, 15 737-300s, 11 ATR 72s, six ATR 42s, and one 757-200. **ASL** owns **Farnair**, Switzerland, **FlySafair**, South Africa, and **Air Contractors**, Ireland. It will base two LM-100Js at **Shannon Airport**, Ireland, and some will be operated in Africa.

Aeronautical Engineers (AEI) delivered the first 737-400SF 11 pallet position freighter (SN 24438) to **Swiftair S.A.**, Madrid, Spain. This is the first of eight freighter conversions. The high gross weight 737-400 aircraft was built in 1991 and was converted at **Commercial Jet’s** Miami facility. The second 737-400SF conversion is also now complete and the plane is being painted by **Commercial Jet** in Dothan, Alabama.

Aeronautical Engineers started modification of **Aeronaves T.S.M.’s (TSM)** third MD-80SF freighter. The MD-83 (SN 49558) will join **TSM’s** MD-82SF (SN 49342) and MD-83SF (SN 49963) freighters. After this conversion, **AEI** will have delivered six MD-80SFs to various customers.

Martinair Cargo said it would fly four **Boeing** 747-400(F) freighters by June 2015 and that it will retire its six **McDonnell Douglas** MD-11CF/Fs freighters. **KLM** stated that **Martinair** would operate three 747-400ERFs and a 747-400BCF. Apparently, the 2003-2004 era 747-400ERFs (SN 33694, 33695 & 33696) will come from **KLM’s** fleet and they will replace two 1989-1991built 747-412BCFs (SN 24061 & 24975) that are currently grounded. The decision will affect more than 330 jobs at **Air France/KLM’s** air-cargo subsidiary, including 170 ground staff in the Netherlands, 50 employees abroad and 110 cockpit crew members. The airline said it “will do its utmost to reassign ground staff within the **KLM Group**” or offer “voluntary redundancy, which will take place in close consultation with the unions and apply to employees working in areas where a staff surplus arises.” Further, “a number of voluntary measures have recently been rolled out for pilots at **Martinair Cargo**. Reassignment options within the group have been explored over the last few months and a number of pilots have taken the step to join Transavia.” The airline said, “From 2016, **Air France-KLM-Martinair Cargo** will continue to operate with a main frame fleet of six full freighters (two **Boeing** 777Fs at **Paris Charles De Gaulle** and four Boeing 747-400s at **Amsterdam Schiphol**), supplemented by 15 **Boeing** 747 Combi’s [presumably from the **KLM** fleet].” Further, “**Air France-KLM-Martinair Cargo** is convinced that the remaining flexible freighters will continue to provide its clients with a full range of solutions to meet their needs. The freighter network at **Schiphol** will concentrate on Africa and North, Central and South America and will, of course, continue to serve important markets, such as the flower sector. The company will also continue to invest in Cargo (Express, Pharma, e-commerce). Cargo remains a core business for the **Air France-KLM Group**. It generates income of €2.5 billion per year and contributes around €1 billion a year to the passenger network. It goes without saying that pulling out of the cargo business is out of the question.”

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Precision Aircraft Solutions and Aerolease Aviation purchased a **Pratt & Whitney**-powered 757-200 (SN 25441) from **Aero-Turbine**. The joint venture will convert the airplane into a high-payload, 15-position freighter and offer it for sale. **Aerolease** President **Jep Thorton** said, "With **Aero-lease's** proficiency in 757 freighter development and marketing, along with **Precision's** aptitude in flight-efficient conversions, this aircraft will embody a powerful combination of product excellence and proven experience." Miami, Florida, based **Aerolease**, exclusively invests in the **Boeing** 757 aircraft and has participated in several **Precision** cargo conversions in the past. The 757 conversion is scheduled to begin later this month.

PEMCO World Air Services redelivered two 737-300Fs (SN 27287 & 26317) to **SF Airlines**.

PEMCO has now completed six -300SFs and three -400SF freighter conversions for the Chinese customer. The airline is the air cargo division of Shenzhen-based logistics specialist **SF Express**, which is one of the leading couriers in China.

SF Airlines (ShunFeng Airlines) received its first 767-300(F) from **Boeing ST Aviation Services Company (SASCO)** in March. The ex-**All Nippon** -381ER(F) (SN 32972) is the first of three 767s that will be converted by **SASCO** this year. **SF Airlines** also operates 10 757-200(F)s and has five more -200s to be converted into freighters, including two ex-**Air China** -2Z0s (SN 25885 & 25886) and **AerCap's** -28A (SN 27621).

Astral Aviation, Kenya, will take delivery of its first of two 737-400F freighters later next month as it prepares to increase its intra-African market share. The second 737F will enter service by 2016 and the two will operate from **Astral's** Lagos, Nigeria hub. In 2013, **Astral** announced plans to acquire three MD-83SFs from **Aeronautical Engineers (AEI)** to replace its two 39-year old DC-9-34CFs (SN 47706 & 47707). **Astral** also operates one **Fokker** F.27-500F, one 727-200ADV(F) wet-leased from **AeroSpace Consortium**, and a 747-400(F) ACMI-leased from **Atlas Air**. **Hainan Airlines** intends to invest in **Astral** and the cargo airline plans to acquire five passenger **Embraer** ERJ-145s.

Texel Air, Bahrain, started cargo operations in January with two 737-3G7SFs (SN 24710 & 28200). It also leased -3Q8SF (SN 28200) from **Kahala Aviation Leasing**. **Texel** offers regional and international cargo services through ACMI and charter services. The airline was founded in May 2013, and received its **Air Operators Certificate (AOC)** in September 2014. It is licensed, equipped, and approved to provide cargo airline and MRO services.

Atlas Air to Order More Boeing 747-8Fs at some point, its chief executive **William Flynn** said. "Yes we plan to place more orders," but he would not say when a contract would be signed. **Atlas** ordered a dozen 747-8F freighters, cancelled three and took delivery of nine.

Uni-Top Airlines, Wuhan, China, will receive its first A300B4-605R(F) (SN 746) shortly. It is currently being transformed into a freighter at **EADS Elbe Flugzeugwerke (EADS EFW)** in Dresden, Germany. The freighter will be deployed on routes from **Shanghai Pudong Airport** to **Seoul Incheon, Osaka Kansai, Shenzhen** and **Wuhan**. The cargo airline acquired **China Eastern Airlines'** last seven passenger A300B4-605Rs in 2013 and plans to convert them all into freighters. The second -650R (SN 707) has been flown to Dresden for conversion. **Uni-Top** also operates three ex-**Air China** 747-2J6B(SF)s (SN 23461, 23746 & 24960), having acquired them in 2009, 2010 and 2011 respectively.

Military Market

The Royal Malaysian Air Force's took delivery of its first **Airbus A400M** airlifter (SN 022) in March. It was formally handed over at **Airbus Defense and Space's** final assembly facility in Seville, Spain. It was the first of four A400Ms that will be delivered to **Malaysia**. The aircraft appeared at the **LIMA Exhibition** on the resort island of Langkawi, and performed flying exhibitions.

The Royal Air Force's second A400M Atlas tactical transport (ZM402, SN 017) arrived at the **Brize Norton** base on February 27, three months after the service's first Atlas (ZM400, SN 015) touched down in the U.K. The company expects to deliver five A400Ms to the **RAF** this year. It will acquire 22 A400Ms by the end of the decade. **Airbus** is still performing defensive aids system integration work on another **RAF** Atlas (ZM401, SN 016) at its **Getafe** facility near Madrid. Earlier plans had called for the **RAF** to achieve initial operational capability this month, with the milestone to be linked to the availability of its first seven A400Ms, **Airbus CEO Tom Enders** said.

Turkey is preparing for further delays in the delivery of its next two A400M military transport aircraft (SN 023 & 028). After four years of delays to the project, Turkey received the first two of 10 ordered aircraft in 2014 and was due to receive two more this year. Turkish officials said the latest deliveries are now likely to be late. It ordered the heavy cargo and troop carriers in 2003 as part of a group of seven European **NATO** nations, and expects its last Atlas will arrive in 2018. **Airbus** will have to pay a penalty which "will depend on the number of days the deliveries are delayed, so the figure is not clear yet. Receiving products and services from the company is also possible," one of the Turkish officials said.

Airbus Military is negotiating a new delivery schedule for the A400M and may be able to build 14 to 16 aircraft in 2015, including two for Turkey. An **Airbus Military** spokesman said, "We are currently discussing A400M production with all the customers and we will communicate further on that when the discussions are complete." Several buyers, including Germany, are growing concerned about the continued delays, and are hardening their negotiating positions. **Airbus** admitted to its mounting delays and took a charge of €551 million (\$618 million) in February to cover for delays and remedial action needed to ramp-up production. **Airbus CEO Tom Enders** blamed the A400M's woes on incomplete sub-assemblies arriving at the Seville final assembly line, including fuselages from Bremen, which are a

The U.S. Air Force to Replace the E-8C JSTARS Fleet. It will consider both U.S. and foreign aircraft to replace the **Boeing** 707-based E-8C with a smaller airplane. A spokesperson said, the **Air Force** wants a "smaller, more efficient airframe, thereby reducing life cycle costs of the weapon system." Further, the chosen aircraft must come complete with a JSTARS battle management, command and control (BMC2) system and synthetic aperture radar/moving target indicator (SAR/MTI) capability. The service said, "The **JSTARS Recap Program Office** will contract for the delivery of a complete integrated weapon system solution, as opposed to holding separate competitions for individual weapon subsystems for subsequent integration." The competition is open to **Airbus**, **Dassault** and **Bombardier**, as well as domestic companies including **Boeing**, **Gulf-stream**, **Lockheed Martin** and **Northrop Grumman**. It seems that a business-size jet may be a more efficient and affordable replacement than a bigger airliner for the E-8C replacement. It would make sense for the **Air Force** to choose a 737-based JSTARS because the **U.S. Navy** is buying more than 100 P-8A Poseidon maritime patrol aircraft and already operates 21 C-40 Clippers, both of which are based on the civil 737 Next Generation aircraft. But inter-service commonality is an elusive goal at the **Pentagon**.

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particular problem, and wings from Filton and parts from other plants that needed further work. Mr. **Enders** changed top management at the A400M program last month. **Fernando Alonso** replaced **Domingo Ureña-Raso** as head of military aircraft. He was described as “a great manager coming from the commercial side,” while the new head of operations **Pilar Albiac-Murillo** comes from the automotive industry and knows how to fix a final assembly operation.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A319. **American Airlines** accepted the only A319 to be delivered in February. It received the third of seven ordered -115/Ws (SN 6456).

AerFin, U.K., purchased A319 (SN 1846) which is being parted out in Goodyear, Arizona. The aircraft parts will support the company's inventory program. **AerFin** has 12 airplanes under contract in 2015.

Airbus A320. **Airbus** delivered 22 A320s during February, including two -214/Ws (SN 6458 & 6476) to **AWAS**, which leased them to **Kuwait Airways**. **Air New Zealand** acquired two more -232/Ws (SN 6460 & 6471), and it has three more on order. **Spring Airlines** received its 50th A320-214/W (SN 6358) from **Airbus (Tianjin) Delivery Center**. It was leased from **ICBC Financial Leasing**. **Spring** also took delivery of -214/W (SN 6452). **Tianjin Airlines** leased one new -214/W (SN 6442) from **Hong Kong Airlines**, and a third new -232/W (SN 6449) from **BOC Airlines**. **BOC** also leased -232/W (SN 6480) to **Beijing Capital Airlines**. **China Air-craft Leasing Co. (CALC)** leased -214/W (SN 6446) to **Air India**, and **Vanilla Air**, Japan, leased -214/W (SN 6447) from **SMBC Aviation Capital**. **China Eastern Airlines** accepted **Tianjin FAL**-built -232/W (SN 6340), and **Nepal Airlines Corporation (NAC)** took delivery of the first of two -232/Ws (SN 6445). In Southeast Asia, **CEBU Pacific Air** received -214/W (SN 6441) for a fleet total of 24, and **VietJet Air**

Jetstar Hong Kong sold another two of the nine A320-232/Ws that it ordered. The two aircraft were sold to **CMB Financial Leasing Co.**, China, for \$83 million (\$41.5 million each), the airline's part-owner **Shun Tak Holdings** told the **Hong Kong Stock Exchange**. **Jetstar Hong Kong** has only one more A320 on order. **Shun Tak**, **Qantas** and **China Eastern** each own one-third of the Hong Kong-based low-cost carrier, but **Shun Tak** holds 51 per cent of voting rights and management control, with **Qantas** and **China Eastern** each have 24.5 per cent voting rights. “As the establishment of **Jetstar Hong Kong** is taking longer than initially expected, the sale of aircraft under the Aircraft Sale Agreements will optimize the fleet plan in the short term. The proceeds from the sale will be used for repayment of debt and for general working capital purposes of **Jetstar Hong Kong**,” the statement said. Hong Kong's **Air Transport Licensing Authority** is currently considering the airline's application for an operating license to determine if the airline's principal place of business is truly in Hong Kong and therefore whether the carrier should be given access to international traffic rights. **Hong Kong Airlines** and **Cathay Pacific** oppose granting a license because they say **Jetstar Hong Kong** is a foreign carrier whose major decisions will be made by **Jetstar's** Melbourne, Australia, office. **Shun Tak** argues that the airline is managed locally, has a Hong Kong chief executive and is run by a separate board of directors. **Jetstar's** airplane orders were placed by **Qantas** and transferred to the various **Jetstar** subsidiaries upon delivery. **CMB Financial Leasing** is a subsidiary of **China Merchants Bank**, Shanghai, China, and it recently ordered 30 **COMAC C919s**.

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accepted its third of 14 -214/Ws (SN 6457). **AirAsia** bought -216/W (SN 6465) and sold it to **Avolon Aerospace**. It was leased to **Pegasus Airlines**, Turkey, joining four -214/Ws the airline leases from **Avolon**. In Europe, **Vueling Airlines** accepted its third of 20 ordered -232/Ws (SN 6450), and **easyJet** acquired its 77th -214/W (SN 6485). In the Americas, **Airbus** delivered -232/W (SN 6463) to **Spirit Airlines**, and -233/W (SN 6470) to **Volaris**. Elsewhere, **Air Arabia** received -214/W (SN 6444), and **South African Airways** accepted -232 (SN 6478).

CIT Aerospace, a global leader in aircraft finance, leased one ex-**Monarch Airlines**-leased A320-214 (SN 5526) to **Frontier Airlines** in February. The aircraft is powered by CFM56-5B4 engines and is the first of two aircraft **CIT** will lease to **Frontier** in 2015.

Afriqiyah Airways, Libya, wants to lease out one of its two brand new A330-302s (SN 1499 & 1535) that are currently in storage at Teruel, Spain. The airline is looking for wet-lease opportunities so its Libyan crews will be gainfully employed. One of **Afriqiyah's** A330-200s was damaged at **Tripoli International Airport** during heavy fighting last year, so the carrier does not want to import the two jets into a war zone. The press reports that an undisclosed European leasing firm is interested in the planes. **Turkish Airlines** is also a potential customer for the A330s. **Afriqiyah** wants a two-year contract that could be extended to eight years.

Airbus A321. **Airbus** delivered 14 A321s in February, including three -231s (SN 6443, 6479 & 6490) to **US Airways** and two -231/Ws (SN 6472 & 6473) to **AerCap** for lease to **American**. The airlines have a fleet of 114 and 32 A321s, respectively. **GECAS** leased another -211/W (SN 6468) to **Thomas Cook Scandinavia**, another -211/W (SN 6477) to **Juneyao Airlines**, and one -211/W (SN 6459) to **Condor**. Two other German airlines received A321s in February. **Lufthansa** accepted its 84th and final -231 (SN 6451), and **Air Berlin** obtained its 10th -211/W (SN 6454). **China Southern Airlines** acquired -231 (SN 6461), and **JetBlue Airways** received -231/W (SN 6448). **Air Lease Corp.** leased -231/W (SN 6475) to **Sichuan Airlines**, and **LATAM Group** leased -211/W (SN 6484) to **LAN Airlines**.

Lessors. **FLY Leasing Limited** acquired a 2015-model A321-200 and put it on long-term lease to a leading European airline. **Air Lease Corporation (ALC)** purchased -212 (SN 2270) from **Iberia** and leased it back. **Iberia** is a new customer for **ALC**.

Avolon leased the third and fourth new A321-231/Ws (SN 6493 & 6531) to **Philippine Airlines** in March. **Avolon** leased five A321s and one A330 to the flag carrier, which the lessor acquired through purchase and lease-back transactions.

Airbus A330. **Airbus** delivered one -200F, four -200s and three -300s in February, including -243F (SN 1594) to **Qatar Airways**. **Airbus Defense and Space** took delivery of -243 (SN 1601) and will convert it into a Multi Roll Tanker Transport for **AirTanker Services** and the **RAF**. **China Eastern Airlines** accepted -243 (SN 1603), and **Hawaiian Airlines** received its 16th of 18 ordered -243s (SN 1606). **Aerolineas Argentinas** took delivery of its first of four new -202s (SN 1605) as a part of the flag carrier's fleet renewal strategy. The A330 was equipped with **GE** CF6-80E1 engines, and joins four leased A330-200s and seven elderly A340-300s. **Aerolineas** will deploy its new A330 on long-haul routes from Buenos Aires to Miami, New York City, and Madrid. The airline has been an **Airbus** operator since 1994. **AirAsia X** took delivery of its 18th -343E (SN 1600), **Oman Air** received its sixth

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-343 (SN 1599), and **Cathay Pacific** accepted its 47th -343E (SN 1598). The airline has two more -343Es on order.

Intrepid Aviation Partners long-term leased a second new A330-343 (SN 1602) to **Cebu Pacific Air** in March. The aircraft is powered by **Rolls-Royce** Trent 772B engines.

Delta Air Lines' first 242-ton Maximum Take-Off Weight (MTOW) A330-300 rolled out of the paint shop in Toulouse, France, in March. This first higher weight variant of the A330-302 (SN 1627) is powered by two GE CF6-80E1 engines and it will be delivered to **Delta** later this year. The airplane flew as the test aircraft two months ago. **Delta** has 11 A330-200s and 21 A330-300s in service and has 10 high gross-weight A330-300s, 25 A330-900neos, and 25 A350-900s on order. In addition, **Delta** also operates 57 A319ceos, and 69 A320ceos and has 45 A321ceos on order.

Vietnam Airlines first A350-941 (SN 016) has left the paint shop in March and is painted in the carrier's new livery. The aircraft will have its **Rolls-Royce** Trent engines fitted and the interior installed, before **Airbus** conducts ground and test flights. The airplane will be leased from **AerCap** in June. By the end of this year, **Vietnam** will have taken delivery of four of its 14 A350-900s. The A350s will be deployed on flights to Paris from Hanoi and Ho Chi Minh City.

Eurowings will acquire its first two of seven leased A330-200s in November and December. The A330s will be fitted with 310 tourist class seats. The airline's long-haul flights will to be flown under **Sun Express Deutschland's Air Operator Certificate (AOC)** using that airline's cockpit and cabin crews. **Sun Express Deutschland** is a joint venture between **Lufthansa** and **Sun Express**, Turkey. The airline will operate to the Caribbean, Dubai and Thailand with one-way ticket prices starting at €99.99 (\$111). Costs at **Eurowings** are around 40 percent below that of its main **Lufthansa** brand, and are 20 percent less than the budget brand, **Germanwings**.

Airbus A350. **Qatar Airways** took delivery of its second A350-941 (SN 007) in March. It has 78 more on order, and the airline expects to receive seven more A350s this year. **Qatar Airways** said the performance and dispatch reliability of the first A350 had exceeded expectations.

Airbus A380. **British Airways** accepted its ninth -841 (SN 173) in February. **BA's** 10th -841 (SN 192) is on the production line and will be delivered later this year. Another two (SN 194 & 215) are on order for delivery by the end of 2016, and seven A380s are on option.

Turkish Airlines dropped plans to lease or buy two of **Malaysia Airlines'** six A380-841s. **Turkish** said, "There is no board decision regarding the purchase or lease of an A380 aircraft. **Turkish Airlines** will not be operating an A380 aircraft in 2015," in a filing with the **Borsa İstanbul** in March. The airline did buy one of **Scandinavian Airline System's** landing slots at **London Heathrow** for \$60 million.

Etihad Airways will launch a new A380 service between its base in Abu Dhabi to New York's **JFK International Airport** in December 2015. The A380 will feature **The Residence by Etihad** ultra-luxurious and private three-room suite. **Etihad** will continue to offer twice daily service between New York and Abu Dhabi. The A380 will allow the airline to match capacity with increased demand. In 2014, load factors on the route exceeded 80 percent.

Boeing

Boeing 737 NG. Boeing delivered 43 737s in February, including five -924ER/Ws (SN 42182, 42184, 42185, 42186 & 60317) to **United Airlines**, which now has 27 more on order. **Delta Air Lines** acquired two -932ER/Ws (SN 31945 & 31946) for a total of 35. Three -8H4/Ws (SN 36654, 36901 & 36906) were delivered to **Southwest Airlines**, for a fleet total of 85. The **United States Navy** purchased its 22nd and 23rd -8FV P-8A Poseidons (SN 44141 & 44142), and **American Airlines** received its 250th -823/W (SN 33240). **WestJet** accepted -8CT/W (SN 60129), and **Avolon** delivered the first of four -852/Ws (SN 43661) to **Aerovías de México (Aeromexico)** in February and the second -852/W (SN 43665) in March. **Avolon** will deliver the other two to the flag carrier in 2015. In Europe, **Ryanair** bought three more -8AS/Ws (SN 44692, 44693 & 44694), and **TUI Travel** leased -8K5/W (SN 41661) to **TUIfly**. **Luxair** acquired -8C9/W (SN 43537), and **Avia Capital Leasing** leased -8LJ/W (SN 41204) to **Aeroflot**. Boeing delivered one -8K2/W (SN 43880) to what it called “an **Unidentified Customer**,” but it is now known to be **Transavia France**. The airplane was leased from **ICBC**. Five airlines in the Middle East obtained one -900ER and four -800s. **Turkish Airlines** accepted -9F2ER/W (SN 42010), and **Pegasus Airlines** received -82R/W (SN 40013). **Flydubai** took delivery of its 44th -8KN/W (SN 40273), the **Republic of Iraq** leased -81Z/W (SN 40080) to **Iraqi Airways**, and **Oman Air (SAOC)** acquired -81M/W (SN 44422). In Asia, **Avolon** leased two 737-8GP/Ws (SN 39833 & 39834) to **PT Batik Air**, Indonesia after purchasing the airplanes from **Lion Air** after delivery. **SMBC Aviation Capital** leased -8U3/W (SN 39956) to **Garuda Indonesia Airlines**, and **SilkAir** accepted -8SA/W (SN 44225). **AerCap** leased -8Q8/W (SN 41803) to **Shenzhen Donghai Airlines**. **China Southern Airlines** leased -81B/W (SN 41327) from **Air Lease Corp.**, and leased -86N/W (SN 43401) from **GECAS**. Boeing handed over two -89L/Ws (SN 41102 & 41110) to **Air China**, and two -84P/Ws (SN 39220 & 41379) to **Hainan Airlines**. **China Eastern Airlines** bought one -89P/W (SN 39740) and transferred it to **China Eastern Yunnan**. **Shenzhen Airlines** acquired one -87L/W (SN 40823), and **Shandong Airlines** received one -85N/W (SN 41622). **Shanghai Airlines** accepted the only -700 to be delivered in February, -76D/W (SN 39313).

737 Leases. **CIT Aerospace** leased ex-GOL leased 737-8BK/W (SN 30625) to South Korea-based **Eastar Jet** in February. The aircraft is powered by CFM56-7B24 engines and is the second aircraft CIT leased to the airline. **Aergo Capital**, a long-established aircraft leasing company based in Dublin, Ireland, delivered one 737-36N/W (SN 28569), to **Alas Uruguay**. A 737-33R/W (SN 28869) is currently being painted and will be handed over to **Alas**. **Aergo** acquired the first plane from **GECAS** and the second from **Aviation Capital Group**. **FLY Leasing** announced that it sold three 737-800 aircraft for \$137 million. **FLY CEO, Colm Barrington**, said, “These sales have resulted in a gain over our net book value and have generated more than \$30 million in cash.”

EL AL Israel Airlines celebrated the delivery of the airline’s 50th airplane purchased from **Boeing** – a Next-Generation 737-958ER (SN 41555). It is the fifth -900ER for the airline from orders placed for eight between 2011 and 2013. Since taking delivery of its first new **Boeing** airplane, a 707-420 in 1961, **EL AL’s** fleet has grown to 21 737s, seven 747s, six 767s and six 777s. The 737-900ER can fly up to 215 passengers (in a single-class configuration) for up to 3,235 nautical miles (5,990 km), and it features the innovative **Boeing Sky Interior**.

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Boeing 747. Lufthansa German Airlines accepted its 17th 747-830 Intercontinental (SN 37843) in February, and it has two more on order. To date, **Boeing** has delivered 56 747-8 Freighters and 29 passenger 747-8Is.

Cargolux Airlines International celebrated the delivery of its 30th 747 Freighter in March. To mark the occasion, **Cargolux's** latest 747-8R7F freighter (SN 35823) carries a special decal of the "Father of the Boeing 747," **Joe Sutter**, the **Boeing** engineer who led the team that designed the airplane. **Dirk Reich**, President and CEO of **Cargolux Airlines**, said, "We have built our business around the iconic 747 and therefore we wanted to celebrate our 30th [747] delivery by honoring the man behind this magnificent machine – **Joe Sutter**." The latest plane was the 12th 747-8 Freighter to join the launch customer's fleet, since the first -8F was handed over in October 2011. Prior to the introduction of the 747-8 Freighter, **Cargolux** took delivery of the first of two 747-200 Freighters in 1979 and became the world's first operator of the 747-400 Freighter in 1993, taking a total of 16 747-400Fs. **Cargolux** has two more orders for -8F to be filled and it still operates eight 747-4R7Fs.

Philip Morris Capital Corporation, Stamford CT has sold 18 1990-1992-era PW2037-powered 757-222 aircraft (SN 24810, 24932, 25277, 25399, 26641, 26644, 26647, 26650, 26653, 26654, 26657, 26660, 26661, 26664, 26665, 26666, 26669 & 26670) to **Seven Five Partners Lux, SÀRL**, a special purpose vehicle established by **Castlelake** and **Merx Aviation Finance**. The aircraft were leased to **United Airlines** since new and were sold at the expiry of each lease in late 2014. **Aerolease Aviation** and **NexGen Aviation Capital**, who will also serve as asset managers for the aircraft, advised the buyers on the acquisition. The transaction was arranged by **SkyWorks Leasing** in its capacity as advisor to **Philip Morris Capital Corporation**.

Cargolux Airlines International sold its new 747-8R7F (SN 35823) to **Doric**, and long-term leased it back. **Doric** borrowed funds from **Landesbank Hessen-Thüringen Girozentrale (Helaba)** and **Deutsche Bank** to pay for the plane and it is providing long-term asset management on the investor side, it said.

Boeing 767. Federal Express took delivery of its 12th -3S2F (SN 42712) in February. The cargo airline has 36 more on order. **FedEx** bought two -321Fs (SN 41068 & 41069) from **Silk Way West Airlines** in February. The Baku, Azerbaijan-based cargo airline standardized its fleet and now only operates 747-400F and -8F freighters.

WestJet acquired the first of four ex-**Qantas** 767-338ERs (SN 25274) from **Boeing's BCC Equipment Leasing**. It is currently at **Lake Charles Chennault Airport**, Louisiana, undergoing maintenance checks, and it will enter service between Alberta and Hawaii in July. The 767s will replace several 757s that are wet-leased from **Thomas Cook Airlines**.

Boeing 777. Boeing delivered six 777s in February, including three 777Fs. **Lufthansa Cargo** added its fifth of five ordered -F30s (SN 41678). It took delivery of the first 777F in November 2013. **Lufthansa Cargo** has options for another five 777Fs for delivery at about one per year until September 2020. **Air China Cargo** acquired its sixth -FFT (SN 44683), and **Korean Air** received its fifth -FB5 (SN 37642). Three -300ERs were delivered during the month; one -323ER (SN 33524) to **American Airlines**, one -367ER (SN 41765) to **Cathay Pacific Airways**, and -35EER (SN 43290) to **EVA Air**.

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Air Lease Corporation (ALC) long-term leased its first new 777-31HER (SN 42122) to **Emirates** in March. The UAE flag-carrier became a customer when it leased -31HER (SN 33501) from **ALC** in 2012.

NokScoot, Don Mueang International Airport, Thailand, leased two 777-212ERs (SN 28521 & 30866) from **Singapore Airlines** in June 2014 and January 2015, respectively. The terms are for five years. The airline was due to start flying in November, but it is still in the process of obtaining approvals from Thai and foreign aviation authorities. **NokScoot** will start scheduled operations to Northwest Asian destinations on May 5. The long-haul, budget carrier previously operated charter flights to and from Japan and Korea. **NokScoot** is 51 percent owned by **Nok Air** and the rest is owned by **Scoot**, Singapore.

Boeing 787. **Boeing** delivered 12 787s in February, including four 787-9s. **LAN Airlines** leased the airline's first 787-9 Dreamliner (SN 35317) from Amsterdam-based lessor **AerCap**. **LAN** is now Latin America's first operator of both the 787-8 and 787-9 variants and it will launch 787-9 services on South American routes in April. **United Airlines** received its third 787-9 (SN 36403), joining the 12 787-8s the airline already has in service. **Virgin Atlantic Airways** accepted its third 787-9 (SN 37968) in February and leased the first of four -9s (SN 37969) from **Avolon Aerospace** in March. **Avolon** purchased the -9 from the airline and leased it back. **Etihad Airways** bought its second -9 (SN 39647), and **Qatar Airways** purchased two 787-8s (SN 38337 & 38338), all on February 26. **Qatar** now operates 20 -8s and has 10 more on order. **Air Canada** acquired its eighth -8 (SN 35264), and **Aeromexico** bought its second -8 (SN 36844). The airline also leases four -8s from **AerCap**. **Japan Airlines** took delivery of its 20th -8 (SN 34856), and **Hainan Airlines** received its ninth of 10 ordered -8s (SN 34942). **Air India** obtained its 19th -8 (SN 36291) in February and its 20th -8 (SN 36292) in March.

Boeing Delivered the First 787-9 Dreamliner to be assembled at its North Charleston, S.C., facility to **United Airlines** on March 17. The airplane (SN 36404) also marks a milestone for the 787 program as the 250th Dreamliner to be delivered. **Beverly Wyse**, VP and General Manager, **Boeing South Carolina** said, "In 2012, we delivered our first South Carolina-built 787-8, and less than three years later, we're celebrating another significant milestone – our first 787-9 delivery." **Boeing South Carolina** has delivered more than 50 Dreamliners since September 2012, and the plant will be the sole source for the 787-10. The -10's fuselage barrels are too long to be easily carried in **Boeing's** 747-400LCF (large cargo freighter). **Larry Loftis**, VP and GM of the 787 program, said "We looked at all our options and found the most efficient and effective solution is to build the 787-10 at **Boeing South Carolina**. This will allow us to balance 787 production across the North Charleston and Everett sites as we increase production rates." Everett will build 787-9s and 787-8s, while Charleston will build all three models. Production of the 787-10 will start in 2017. Charleston is currently completing three 787s per month and it will bump production to five per month in 2016 and to seven a month by 2020. **United** received its second Charleston -9 (SN 36405) late March.

American Airlines took delivery of its second -8 (SN 40619) in February and the next three -8s (SN 40620 to 40622) are due shortly. Two undelivered **American** 787s are stored at Victorville, California, awaiting the installation of their new **Zodiac** first-class seats. The French seat maker is having trouble meeting its production goals.

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Air New Zealand's fourth 787-9 (ZK-NZC, SN 41988) was supposed to be painted in the blue-and-green-striped 1973-1996 retro livery. The 787 was the former the test aircraft (N789EX) that flew in April 2014 and was used for aerobatic demonstrations at the **2014 Farnborough International Airshow**. The airplane is due shortly and will be painted in **ANZ's** distinctive black and silver fern color scheme.

Regional Jet

Bombardier. **American Airlines Group** received four CRJ900 NextGen aircraft (SN 15352, 15353, 15354 & 15355) in February. The aircraft will be operated by the group's wholly-owned subsidiary, **PSA Airlines**, under the **American Eagle** brand. **American** now has 21 of its 54 ordered CRJ900 NGs in its fleet. **Brit Air**, France, accepted CRJ1000EL NG (SN 19041).

Embraer. **Republic Airways** accepted three EMBRAER 170-200 LRs (E175) (SN 17000453, 17000455 & 17000457) in February, for operation on behalf of **American Eagle**. **SkyWest Airlines** received four E175s (17000450, 17000451, 17000452 & 17000458). **United Airlines** bought E175 (SN 17000454), and leased it to **Mesa Airlines** for operation for **United Express**.

Embraer delivered the first of 60 E175s (SN 17000456) to **American Airlines** in February. The firm contract was signed in December 2013 and included options for another 90 E175s. **American** selected **Compass Airlines**, a wholly-owned subsidiary of **Trans States Holdings**, to operate the first 20 E175 aircraft under the **American Eagle** brand.

Finnair signed a firm contract to sell and leaseback three **Embraer** E190s with **GOAL German Operating Aircraft Leasing GmbH** in February. The lease terms average eight years. The transaction was valued at approximately €60 million which was "current market value" so the transaction profits will not have a significant impact on **Finnair's** 2015 operating result. The aircraft will still be operated by **Flybe Finland**.

Sukhoi Civil Aircraft Company delivered the 17th and 18th Sukhoi Superjet 100s (SN 95082 & 95084) to **Aeroflot** in February. The latter aircraft was named after **Alexander Gruzdin**, a World War II pilot and Hero of the Soviet Union. **Aeroflot's** Sukhoi Superjet 100 features 87 seats in a two-class configuration. Since the entry into **Aeroflot** service the first SSJ100s have operated more than 40,000 hours. Currently the airline flies the SSJ100 to the cities in Russia, Germany, Lithuania, Montenegro, Greece, Finland, Croatia, Norway, Romania, Latvia, Estonia and Ukraine.

Red Wings wishes to secure 1.5 billion roubles (\$24.8 million) in loan guarantees from the Russian state to aid in its fleet expansion plans. The funds would be used to acquire more SSJ100-95s from **Sukhoi Civil Aircraft**. The airline applied to Russia's state-owned banks as well as other domestic financiers. The carrier recently leased a second ex-**Moskovia Airlines** SSJs (SN 95010) from **Sukhoi** in February and leased the third SSJ (SN 95008) in March. **Red Wings** reportedly plans to acquire seven more SSJs over the next two years. The airline operates an all-Russian fleet of three SSJ100-95s and nine Tu-204s on scheduled passenger and cargo charter flights throughout Russia, the Mediterranean, and Eastern Europe.

Sukhoi delivered SSJ100-95B (SN 95052) to **Interjet**, Mexico, in February and SSJ100-95LR (SN 95078) to **Gazpromavia** in March.

Turboprop Aircraft

ATR. In February, **ATR** delivered one ATR 72-600 (SN 1234) to **Wings Abadi Airlines**, Malaysia. **Avianca** received one -600 (SN 1231), and **Bangkok Airlines** accepted -600 (SN 1230). **Air Lease Corporation (ALC)** leased one new -600 (SN 1229) to a new customer, **APEX Airlines**, Myanmar. **Avation** leased a second new -600 (SN 1226) to **Airline Allied Services Limited**, also known as **Air India Regional**, the domestic airline arm of **Air India**. The lease is for a 12 year term. The first aircraft (SN 1197) was leased to **Air India Regional** in December 2014. This was **Avation's** twenty-second new ATR 72 aircraft to be delivered to date.

Pakistan International Airlines (PIA) leased two ATR 72-500s (SN 994 & 1029) from **ABRIC Leasing**. The two aircraft were formerly operated by **UTair-Ukraine**. Both turboprops are currently undergoing pre-delivery maintenance checks at Toulouse. **PIA** operates six ATR 42-500s on domestic and regional international service.

Finnair concluded a sale and leaseback transaction with **Doric Asset Finance GmbH** for six ATR 72-500s. The transaction was valued at approximately €80 million and earned the airline a €30 million profit. The ATR 72s are leased for eight years and are currently operated by **Finnair's** associated company **Flybe Finland**, which subleases the aircraft.

Bombardier. **WestJet Encore** took delivery of its 18th Q400NG (SN 4487) in February. **Falcon Air Service**, Abu Dhabi, wet-leased Q400NG (SN 4486) to **Starbow Airlines**, Ghana, not **Senegal Airlines** as was reported in February. The Q400NG is one of six that **Falcon** ordered in 2014.

Antiques and Other Junque

AerFin will provide an end-of-life solution for **Cathay Pacific Airways'** fleet of 11 A340-313s. The agreement will see **AerFin** acquire and/or consign the aircraft over a three-year period through to 2017. The first A340-313 (SN 137) will be handed over in March 2015, and will be disassembled to provide **Cathay Pacific** support for its operational fleet. The plane will also provide **AerFin's** customer base with serviceable used material to support continued operations. **Cathay Pacific** is retiring the A340-300s and replacing

Aeroscopia aviation museum is located at **Toulouse-Blagnac Airport**, next to **Airbus'** headquarters and its French final assembly lines. This enables visitors to appreciate **Airbus'** production activity while exploring aviation history at the museum. **Aeroscopia** features a collection of iconic aircraft including ex-**Pan Am** A300B-203 (SN 238), a **Boeing** 377 "Super Guppy", the outsized transporter used by **Airbus** to carry aircraft components, and **Aérospatiale-BAC** Concorde (F-WTSB) supersonic passenger airliner. The first A400M prototypes (SN 001) and the last **Aérospatiale** SE-210 Caravelle 12 (F-BTOE, SN 280) are also on display. **Jacques Rocca**, **Airbus** Deputy Head of Media Relations, said, "Airbus' contribution to **Aeroscopia** reflects the company's great fondness for celebrating its roots and its different phases of aircraft development and production over the years." **Manatour** manages **Aeroscopia** and offers tours of **Airbus** final assembly lines in Toulouse, with all tours of the production facilities start at the museum. **Airbus**, the city of Blagnac, and several local associations are partners in the new museum. **Aeroscopia** aims to preserve French aeronautical history and generate interest in aviation, science and technology.

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them with new, more fuel-efficient aircraft. The airline has some 79 aircraft on firm order for delivery by 2024, including two **Airbus** A330-300s, 48 A350XWBs, five **Boeing** 777-300ERs and 21 777-9Xs.

GA Telesis added three **Boeing** 747-400s, three **Airbus** A321-100, and one A340-300 on lease, seven CFM56-5A1/F engines, one CFM56-5B4/P engine, one V2527-A5 engine, and one PW4158 engine in the fourth quarter of 2014. The company sold or leased three 767-200ER airframes, three PW2037M engines, two **Bombardier** CRJ200 aircraft, two 757-200 airframes, one A321-100, one MD-82, two RB211-535 engines, two CFM56-5A1 engines, two JT8D-200 engines, one V2527-A5 engine, one CFM56-5B4/P engine and one CF34-3B1 engine.

Magnetic MRO, Tallinn, Estonia, a **Total Technical Care MRO** organization, acquired 1995-model A321-131 (SN 555) from **Wells Fargo Bank Northwest** for part-out. The purchase was conducted on behalf of private investors, and is the start of **Magnetic MRO's** Asset Management practice, which will offer comprehensive turn-key value creation services for aviation investors, the company said. The services cover asset acquisitions, lease management, lease transitions, green life rebuild, and end-of-life management solutions for aircraft and engines. The A321 will be disassembled in the U.S. and the parts will be warehoused and traded from **Magnetic's** European facilities.

Shanghai Airlines operated its last passenger 757-200 flight on Saturday, March 21, and put its last three -26Ds (SN 27681, 33961, 33966) into storage. The -26D (SN 27681) will be returned to **Aircastle**. Now, only **China Southern** and **Xiamen Airlines** operate passenger 757s in China. **Air China Cargo**, **China Cargo Airlines** and **SF Airlines** fly 757 freighters, and **SF Airlines** is adding them to its fleet.

LAN Airlines will end its A340-300 commercial services in April. The two -313s (SN 359 & 363) are being replaced with two new 787-9s. Other operators are retiring their A340-300s, including **SriLankan Airlines** which parked two out of its six remaining jets and **China Airlines** retired one of its six A340s.

Blue 1, Finland, sold four of its nine 717-200s to **Volotea**, Spain. The Finnish operator's remaining five 717s will probably be sold to **Delta Air Lines**, which is the world's largest operator of the type with 88 717s. **Blue 1** will replace the 717s with five 737-600s from its parent company, **SAS Scandinavian Airline System**.

Vietnam Airlines is planning to sell three ATR 72-500s and two 777-200ERs. The fully depreciated ATR 72s and the 10-year old 777-200ERs could no longer ensure the high standard of service required to keep the carrier competitive, the airline said.

Air France is planning to operate its last **Boeing** 747-400 revenue flight in 2016. The airline has operated the 747 since the delivery of its first 747-128 (F-BPVB, SN 19750) in March 1970.

Accidents and Safety

From Aviation Safety Foundation

Germanwings Airbus A320-211 (D-AIPX, SN 147) crashed in a mountainous area in southern France on March 24. The 24-year old A320 was flying from Barcelona, Spain to Düsseldorf, Germany. It

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reached its cruising altitude 27 minutes after takeoff but started to descend four minutes later. It impacted a very steep, rugged mountainside in the French Alps at an altitude of about 1500 m (4,920 feet), approximately nine minutes after starting the descent. The French government reported there were no survivors among the 144 passengers and six crew. The French aviation authority, **DGAC**, stated that the crew did not report an emergency to air traffic control. The airplane was delivered to **Lufthansa** in February 1991 and transferred to **Germanwings** in January 2014. This was the twelfth fatal crash of an A320 Family aircraft, of which 6,452 have been delivered since March 1988.

The European Union's Aviation Safety Agency (EASA) may tell its airlines to ensure that two crew members are in the cockpit of passenger airplanes at all times. An **EASA** spokesman said, "It is one option currently being evaluated. If it happens it won't be a compulsory rule, but a recommendation." Many European airlines quickly implemented the rule after the **Germanwings** crash. The **EASA** recommendation would be quicker than passing laws in each European government's legislatures. This policy was implemented in the United States several years ago, and was recently required by Canada.

The French Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA) studied the aircraft's **Cockpit Voice Recorder** and the investigation lead to a probable conclusion that the co-pilot purposely crashed the aircraft. **Lufthansa** CEO **Carsten Spohr** told the press, "The recordings of the voice recorder suggest that the captain, after reaching cruising flight, left the cockpit for a short space of time and unfortunately could not come back afterwards. It appears to be true that the colleague left in the cockpit, the co-pilot, denied him access to the cockpit [in order] to initiate the deadly descent into the French Alps." Investigators are still searching for the aircraft's **Flight Data Recorder (FDR)**, while also trying to discover any possible motive for the co-pilot to crash the airplane deliberately.

THY Turkish Airlines Airbus A330-303, (TC-JOC, SN 1522) suffered a runway excursion accident upon landing at **Kathmandu-Tribhuvan Airport**, Nepal, on March 4, 2015. None of the 11 crew nor 227 passengers were injured. After landing, the aircraft went off the left side of the runway, ran into soft soil, and the nose landing gear collapsed.

Air Canada Airbus A320-214 (C-FTJP, SN 233) landed short of the runway at **Halifax Stanfield International Airport**, Nova Scotia, during a snowstorm on March 29. The airplane lost its landing gear and one engine separated from the wing. It struck a power line and an antenna array off the end of the runway before landing. Twenty-three occupants were injured and taken to the hospital. The 23-year old A320 will be written off.

Deraya Air Taxi BAe ATP cargo plane (PK-DGB, 2029) sustained substantial damage in a landing accident at **Wamena Airport**, Indonesia, on March 4, 2015. The left hand main gear had collapsed and the number 1 engine and propeller were damaged. The two crew escaped injury.

Icar Air Let L-410UVP-E20 (E7-WDT, SN 912615) was damaged in a landing accident at **Ancona-Falconara Airport**, Italy, on March 5, 2015. The three crew members were not injured. The airplane was operating a cargo flight from **Sarajevo Airport**, Bosnia and Herzegovina to Ancona. Upon landing in strong winds, the nose gear collapsed, and the cockpit burst into flames, destroying the 24-year old airplane.

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SpiceJet Bombardier DHC-8-400 (VT-SUA, SN 4373) sustained damage in a landing accident at **Hubli Airport**, India, when the left hand main gear collapsed. The accident occurred in heavy rain on March 8, 2015. The 78 passengers and crew escaped serious injury.

The International Air Transport Association (IATA) reported that 2014 was the safest in the history of commercial aviation, in spite of two highly publicized **Malaysia Airlines** crashes. **Tony Tyler**, IATA's director general said, "While aviation safety was in the headlines in 2014, the data show that flying continues to improve its safety performance." IATA's annual safety report recorded 12 fatal accidents in 2014 with 641 fatalities, which compared favorably with the average of 19 fatal accidents and 517 fatalities per year in the five-year period between 2009 and 2013. The accident rate, measured in "hull losses" per 1 million flights was 0.23, equaling one accident per every 4.4 million flights. The 2013 loss rate was 0.41 and the five-year average rate was 0.58 per million flights. The 2014 IATA statistics did not include the loss of **Malaysia Airlines** flight MH17, which killed 298 people. The airplane was intentionally shot down by a missile and therefore was not classified as an 'accident'. Mr. **Tyler** said, "To the flying public an air tragedy is an air tragedy, regardless of how it is classified. In 2014 we saw a reduction in the number of fatal accidents — and that would be true even if we were to include MH17 in the total."

Delta Air Lines McDonnell Douglas MD-88 (N909DL, SN 49540) slid off the end of the runway at **New York-LaGuardia Airport**, New York, on March 5, 2015. No serious injuries were reported among the 125 passengers and five crew members. The airplane slid upon landing even though the controller advised that braking conditions were good. The airport was closed for several hours as the aircraft was recovered from a berm at the end of the runway that was designed to keep airplanes from over running into Flushing Bay. The 27-year old aircraft's nose gear was sheared off. It may be written off due to its age and **Delta's** program to retire its MD-88s as 737-900ERs are delivered.

IATA 2014 Safety by the Numbers

More than 3.3 billion people flew safely on 38.0 million flights (30.6 million by jet, 7.4 million by turboprop).

73 accidents down from 81 in 2013 and the five-year average of 86 per year.

12 fatal accidents (all aircraft types) versus 16 in 2013 and the five-year average of 19.

16 percent of all accidents were fatal, below the five-year average of 22 percent.

7 jet hull loss accidents compared to 12 in 2013 and the five-year average of 16.

641 fatalities compared to 210 fatalities in 2013 and the five-year average of 517.

All regions showed improvement in 2014 when compared to 2013.

Jet hull loss rates by region of operator

All regions saw their safety performance improve in 2014 compared to the respective five-year rate 2009-2013 as follows:

Africa (from 6.83 to 0.00), Asia-Pacific (from 0.63 to 0.44), CIS (from 2.74 to 0.83), Europe (from 0.24 to 0.15), Latin America/Caribbean (from 0.87 to 0.41), Middle East-North Africa (1.82 to 0.63), North America (from 0.20 to 0.11), and North Asia (from 0.06 to 0.00).

CIS had the worst performance (0.83), but it showed strong improvement over three consecutive years: 6.34 in 2011, 1.91 in 2012, and 1.79 in 2013.

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Turboprop hull loss rates by region of operator

The world turboprop hull loss rate improved to 2.30 hull losses per million flights in 2014 compared to 2.78 in the five years 2009-2013.

The following regions saw their turboprop safety performance improve in 2014 when compared to the respective five-year rate:

Asia-Pacific (from 2.16 to 0.00), CIS (from 12.12 to 11.95), Europe (from 1.46 to 0.71), Latin America/Caribbean (from 4.53 to 1.21), and Middle East-North Africa (from 7.91 to 7.17).

Africa had the worst performance (14.13 hull losses per million flights), which exceeded the region's five-year rate of 9.62. Since there are few turboprops in North Asia, the single turboprop hull loss caused the loss rate to rise to 11.28 compared to the five-year rate of 2.41. North America's rate rose in 2014 compared to the preceding five years (from 1.02 to 1.19).

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AVMARK's Transport Aircraft Values (TAV); reports current fair market values by year of build and projects the future value of all transport category aircraft.

AVMARK's Historic Jet and Turboprop Values; summary of the then current fair market values as published in the AVMARK Newsletter for all jets and turboprops in service.

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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

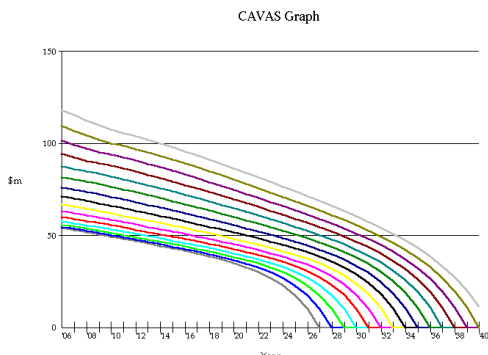
Manufactured: 1992 To 2006

Values: \$54.00m \$118.00m

Estimated Life: 35 years File No. 013

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CAVAS Figures

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2006	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
2007	52.85	53.49	54.73	56.56	58.99	62.01	65.62	69.85	74.66	80.17	85.92	92.18	99.12	106.73	115.25
2008	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

Profit & Loss Report

Aircraft Type: Airbus A340-300

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	49,037,226
Freight & Mail	8,879,176	8,868,733	8,858,261	8,847,758	8,837,226	8,826,714
Other Revenue	986,575	985,415	984,251	983,084	981,914	980,744
TOTAL OPERATING REVENUE	59,194,505	59,124,887	59,055,070	58,985,055	58,914,841	58,844,684
VARIABLE EXPENSES						
Fuel	6,918,975	6,917,743	6,916,510	6,915,277	6,914,044	6,912,811
Landing Fees	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
Pax Commissions	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313
Food & Supplies	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
TOTAL VARIABLE COST	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
Maintenance & Engineering	587,650	587,650	587,650	587,650	587,650	587,650

Profit & Loss Report

Aircraft Type: Airbus A340-300

Period	1	2	3	4	5	6
FIXED EXPENSES						
Station Overhead	346,597	345,923	345,249	344,575	343,901	343,226
Maintenance Burden	176,295	176,295	176,295	176,295	176,295	176,295
Other Overhead	0	0	0	0	0	0
TOTAL FIXED COST	522,892	522,218	521,544	520,870	520,196	519,522
TOTAL OPERATING COST	31,464,497	31,464,497	31,464,497	31,464,497	31,464,497	31,464,497
General and Admin. Allocation	1,573,225	1,573,225	1,573,225	1,573,225	1,573,225	1,573,225
TOTAL COST	33,037,722	33,037,722	33,037,722	33,037,722	33,037,722	33,037,722
OPERATING PROFIT OR LOSS	26,156,782	26,156,782	26,156,782	26,156,782	26,156,782	26,156,782
D-CHECK ADJUSTMENT						
Cumulative Hours	4,830	9,650	14,459	19,257	24,045	28,833
Cumulative Dollars	315,000	0	0	0	0	0
ADJUSTED CASH FLOW	25,841,782	25,841,782	25,841,782	25,841,782	25,841,782	25,841,782
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,841,782	25,841,782	25,841,782	25,841,782	25,841,782

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