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Newsletter

Market Comment

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Older Jets Get Reprieve Due to Low Cost Oil. Passenger jets that were destined for the scrap yard are still flying due to cheap oil, aircraft financiers told the **Airline Economics** conference in Dublin. **Aengus Kelly**, CEO of **AerCap**, said, "We are seeing a big pick-up in demand for aircraft we thought we would scrap." **AerCap**, the world's largest independent leasing company, recently leased out obsolete passenger and freighter aircraft such as **Airbus A340s**, **Boeing 747s** and **757s**, rather than have them dismantled. Mr. **Kelly** also said the useful lives of older aircraft have been extended by three and four years beyond the 18 to 19 years originally intended. Only eighteen months ago the press reported that **Airbus** and **Boeing** aircraft were being retired after only 15 years in service. Some airlines are retrieving mothballed **Boeing 747s** from desert storage and flying them again. **KV Aviation** Executive Director, **Bill Cumberland**, said, "At the new price of fuel, (the A340) becomes a great aircraft to those who are looking for interim lift." Aircraft recycling yards such as **Kemble**, U.K.-based **Air Salvage International (ASI)**, are seeing the change too. Its founder, **Mark Gregory** said, "Unscheduled or repossessed aircraft are not coming in as frequently as when oil prices were sky high." The company was still actively recycling aircraft that were scheduled to be taken out of service due to their age or upcoming heavy maintenance deadlines, he said. The A340s and 747-400s are being replaced by the 777-300ER, which is much more fuel efficient, but are list priced at \$330 million. Still, the short-term oil-price bust has not affected new sales – which are at record highs. The long lead-times for new deliveries have discouraged some airlines from placing orders. The 50 percent drop in oil prices makes it easier for marginally-funded airlines to enter the market or continue to operate cheap, less-efficient aircraft to compete with the expensive new jets. Most analysts think the new orders will be retained, since fleet-planning is a long-term activity, but some major airlines have discussed the delay of new jet deliveries. The lease rates for older aircraft have firmed which is also good news for holders of those types. **Boeing** may find it even harder to sell new 747-8F freighters if the cargo airlines retain their 747-400Fs in service a little while longer. There is no consensus as to when the price of oil may go back to \$100 per barrel and this may have long-term consequences for the airframers. In the past, passenger jet aircraft remained in service for more than 25 years and cargo jets were good for 35 years. Those elderly jets were economically viable until fuel prices suddenly spiked (Stage 3 noise regulations also helped ground old planes). Cheap oil may again allow

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airplanes to fly for three decades. It was long a maxim at **AVMARK** that a well-maintained aircraft can fly indefinitely.

Note: The venerable DC-3 flew for the first time on December 17, 1935 and several hundred are flying today. **Buffalo Airways** in Canada's Northwest Territories still operates six 1940s-era DC-3/C-47s on scheduled passenger services from Yellowknife.

Airbus Orders

Airbus Had a Huge Month in December, inscribing the sale of 468 jetliners in its order book. It also broke its previous record by delivering 75 aircraft to international customers during the month. At year-end **Airbus** sold 113 A319/A320/A321ceo (current engine option) aircraft, 259 A320/A321neo (new engine option) variants; eight A330-200/-300 jetliners and 80 A330neos; along with eight A350s. The manufacturer added four new A330neo customers, which placed initial firm orders for all of the A330 new engine option versions. **AirAsia X** bought 55 A330-900neos and **Avolon** booked 15 A330-900neo jetliners. **Transasia Airlines** and **Hawaiian Airlines** purchased four and six A330-800neo aircraft respectively. **Finnair** logged a repeat order for eight A350-900s. **China Aircraft Leasing Company (CALC)** led the A320neo Family orders with 74. **AirAsia**, **LATAM**, **Turkish**, **Yemenia** and five unidentified customers bought another 185 neo aircraft. **Aeroflot**, **Airlease**, **CALC**, **GECAS** and undisclosed customers ordered four A319ceos, 86 A320ceos and 23 A321ceos. **Airbus** booked a total of 1,796 new orders and suffered 340 cancellations in 2014, and it ended the years with 1,456 net orders.

The 75 Deliveries in December, comprised 54 A320 Family aircraft, 15 A330s, one A350 and five A380s, and represented several new records for **Airbus**. It was a new monthly high for the manufacturer, and the first time it delivered 15 A330s and five A380s. Also **Airbus** marked a milestone with the first A350 XWB placed in airline hands. **Airbus** handed over 629 aircraft to 89 customers in 2014, consisting of 490 A320 Family jetliners, 108 A330s, and one A350 XWB. It also met its goal of delivering 30 A380s in 2014. As of December 31, **Airbus** had a backlog of 6,386 aircraft, including 3,621 A320neo versions and 1,508 A320ceo variants; 193 A330ceo and 120 A330neo jetliners, 779 A350 XWBs, and 165 A380s.

Airbus' net orders of 1,456 aircraft in 2014, narrowly exceeded **Boeing's** end-of-year total of 1,432. Its record 629 deliveries

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was three more than in 2013, but was nearly 100 short of **Boeing's** record of 723 deliveries. **Boeing** out delivered **Airbus** in all categories, except the VLA (Very Large Aircraft) segment where **Boeing** shipped 19 747-8s and **Airbus** dispatched 30 A380s. The European plane maker handed over 490 single-aisle jets, 108 A330s and the first A350. **Boeing** supplied twice as many twin-engined widebodies (219), but only 485 737s. **Airbus** outsold **Boeing** in the single-aisle category, 1,321 A320 ceo and neo Family aircraft to 1,196 737NG and MAX airplanes, while **Boeing** sold 352 767s, 777s and 787s, compared to 231 A330s and A350s. Again, **Airbus** led in the VLA market with 20 firm A380 orders, 18 more than the two 747-8 sales. The **Airbus** backlog at the end of December was 6,386 aircraft, which was valued at more than \$919 billion at list prices. **Boeing** ended the year with 5,789 airplanes in backlog.

China Aircraft Leasing Company (CALC), Hong Kong, signed a firm order for 74 A320neo, 16 A320ceo and 10 A321ceo aircraft on December 1. The airplanes were worth approximately \$10.2 billion at list prices. They will be delivered from 2016 to 2022, and will be funded by bank loans, debt, equity financing and working capital, the lessor said. **CALC** previously placed a firm order for 40 A320 Family aircraft and now has 140 in backlog.

ñAdding these A320 Family aircraft, including the latest generation A320neo to our portfolio, means we can fully meet all our customers's requirements in terms of low fuel burn, high reliability and unbeatable comfort," said Dr. **Mike Poon**, CEO and Executive Director of **CALC**. The lessor wants a fleet of more than 100 aircraft by the end of this year, and it is focusing on medium-haul aircraft for China's crowded domestic routes.

Airbus Orders, Deliveries and Backlog December 2014

DEC ORD	DEC DEL	DEC CANX	TOTAL ORD	TOTAL DEL	BACK LOG
A318					
-0-	-0-	-0-	79	79	-0-
A319					
4	5	-0-	1,474	1,429	45
A319neo					
-0-	-0-	-0-	49	-0-	49
A320					
86	31	-12	4,761	3,850	911
A320neo					
242	-0-	-0-	2,817	-0-	2,817
A321					
23	18	-9	1,579	1,027	552
A321neo					
17	-0-	-0-	755	-0-	755
A330					
8	15	-0-	1,347	1,154	193
A330neo					
80	-0-	-0-	120	-0-	120
A350					
8	1	-6	780	1	779
A380					
-0-	5	-1	317	152	165
This Month			This Year		BL
468	75	-28	1,456	629	6,386

Airbus sold 15,271 aircraft and delivered 8,885 as of December 31, 2014. Three hundred forty orders were cancelled. Total orders, deliveries and backlog include cancellations and order changes.

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Aeroflot purchased another 14 A320neos and eight A321neos, for delivery from 2016 through 2018. The airline has now ordered 15 A320s and taken delivery of one of them. It has received all 26 of the A321s that it ordered earlier. The airline currently operates seven A319s, 63 A320s and 26 A321s.

Lessors Top Up A320 Orders. **Air Lease Corporation** ordered its 28th A320ceo and has taken delivery of 27. **GECAS** purchased six more A320ceos, and now has ordered 226, with 217 delivered.

Turkish Airlines firmed options for eight A321neos in December. In March 2013, **Turkish** purchased 53 A321neos and placed options for another 35 A321neos, which were to be exercised by the end of 2015. It picked up seven options in December 2013, for delivery in 2018. The airline switched its four A320neo orders to the larger A321neo. Now **Turkish Airlines** has 72 A321neos on order and another 20 on option that must be confirmed this year.

AirAsia X, Malaysia's low-cost, long-haul airline, placed a firm order for 55 A330neo aircraft in December. The latest order was list priced at \$15 billion (\$273 million each). The first two A330neos will be delivered in 2018, and another five are due in 2019. Seven A330s will be handed over in 2020 and 2021, and **Airbus** will deliver eight per year from 2022 through 2026. This was the largest single order for the A330 Family and now **AirAsia X** is the biggest airline customer for the A330 with 86 on order. The **Airbus** press release, dated December 15, stated that **AirAsia X** had total orders for 91 A330s after buying the 55 A330neos, but the manufacturer's *Orders, Deliveries, Operators* webpage, published in early January, shows the airline dropped 20 of its 51 previously ordered A330-300s. Apparently 13 of **AirAsia X's** cancelled A330 orders were picked up by other companies. The airline also has 10 A350-900s (plus five options) on order for delivery in 2016.

Airbus Sold 214 A320 Family Aircraft to Six Undisclosed Buyers. On December 12, one customer ordered 35 A320neos. Three days later another client bought four A319ceos, eight A320ceos and 17 A320neos. On December 18, a third buyer ordered five A320ceos, 30 A320neos and five A321ceos. Five days after that, **Airbus** booked 11 A320ceo and nine A320neo orders, and on December 30, a company ordered 25 A320ceos and 45 A320neos. On the last day of the year, another 20 A320neos were sold to an unnamed user. At year end, undisclosed customers had 22 A319ceos, 12 A319neos, 163 A320ceos, 367 A320neos, 76 A321ceos and 50 A321neos in backlog. The 690 undisclosed A320 Family orders and 10 undisclosed A380 orders represent 10.8 percent of **Airbus'** backlog of 6,386.

Finnair exercised its options for eight additional A350-900s in early December. The planes were list priced at approximately €1.9 billion (\$2.36 billion ÷ \$295 million each). **Finnair** was the first European airline to buy the A350 XWB, when it ordered 11 A350-900s, and optioned eight in 2007. The carrier will take delivery of its first four A350s in the second half of 2015, and seven A350s in 2016-2017. Deliveries of the latest batch will start in 2018 and end in 2023.

Hawaiian Airlines finalized its order for six A330-800neo aircraft and cancelled its long-standing order for six A350-800s. **Hawaiian** currently operates a fleet of 19 A330-200s, and has orders for 16 A321neo aircraft. Its first A330neos will be delivered in 2019.

Avolon Aerospace firmed its commitment for 15 A330-900neo aircraft that was signed at **Farnborough International Airshow** in July 2014.

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TransAsia Airways, Taiwan, purchased four A330-800neos. The airline valued the transaction at not more than \$480 million (\$120 million each less than half the list price). The delivery dates have not been released. **Airbus** revealed earlier this year that an un-named Asian carrier had committed to four A330neos. **TransAsia** currently operates two A330-300s on long-haul services and its fleet includes A320 Family jets and ATR turboprops.

Indonesia's Lion Air placed its first order for the A330-300, and signed for three aircraft. Earlier this year, it stated it would buy eight A330s for use on busy domestic routes as it runs short of airport slots for its smaller A320s and 737-900ERs. **Lion Air** took A330 delivery positions that were vacated by **AirAsia X**.

BOC Aviation quietly ordered five A330-300s in December. **Airbus** did not list the sale on the official *Aircraft orders* section of its *Orders, Deliveries and Operators* webpage but it showed up under the **BOC** listing in December. The lessor now has ordered six A330-300s and has taken delivery of one of them.

International Airfinance Corporation (IAFC) placed a firm order for five **Airbus** A330-200s and took options for an additional four A330-200s in December. The contract for nine airplanes was valued at approximately \$2 billion at list prices. The firmly ordered airplanes have already been placed on long term operating lease with a flag carrier. **Moulay Omar Alaoui**, President and CEO of the new lessor said, "We are very pleased with this inaugural acquisition for **IAFC** which constitutes a first step in our development to become a significant player in the Middle-East, we are working to conclude other aircraft acquisitions in order to develop our leasing portfolio." **IAFC's** webpage said it "has partnered with **Airbus** and with the **Islamic Development Bank (IDB)** to create the first Shariah compliant **Aircraft Leasing Fund** seeded by **Airbus** and the **IDB** and dedicated only to **Airbus** aircraft. The Middle East-based lessor was launched in June 2014, and intends to manage a combination of equity and debt worth up to \$5 billion.

ANA Holdings (All Nippon Airways) ordered seven more A321 aircraft (four A321neos with Sharklets and three A321neos) in January. These were added to its firm orders for 30 A320neo Family (seven A320neos and 23 A321neos) that were placed in July 2014. The latest agreement brings **ANA's** total order for the A320 Family to 37 aircraft, which will gradually replace its existing single-aisle fleet. **ANA** will be the first Japanese operator of both Sharklet-equipped A321neo and A321neo. **ANA** ordered its first 10 A320s 1987, and selected the larger A321 in 1995, when it bought seven.

Airbus Officially Launched the Longer-Range A321neo with an order from **Air Lease Corporation**, as if to emphasize Mr. **Brégier** words. The Los Angeles based lessor signed a Memorandum of Understanding (MoU) in January 2015, for 30 more A321neos, adding to its 60 commitments placed at

Airbus Will be Very Busy in 2015, said President and CEO **Fabrice Brégier**. The A320neo (new engine option) will enter service in the fourth quarter. The first 242-metric ton maximum takeoff weight A330-300 will be delivered in May. The A330neo variant will be designed and developed this year and production of the A350-900 will ramp-up. **Airbus** will start pre-assembly preparations for the longer-fuselage A350-1000, which will enter the final assembly line in early 2016. Mr. **Brégier** said incremental innovation will be at the heart of **Airbus'** product line development, with no all-new projects on the horizon. "What I want is that we move faster, for more innovation that perhaps is simpler but which will be much more rapid in meeting customer demand," he said.

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the **2014 Farnborough Airshow**. The A321neo's maximum takeoff weight was increased to 97 metric tons, giving the variant a 4,000-nautical mile range – the longest of any current single-aisle jetliner. The plane was provisionally named the "A321neo 97t" by **Airbus**, and it incorporates an additional fuel tank in the forward baggage hold, as well as minor improvements on the wing and fuselage. The A321neo 97t can fly from the U.S. East Coast to Europe, from Northern Europe to Asia, and on routes between Australia and Southeast Asia and north-south routes in the Americas. **Airbus** sales chief **John Leahy** said, "This aircraft goes after the market that everyone said needed a replacement: Segments flown by the old 757-200s, where single-aisle jetliners are used on long-range operations. We foresee some 500 aircraft in replacement, but it's more – there's another 500 aircraft for growth from new market opportunities that can be flown by the long-range A321neo, which will burn about 30 per cent less fuel." The A321neo 97t will be able to fly 206 passengers in a two-class layout. Deliveries will start by 2019.

Air Lease Corporation signed a MoU for 30 "A321neo 97t" aircraft plus 25 A330neo Family in January. When they are confirmed, **ALC's** total orders for **Airbus** aircraft will stand at 258 – 53 A320ceo Family, 140 A320neo Family, 15 A330 Family, 25 A330neo Family, and 25 A350 XWB Family. At the end of December 2014, firm orders for the A320neo Family reached 3,621 aircraft from 70 customers.

2015 AVERAGE LIST PRICES depend on design weights, engines choice and level of customisation	
Model	Price (millions)
A318	\$74.3
A319	\$88.6
A319neo	\$97.5
A320	\$97.0
A320neo	\$106.2
A321	\$113.7
A321neo	\$124.4
A330-200	\$229.0
A330-800neo	\$249.6
A330-200 Freighter	\$232.2
A330-300	\$253.7
A330-900neo	\$284.6
A350-800	\$269.5
A350-900	\$304.8
A350-1000	\$351.9
A380-800	\$428.0

Airbus increased the average list prices of its aircraft by 3.27 percent across the product line, as of January 1, 2015. The price increase enables **Airbus** to continue to enhance its profitability. "Our new 2015 pricing reaffirms the value of **Airbus'** modern, comprehensive and fuel-efficient aircraft family," said **John Leahy**, **Airbus** Chief Operating Officer – Customers. "We continue to see strong demand for **Airbus'** modern, innovative product family in all size categories. This demonstrates our customers' satisfaction with the winning combination of minimum operating costs and maximum passenger comfort they deliver."

The 242-Ton Maximum Takeoff Weight A330-300 flew from **Toulouse-Blagnac Airport** on January 12. This was one of the last steps before it enters service later this year. The A330 carried out airborne tests that ended with its return to the A330 final assembly line and **Airbus** headquarters. During the flight, the five-person crew checked the jetliner's flight control system and validated its flight envelope. This kicked off the flight test campaign, which will confirm its new aerodynamic package and performance. Operators will benefit from the jetliner's added range, fuel-burn reduction and 15-hour endurance, resulting from improved engine performance and the aircraft's enhanced aerodynamics. **Delta Air Lines** was the launch customer for the 242-ton A330-300 maximum takeoff weight (MTOW) variant and it is scheduled to take delivery of the first aircraft in May 2015. The shorter-fuselage 242-ton A330-200 is planned to enter commercial service in early 2016. So far, 12 customers worldwide have selected the high MTOW option since its launch in November 2012. This A330 variant will be the basis for the A330neo (new engine option), which will incorporate new **Rolls-Royce** Trent 7000 powerplants

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and further aerodynamic improvements to improve operating economics, as well as improved cabin amenities. The increased MTOW A330 is a result of **Airbus'** focus on incremental innovation.

Boeing Orders

Airlines, and Lessors Bought 138 737s, 20 777s and 16 787s in December, for a total of 174 new sales. **Kuwait Airways** signed a contract for 10 777-300s and **Qatar Airways** purchased four 777Fs. Both airlines confirmed previously announced commitments. **Air New Zealand** picked up options for two 787-9s, and new Canadian low-cost airline, **Jetlines**, bought five 737 MAX aircraft. **BOC Aviation** ordered two more 737-800NGs, and **Boeing** sold 14 787-9s to **Air Europa**. On the first of the month, one **Unidentified Customer** ordered four 737 MAX aircraft. On December 16, another client ordered 10 737-800NGs and 28 737 MAX. Six days later another customer bought 44 737 MAX and 16 737-800NGs. At the end of the month, an un-named customer purchased 29 737 MAX. A different unidentified customer bought six 777F freighters in mid-month. Two companies cancelled a dozen 737NGs, dropping this year's net bookings to 1,432. **Boeing** delivered 76 new airplanes in December, including 45 737s, three 747s, one 767F, nine 777s and a record 18 787s.

Boeing December 2014 Orders, Deliveries

DEC ORD	DEC DEL	DEC CANX	TOTAL ORD	TOTAL DEL	BACK LOG
737					
138	45	-12	12,649	8,350	4,299
747					
-0-	3	-0-	1,537	1,501	36
767					
-0-	1	-0-	1,114	1,067	47
777					
20	9	-0-	1,827	1,263	564
787					
16	18	-0-	1,071	228	843
This Month			This Year		BL
174	76	-12	1,432	723	5,789

Boeing sold 25,728 aircraft and delivered 19,939 as of December 31, 2014.

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

Sales totals include 118 cancellations.

Boeing Proudly Announced that it set a global industry record for the most commercial airplanes delivered in a single year at 723. The company said it was the world's largest airplane manufacturer for the third year in a row. **Boeing Commercial Airplanes** President and CEO **Ray Conner** said, "What the **Boeing** team achieved in 2014 is truly unprecedented, especially in the face of fierce competition. I'm extremely proud of the entire **Boeing** team, and all of the hard work that went into delivering and selling a record number of commercial airplanes this past year." **Boeing** booked 1,432 net orders, in 2014, valued at \$232.7 billion at list prices, and its backlog of unfilled commercial orders stands at a historic high of 5,789 airplanes. **Boeing's** widebody family, the 747, 767, 777 and 787, accounted for more than 60 percent of all twin-aisle deliveries last year. Three commercial programs achieved notable milestones, with the delivery of 485 of the popular 737NG (40 per month), 99 777s (8.25 per month) and 114 Dreamliners (9.5 per month), including the first 787-9 to launch customer **Air New Zealand** and first direct deliveries to 13 airline customers. The manufacturer booked 1,104 orders for the 737NG

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and 737 MAX, as well as 283 orders for the 777 and 777X. **Boeing** launched the 737 MAX 200 in September, which can accommodate up to 200 seats. Mr. **Conner** said "In 2015, we'll remain focused on meeting our customer commitments, and prepare for key milestones on our development programs, including the start of assembly of the first 737 MAX and firm configuration for the 777X." The **Defense, Space & Security Programs** sold one C-40 transport and five P-8 naval patrol planes in 2014, and delivered three 737 AEWC aircraft, seven C-17 strategic transports, one C-40 and 11 P-8s.

Air Europa announced its order for 14 787-9 Dreamliners, in January, but the \$3.6 billion (list price) order was placed in December 2014 and attributed to an unidentified customer. This was the largest ever **Boeing** widebody order from a Spanish carrier. **Air Europa** now has a total of 22 787-8s and 787-9s on order as it continues its transition to an all-**Boeing** long-haul fleet. **Juan Jose Hidalgo**, president of **Globalia**, the parent company of **Air Europa**, said, "Since its beginning, **Air Europa** has always operated the most contemporary airplanes available to the market. We have always looked for the best quality and comfort for our passengers. The first Dreamliners will start to arrive in 2016 this will allow us to grow both the number of flights and destinations we will operate to, by around 50 percent." **Air Europa** has operated 737s, 757s and 767s and currently has a combination of 30 Next-Generation 737-800s and 787 Dreamliners on order. The airline is based at **Palma de Mallorca Airport**, and has a key hub at **Adolfo Suarez-Madrid Barajas Airport**. It has grown to be one of the largest airlines in Spain, serving more than 40 destinations across Europe and the Americas. Several Spanish suppliers are part of the 787 program, including **Aciturri**, **ITP** (through its participation in **Rolls Royce** Trent 1000 engine) and **M. Torres**, among others, **Boeing** said.

Virgin Atlantic exercised one its four **Boeing** 787-9 options in November. It will be delivered by the end of 2018. The airline may pick up the other three in short order. CEO **Craig Kreeger** said "We have not exercised those options, but we are communicating very clearly that we plan to." Mr. **Kreeger** also suggested that the airline would buy the 787-10 variant to replace seven Gatwick-based 747-400s that will be retired after the leases expire in 2019. The 323-seat 787-10 is smaller than the A350 and 777, which are also under consideration, but it offers fleet commonality and the attendant efficiency in pilot training among other areas, he said. **Virgin** put its first 787-9 into revenue service, becoming the first airline in Europe to operate the variant. It will be joined by the second of the 17 firmly ordered 787s by year-end. The 787-9s are replacing A340s and London Heathrow-based 747s. The first few 787-9s will fly to Boston, Newark, New York and Washington D.C. Eventually it will serve **Virgin's** longest range routes to places like Hong Kong and Johannesburg. Today, the airline has 10 A330s, 15 A340s, 12 747s and one 787 in its long-haul fleet. By the end of 2018, the 787s will comprise almost 60 percent of **Virgin's** fleet.

Jetlines, a new Canadian ultra-low cost carrier, ordered five 737 MAX 7s in December. The first planes will be delivered in 2021 and are valued at \$438 million at list prices. The contract included purchase rights for an additional 16 737 MAXs. The new Vancouver-based airline plans to offer ultra-low-cost airfares on routes that avoid direct competition with **WestJet** and **Air Canada**. The airline intends to launch services with two A319s shortly, and will have 16 A320 Family aircraft by 2017.

BOC Aviation finalized an order for two 737-800s, valued at \$186 million at current list prices. The Singapore-based lessor has now committed to buy 95 737NG and 50 737 MAX aircraft. The company

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bought 30 737-800s, 50 737 MAX and two 777-300ERs in August. **BOC** owns one of the youngest fleets in the industry with an average aircraft age of less than four years.

Dragon Aviation Leasing ordered 10 new 737-800s as an unidentified customer in December 2013. The order was valued at \$933 million at current list prices and revealed when **Dragon** took delivery of four planes in December. Their 737-800 fleet currently stands at 11, with another six 737s due to be delivered soon. **Dragon Aviation Leasing** was established in 2006 and is based in Beijing. It is a joint venture between **China Aviation Supplies Holding Company**, **AerCap**, **CACIB AirFinance** and **East Epoch Limited**.

Kuwait Airways finalized its order for 10 777-300ERs in late December. The order was list priced at \$3.3 billion, but the flag carrier said it would pay only \$1.7 billion for the 10 jets. The first 777 will be delivered in November 2016 and will be used to launch new routes. **Boeing** needs to sell as many as 360 more of its current 777 models to maintain production at Everett at eight per month until production of the new 777X model starts at the end of the decade.

Qatar Airways finalized its order for four 777 Freighters, valued at \$1.24 billion (\$310 million each) at current list prices. The airline also reserved purchase rights for four additional airplanes, which were value at \$1.22 billion (\$305 million). **Qatar** signed letter of intent for the four 777 Freighters at the **2014 Farnborough Airshow**. The airline currently operates a fleet of 37 **Boeing** 777-300ERs and 777-200LRs (Longer Range), as well as seven 777 Freighters. CEO **Akbar Al Baker** said, "We aim to make **Qatar Airways** one of the world's major air cargo players. The 777 Freighter will be a key player in enabling **Qatar Airways** to grow its footprint and economically deliver cargo further, connecting many long-haul destinations from our hub in Doha, especially with the expansion of Doha's new freight terminal." **Boeing** said it was the undisputed air cargo market leader, providing over 90 percent of the total worldwide dedicated freighter capacity. Its **World Air Cargo Forecast** reported global air freight traffic was expected to grow at an annual rate of 4.7 percent, doubling the cargo traffic over the next 20 years.

Air New Zealand (ANZ) exercised two of its eight **Boeing** 787-9s options, and raised its 787-9 commitment to 12. The newest two 787s will be delivered in late 2017 and in the second half of 2018, and were valued at \$514 million at current list prices. The airline now has three 787-9s in service, and

Azerbaijan-Based Cargo Airline Silk Way West is finalizing terms with **Boeing** toward the purchase of three 747-8 Freighters. The contract will be valued at more than \$1.1 billion (\$366.3 million each) at list prices. **Boeing** said the order will be posted on its *Orders & Deliveries* website when all contingencies are cleared. "Silk Way Group is a longstanding customer and operator of **Boeing's** products and services," said **Marty Bentrott**, VP of Middle East, Russia and Central Asia Sales. **Silk Way West** is part of the **Silk Way Group**, and it currently operates two 767-300F freighters, three 747-400F freighters and two 747-8Fs. The first two 747-83QFs (SN 44444 & 44937) were ordered by **Silk Way Airlines** in July 2013 and were leased to sister company **Silk Way West** by **GECAS** in August 2014. **GECAS** ordered two 747-8Fs in June 2011, which were intended for lease to **Silk Way** in 2014, but the lessor cancelled the order in October 2014. **Boeing** built two white-tail 747-83QFs (SN 60117 & 60118) and stored them in November 2014. **AVMARK** reported that the later airplane was to be purchased by **Asiana Cargo**, but it seems the freighters will be delivered to **Silk Way West** after all. One of the ex-**Atlas** 747-87UFs (SN 37564) is also available for sale. It has been parked at Everett since January 2013.

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nine more on firm order. **ANZ** still has six more 787 options. The flag carrier flies its 787s from Auckland to Perth, Shanghai and Tokyo. It will launch 787 services to Honolulu and Tahiti next year. The 787-9s operate alongside 15 777-200ERs and 777-300ERs. To date, 58 customers have ordered 1,071 787s.

Air China announced in a regulatory filing in December, that it would purchase 60 737s, split between the 737 Next-Generation and 737 MAX airplanes. The 737s will be delivered between 2016 and 2020 and will be worth \$5.9 billion (\$98.3 million each) at current list prices. The order was posted on **Boeing's Orders & Deliveries** website as a commitment for 16 737-800s and 44 737 MAX aircraft on December 22, and was attributed to an **Unidentified Customer**.

All Nippon Airways (ANA) intends to purchase three 787-10 Dreamliners and five Next-Generation 737-800s. Once finalized, the order will be worth approximately \$1.4 billion at list prices, and **ANA** will become the first airline in Asia to operate the entire family of 787 Dreamliners. **ANA** has taken 34 787 deliveries, more than any other customer, and it has 46 still on order.

Boeing Explains Why it sees no business case for offering an extended-range 737 MAX 9 to compete with the A321neo 97t. So far, **Airbus** has a commitment from **Air Lease Corp.** for 30 extended range A321neos, and it is possible that **American** will switch some of its 100 firm A321neo orders to the new variant. The A321neo is currently outselling **Boeing's** 737 MAX 9 by 755 to 418, including **United's** order for 100 MAX 9s. **Boeing** said both its existing 737-900 and the MAX 9 exceed the A321's range so the A321neo 97t will simply catch up with what **Boeing** already offers. The A321neo seats 185 passengers in a typical two-class configuration, versus 180 for the 737 MAX 9. **Airbus** is developing a 206-passenger cabin for the long-range A321neo which may change the equation. **Boeing Commercial Airplanes** VP of Marketing, **Randy Tinseth**, said, "We are very happy with where the MAX 9 sits and feel the competition is simply doing things to catch up with it." He said the company can put an auxiliary fuel tank on the MAX 9, but it does not see a business case for offering an extended-range version of the plane. Both the MAX 9 and A321neo are aimed at the bottom half of the 757 market. He said an all-new 757 replacement may be ready in 2030, which is 15 years off. Analyst **Scott Hamilton** was critical of **Boeing's** thinking. "The 737 MAX 9 is markedly inferior doing

United Airlines is preparing to place an order for 10 **Boeing** 777-300ERs to replace older aircraft plying its long-haul routes. These would be the first -300ERs bought by **United**, and the deal will be worth \$3.3 billion based on list prices. The airline will win a substantial discount because **Boeing** needs up to 60 orders per year to keep its Everett assembly line busy until the larger 777X model is delivered in 2020. **United** was the launch customer for the 777-200 customer in 1995, but it has not upgraded to the -300ER, because it ordered 27 next-generation **Boeing** 787-10 Dreamliners and 35 **Airbus** A350-1000s instead. The airline may convert some of its 787 orders to the 777 type. A spokesman said "We are not currently considering purchasing incremental widebody aircraft. We do, however, have the ability to negotiate the substitution of certain aircraft types for other aircraft types." **United** also has 24 787-9s on order, 10 787-8s on options and a Letter of Intent for 36 generic 787s. The 777s can carry 386 passengers, in a typical three-cabin layout, for up to 7,825 nautical miles. It will replace the 10 1989-1994 era trans-Pacific 747-400s that seat 374 passengers and fly 7,300 nm. **Boeing** has some 777-300ER delivery positions open in 2016, allowing **United** to put them in service before the A350s and 787-10s arrive in 2017 and 2018, respectively. The 777 offers considerably lower seat-mile costs than the 747-400s. They could be priced at less than the 787s, and sold at significant discounts.

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an apples-to-apples comparison, he said. The A321neo is larger and offers more range, and there is little that **Boeing** can do to improve the MAX 9's appeal, he said. Mr. **Hamilton** said, "Boeing has basically conceded that they will be second fiddle in that single aisle market sector for 15 years." Mr. **Tinseth** does not expect airlines to replace the 1,049 757s on a tail-for-tail basis. A market for 1,000 757-sized planes is "frankly a little bit laughable," he said. The smaller twin-aisle A330-200s and 787-8s will replace the 55 124-ton MTOW, 289-passenger 757-300s that were delivered from 1999 to 2004. There are still 293 757-200s in service with **American** (95), **Delta** (125) and **United** (73) and all of them will be retired by the end of the decade. **American** has already ordered 100 A321neos, **Delta** has purchased 100 737-900ERs and 45 A321neos and **United** is buying 134 737-900ERs and 100 737 MAX 9s. These more than replace the U.S. carriers' passenger 757s. Of the other approximately 450 757-200s still in service, **FedEx** operated 97 freighters and **UPS** had 75 757Fs, cutting the replacement market still further to approximately 275. The four largest international fleets of passenger 757-200s are with **Icelandair** (21), **Thomson/TUI** (14), **Thomas Cook** (11) and **China Southern** (13). The first three of those airlines have committed to buy 16 737 MAX, 60 737 MAX, and 11 A321neo aircraft, respectively. **China Southern** has no commitments for a 757 replacement. It seems the 757-200 market niche has already been filled and there is little need to develop a special airplane. It remains to be seen which, **Airbus** or **Boeing**, will win more orders for their respective offerings.

Regional Report

Airlines PNG signed a Letter of Intent for six ATR 72-600s in October. It took purchase rights for an additional 14 aircraft. The binding contract was approved by the board of directors at a meeting in December. **Airlines PNG** said it "will benefit from the aircraft's excellent short and soft field performance operating from a range of runways. The aircraft is optimized for hot and high operations typical in Papua New Guinea while providing excellent passenger comfort, more seat capacity and flexible freight solutions." The first two aircraft will be delivered in September and November 2015, with two more will be delivered in 2016 and in 2017. Additional aircraft may be purchased on 21 months' notice to **ATR**. **Airlines PNG** said it negotiated significant discounts

ATR Beat its Previous Years' Records in sales, deliveries, turnover and backlog. The aircraft manufacturer sold 160 aircraft and logged 120 options, which surpassed the previous record of 157 firm sales and 79 options set in 2011. **ATR** also delivered 83 aircraft, up from 74 in 2013, and reported record revenue of \$1.8 billion in 2014, up from \$1.63 billion in 2013. **ATR** ended 2014 with 280 aircraft in its backlog, another record. The Franco-Italian turboprop manufacturer signed its largest cumulative order in its history, when **Lion Air** increased its firm aircraft orders to 100. **ATR** sold its 1,000th ATR 72 to **Airlines PNG**, Papua New Guinea's second largest airline. **ATR** said, "The 160 firm sales and 120 options represent nearly half the total sales of regional aircraft of below 90-seat capacity for the year. It reinforces the position of the ATR-600 as the regional aircraft of choice of airlines and leasing companies across the world. For the turboprop aircraft segment, these sales account for 80 percent of all the orders for the year." The year's 83 deliveries represent a new record for **ATR**, and a 60 percent increase over the last five years – from 51 deliveries in 2010. The manufacturer intends to further ramp-up production this year so that it will be able to deliver more than 100 new aircraft per annum in 2016. It expects its revenues to surpass \$2 billion by then. Since the start of the program in 1981, **ATR** has recorded net orders for 470 ATR 42s and 1,000 ATR 72s. As at 31 December 2014, **ATR** had delivered 1,190 aircraft, including 436 ATR 42s and 754 ATR 72s. The record backlog of 280 aircraft represents a value of \$6.8 billion dollars, guarantees nearly three years of production at its expanding delivery rates.

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off the **ATR** list prices. The airline expects to finance the acquisition of its first three ATRs through sale-and-leaseback transactions to an aircraft leasing company. The airline operates 14 Dash 8-102s and eight Twin Otters on domestic routes and services to Northern Australia.

An Unidentified Customer signed a firm order for 24 CRJ900 NextGen regional jets at the end of December. Including this latest order, **Bombardier** recorded 1,858 firm orders for CRJ Series aircraft, including 384 CRJ900 and CRJ900 NextGen aircraft. Worldwide, CRJ Series aircraft are in service with more than 60 airlines. CRJ Series aircraft have transported more than 1.5 billion passengers and have logged more than 41 million flight hours and over 34 million takeoffs and landings.

GE Capital Aviation Services (GECAS) signed a firm purchase agreement for five Q400 NextGen aircraft and took options on another 10 Q400NGs in January. Based on the list price, the firm order was valued at approximately \$160 million (\$32 million each). The value could increase to \$448 million if **GECAS** exercises all of its options. The firm order comes three months after **GECAS** bought its first two new Q400NGs from **Nok Air**, Thailand, through a sale-and-leaseback deal. The Q400 is powered by two **Pratt & Whitney Canada** PW150 turboshaft engines, and **GECAS** usually buys aircraft that are powered by engines built by **General Electric** or its joint-venture partners. The Q400 is fitted with **GE's Dowty** propellers. **GECAS** has ordered 22 PW127-engined ATR 72-600 turboprops since 2011. **Norman Liu**, President and CEO of **GECAS**, said, "As we continue to grow our leasing fleet, we are pleased to be adding up to 15 more Q400 Next Gen aircraft. We have seen a growing demand for turboprop aircraft worldwide and the Q400 NextGen aircraft is ideally positioned to meet the demands of regional airlines now and in the future." **Bombardier** has received firm orders for 519 Q400 and Q400 NextGen aircraft.

Horizon Air converted two of seven previously optioned Q400 NextGen aircraft into firm orders, and it retained the other five options. The two Q400 NextGens are valued at approximately \$70.1 million (\$35.05 million each), based on the current list price. **Horizon Air** and its sister carrier, **Alaska Airlines**, are subsidiaries of **Alaska Air Group**. The new orders will increase **Horizon's** Dash 8-Q400 fleet to 54 aircraft.

Embraer delivered 30 commercial and 52 business jets (38 light and 14 large jets), during the fourth quarter of 2014. It closed out the year with 92 airplanes delivered to the commercial airline market and 116 to the executive aviation market; including 92 light and 24 large jets. On

Embraer December 31, 2014 Orders & Deliveries

Type	Total Orders	Total Options	Total Deliveries	Current Backlog
E170	193	12	188	5
E175	421	353	249	172
E190	580	135	515	65
E195	145	2	138	7
E175-E2	100	100	0	100
E190-E2	60	70	0	60
E195-E2	50	50	0	50
Total	1,549	722	1,090	459
Type	4th Quarter Deliveries		2014 Deliveries	
Light Exec Jets	38		92	
Large Exec Jets	14		24	
Embraer 170	-0-		1	
Embraer 175	22		62	
Embraer 190	5		19	
Embraer 195	3		10	
Total	82		208	

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December 31, 2014, the firm order backlog was worth \$20.9 billion.

Civil Aviation Administration of China (CAAC) granted **Commercial Aircraft Corporation of China, (COMAC)** the type certificate for the ARJ21-700 aircraft on December 30th, 2014. China's first domestically developed regional jet is now in accordance with international standards and has met the requirements of **China Civil Aviation Regulations (CCAR)** Part 25 Airworthiness Standards: Transport Category Airplanes (CCAR-25-R3). The ARJ21-700 is permitted to operate passenger services in China. **COMAC's** aircraft is a short to mid-range regional jet, which is offered as a family including the basic passenger version, the cargo freighter and the corporate variant. The basic ARJ21-700 can seat 78 people in two classes or carry 90 in an all-economy layout. It offers a range of 2,225-3,700 km, mainly on hub-and-spoke service from urban centers to surrounding small cities. ARJ21-700 program was established in 2002, and was originally designed and developed by China's **Aviation Industry Corporation I (AVIC I)**. **COMAC** was established in May 2008, to undertake development of the ARJ21-700 and the C919 trunk liner programs. The first ARJ21 will be delivered to **Chengdu Airlines** in early 2015.

Japan Airlines (JAL) has signed a firm order for 32 Mitsubishi Regional Jets (MRJ) aircraft. **JAL** signed a Letter of Intent for the jets in August, 2014. The aircraft's first flight, which is scheduled for this year and deliveries are slated to begin in 2017. **JAL** will receive its first MRJ in 2021.

Japan Airlines President Yoshiharu Ueki, said "JAL will operate the MRJ as the key aircraft of its regional jet fleet. As a network carrier that also operates regional jets, we are contributing to the birth of Japan's first passenger jet."

Russian Flag-Carrier Aeroflot signed a Letter of Intent to buy another 20 **Sukhoi Civil Aircraft Company (SCAC)** Superjet 100s. The airline already had a firm contract for 30 aircraft. The new batch will be delivered by the end of 2017 giving **Aeroflot** a fleet of 50 SSJ100 aircraft. The majority of SSJ100s will be delivered in an 87-seat two-class configuration with 12 seats in business and 75 seats in economy class. At the beginning of 2015, **Aeroflot** operated 16 SSJ100 aircraft. The airline and **SCAC** will coordinate their long-term strategic development plans giving a powerful impetus to Russian aircraft industry development the manufacture said. **Aeroflot** chief **Vitaly Savelyev** described the agreement as a "breakthrough event" in Russian civil aviation. He admitted that there were "challenges" facing the Russian economy. "We are not just providing support for the Russian aircraft industry," he said. Further **Aeroflot** was investing in the "future of the country" and its decision will "allow Russians to fly on Russian aircraft". **SCAC** Chairman **Mikhail Pogosyan** said the deal was a "sign of trust" and showed "evidence of the operational efficiency" of the type. The **SCAC** press release said "SSJ100 aircraft are becoming an important part of **Aeroflot** fleet, which is the world's youngest fleet among the major air companies operating at least 100 aircraft."

The Russian Federation's Office of the President ordered two **Sukhoi SuperJet 100s** for delivery in 2015.

Order Changes and Cancellations

Airbus Reported Several Order Changes and Cancellations in December. **LATAM Airlines Group** switched four A320ceo and nine A321ceo orders to their re-engined neo equivalents. **Yemenia**, the Yemeni flag-carrier, and budget carrier **AirAsia**, each converted four A320ceos to the A320neo type. This was the third time this year that **AirAsia** delayed delivery of A320s by switching to the A320neo

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variant in a total of 31 changes. All the near-term delivery positions were taken over by other airlines or lessors. **ICBC** exchanged five A320s for five more A321ceo orders. It now has 50 A320s and 20 A321s on order. An undisclosed customer transferred one A320 order to **Air China**, two A319 and two A320 orders to **China Eastern Airlines**, and three A320 orders to **Sichuan Airlines**. All eight aircraft were delivered in December. **Vueling Airlines** switched five A320ceo orders for a like number of A321ceos. As of December 31, **Airbus** reported the cancellation of 21 A319ceos, 138 A320ceos, 35 A321ceos, and 30 A321neos. Seventy-seven of the A320ceos and 19 of the A321ceos were converted to the new engine option variants.

Saudi Arabian Prince Alwaleed bin Talal cancelled his order for a VIP A380 in December. The aircraft is currently stored at the edge of **Toulouse Airport**. **Airbus** suffered seven A380 cancellations in 2014, lowering its net orders to 13 for the year.

Boeing Reported a Dozen 737 Cancellations in December. **Spicejet** dropped the eight 737-800s that were due in 2015, and **Goiania** (formerly **Aerosvit Airlines**) cancelled four -800s. Customers dropped a total of 92 737s, two 747s and 24 787s, for a total of 118 cancellations in 2014. Some of the 737NGs were exchanged for 737 MAX orders. **Boeing** announced the customers when 737s were delivered during the month, including three -800s for **Shenzhen Airlines**, one -800 for **Hainan Airlines**, and two -800s for **Xiamen Airlines**. An unidentified customer ordered 25 737-800s on December 30, 2013 and **Boeing** announced on December 15, 2014, that 10 of them will be delivered to **Dragon Aviation Leasing**. Four are now in service and another six are on backorder. An unidentified customer ordered two 747-8Is in December 2013. One of them was delivered to **Air China** in December, and it was suspected that **Air China** will receive the second one as well. **Lion Air** switched five of its 737-900ERs to the smaller -800 type. The airline now has 23 -800s and 51 -900ERs in backlog. **CIT Leasing** cancelled its last two -900ER orders and picked up another two -800s for a total of 45, with seven in backlog. **Boeing Business Jets** ordered two 737 MAX 8s in November and they will be delivered to **Comlux Aviation**.

AirAsia X cancelled 20 of its 51 A330-300 orders, when it firmly ordered 55 of A330neo variant in December. The cancelled A330-300s were scheduled for delivery from 2016-2017 and 13 of them were apparently picked up by other customers. **International Airfinance Corporation** added five A330-200 orders, **BOC Aviation** added five A330-300s, while **Lion Air** will take delivery of three A330-300s. **AirAsia X's** A330 will now be received in 2018 as A330-900neos. Two of the eight -300s due in 2015 will be sold. The new schedule calls for the airline to receive six A330s in 2015, four in 2016 and five in 2017. As of December 31, **AirAsia X** had 70 A330s in backlog. **Hawaiian** exchanged its six A350-800 orders for six A330-800neos. **Yemenia** exchanged its 10 A350-800 orders for 10 A350-900s by the end of the year. **Airbus** is trying to cancel the -800 program and **Aeroflot** and **Asiana** each retain eight A350-800 orders. The manufacturer reported the cancellation of 20 A330-300s, 18 A350-800s, 51 A350-900s, and 20 A2350-1000s during the year. It lost a total of 340 commitments, lowering its gross total sales of 1,796 to 1,456 net new orders.

Air France is in the middle of a cost-cutting program that includes a ñdownwards revision in fleet and capacity growthò the airline said. It still expects to take delivery of three **Boeing** 777-300ERs in 2015, but deliveries from 2016 onward could be delayed. **Airbus** and **Boeing** reported that the French flag carrier has four 777s on order, as well as three A320ceos and two A380s, and the **Air France-KLM Group** has 25 A350-900s and 25 787-9s in its backlog.

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Elix Aviation Capital Limited, a new Dublin-based leasing company, took assignment of three Q400 NextGen aircraft that were previously booked by an existing **Bombardier** customer. **Elix** was launched in September 2013 with the equity backing of **Oaktree Capital Management**, a premier global alternative investment firm managing funds in excess of \$90 billion.

Leasing & Finance

AerCap Holdings N.V. signed an agreement to lease 24 **Airbus A320neo** Family aircraft to **China Southern Airways**. The airplanes will come from **AerCap's** order book. The A320/A321neos will be delivered between 2016 and 2019 and will be equipped with **Pratt & Whitney PW1100G-JM** engines. **AerCap's** after-market subsidiary, **AeroTurbine**, agreed to purchase four older aircraft from **China Southern** and they will be disassembled and parted-out. **AerCap's** CEO **Aengus Kelly** said, "AerCap is proud to have **China Southern**, Asia's largest airline, as our latest and largest A320neo customer. **AerCap** has now leased 71 A320neo aircraft delivering thru 2019. This impressive result is due to the power of the **AerCap** platform and the state-of-the-art technology of the A320neo. AerCap has leased 40 A320 family aircraft, five **Boeing 737-800s** and four 737-700s to **China Southern**."

General Electric's Aircraft Leasing Company, GECAS, quietly invested in its first **Rolls-Royce**-powered aircraft, the **Airbus A350-900** that was delivered to **Qatar Airways**. It was purchased and leased back. Previously, **GECAS** ordered, financed or leased **GE-** or **CFM**-engined aircraft (with the exception of turboprops). In order for **GECAS** to diversify its portfolio and customer base, it was forced to buy A350s and A330neos which are exclusively powered by **Rolls-Royce** Trent engines. Previously, **GECAS** had been identified with the **CFM**-engined 737NG and GE-90-powered 777s. **Qatar Airways** CEO **Akbar Al Baker** said many companies were interested in taking **Qatar Airways'** airplanes and leasing them back. The deal with **GECAS** was the best for the airline and so we concluded with them. Qatar has a large fleet of GE-powered **Boeing 777s** and **GE's** relationship with the airline was crucial, both in engines and financing. Also **Airbus** has sold 780 A350s and 120 A330neos to date, which is too huge a market to ignore.

AerCap Holdings N.V. signed 249 aircraft lease transactions in 2014, and the company purchased 33 and sold 83 aircraft during the year. This means that it leased, purchased or sold an average of one aircraft per day. The transactions include **ILFC** after its acquisition on May 14. Only **AerCap's** aircraft transactions prior to that date were included. As of December 31, 2014, **AerCap's** portfolio consisted of approximately 1,660 aircraft that were either owned, managed, or under contract to purchase.

Air Lease Corporation announced that it will deliver eight new **Boeing 777-300ER** widebodies to six different airlines in 2015. Four airlines **Air France**, **Emirates**, **EVA Air** and **KLM** will lease one 777-300ER each from **ALC**. **Ethiopian Airlines** and **Korean Air** will each lease two 777s. In 2014, **ALC** long-term leased five new 777-300ERs, including two to **Air New Zealand**, two to **British Airways**, and one to **Etihad Airways**.

New Aircraft Leasing Company, AerGen Leasing will focus on providing leasing and asset management solutions for owners and operators of mid-life and late-life aircraft and engines. It is led by CEO **Robert J. Genise**, a long-time industry executive who previously served as CEO of both **DAE Capital** and **Boullion Aviation Services**. He is assisted by an experienced management team which has

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technical expertise in the global aviation industry. **AerGen** recently acquired **Avioserv**, an established aircraft engine parts management company based in San Diego. **Avioserv** specializes in the sale, lease and trading of engine parts, engine components and whole engines to airlines, repair facilities and parts distributors. **Greenbriar Equity Group** invested \$200 million of equity capital in **AerGen**.

FLY Leasing will purchase two new A321s from a European airline and lease them back. The first A321 was delivered and the second will be delivered in the coming months. Both aircraft will be long-term leased. **FLY** has now grown its fleet value to more than \$3.5 billion.

Engines

Spanish Carrier Air Europa selected **Rolls-Royce** Trent 1000 engines and **TotalCare** long term service support, worth \$1.1 billion, for the 14 new **Boeing** 787-9 Dreamliners it ordered in December. **Air Europa** already has eight Trent 1000-powered 787-8s on order that will enter service in 2016. **Juan Jose Hidalgo**, President of **Globalia**, the parent company of **Air Europa**, said, "We have plans to further expand our long-haul service and the Trent 1000 will deliver excellent economics through its performance and support service." **Rolls-Royce** powered the very first **Boeing** 787 test flight aircraft in December 2009, the first 787-8 to enter service in October 2011, and the first 787-9 to enter service in 2014.

BOC Aviation ordered CFM56 engines from **CFM International** to power 10 new A320neo aircraft that it ordered in July 2014. The contract was worth \$200 million at list price. "This new engine order signifies our continued confidence in CFM56-powered A320 aircraft, delivering a reliable airframe and engine combination to our global customer base," said **Robert Martin**, Managing Director and Chief Executive Officer of **BOC Aviation**.

Airline News

The Board of **Aer Lingus** recommended acceptance of a €1.36 billion (\$1.52 billion) takeover offer from **International Airlines Group (IAG)**. The deal must be approved by the **Irish Government**, which owns 25 percent. **Aer Lingus**' recommendation is contingent on how **IAG** addresses the interests of its main shareholders **Ryanair** and the Irish state, and the airline's employees. **IAG** owns **British Airways** and **Iberia**, Spain. Some Irishmen will be offended by the takeover of the country's flag carrier by the British, so the deal will most likely cause a row in Ireland's **Oireachtas** (legislature). The deal faces political pressure from the two main opposition parties, as well as the airline's trade unions, not to sell. Transport Minister **Paschal Donohoe** said the government will see how the purchase would affect

IATA Posts January 2015 Jet Fuel Prices.

The association updates the world's average jet fuel prices each week. On January 9, the world's average price of fuel was \$1.566 per gallon, 19.1 percent lower than the December 2014 price of \$2.042. It was also 46.7 percent less than in January 2014. The price of fuel is affected by location. It was only \$1.488 in the Middle East region and was as high as \$1.578 per gallon in Latin America. In Asia, fuel costs \$1.547 per gallon. Fuel is now priced nearly the same in Europe and North America, at \$1.587 and \$1.575 respectively. Since last year, fuel costs in those regions dropped by 46.2 and 46.7 percent respectively. **IATA** estimated that the global airline industry's fuel bill totaled \$114.8 billion in 2014. This was a decrease of \$20.1 billion over 2013. **IATA** has not forecast the total 2015 fuel bill yet.

Aer Lingus' workers, its brand and competition for air routes out of Ireland. **IMPACT**, the airline's main trade union, previously said a takeover could lead to the loss of up to 1,200 jobs, approximately 25 percent of the workers. Ireland has been trying to sell its 25 percent share since 2010, when it was bailed out by the **European Union** and **International Monetary Fund**. **IAG** is offering €2.55 (\$3.06) per share, which includes a cash offer of €2.50 per share and a cash dividend of €0.05 per share. **IAG** said it intends to operate **Aer Lingus** as a separate business with its own brand, management and operations. It said, "IAG recognizes the importance of direct air services and air route connectivity for investment and tourism in Ireland and intends to engage with the Irish government in order to secure its support for the transaction." It may help **IAG** that its CEO is **Willie Walsh**, who was born in Dublin, and was a pilot for **Aer Lingus** before he ran the airline. **British** is covetous of **Aer Lingus'** take-off and landing slots at **London Heathrow Airport**, which is its major European hub. It was proposed that **Aer Lingus** rejoin the **oneworld** alliance with **British** and **American Airlines** to coordinate their North Atlantic services. **Aer Lingus** was a member of **oneworld** until 2007 and is not currently a formal member of any other airline alliances. **Ryanair** holds 29.8 percent of **Aer Lingus** and said it would give due consideration to any offer. Ireland's largest airline was blocked by the government from taking over the flag carrier several times in the past.

Al Maha Airways, a subsidiary of **Qatar Airways**, will now start operations in Saudi Arabia in 2016 after a delay of six to 18 months. The launch may have been delayed by "complex bureaucracy", according to **Qatar** CEO **Akbar Al Baker**. The launch was delayed in part, because of controversies over Saudi Arabia's price caps for domestic flights and fuel subsidies for **Saudi Arabian Airlines**. In January 2013, Saudi officials agreed to compromise on those issues and said that **Al Maha's** operations would start by the third quarter of 2014, but the launch did not go ahead. In 2012, the **Saudi Government** said it would open its domestic air travel market to airlines other than the flag carrier **Saudi Arabian Airlines** and budget airline **flynas**. The reform was intended to introduce more competition into the economy. The **General Authority for Civil Aviation (GACA)** approved **Al Maha Airways** and **Saudi Gulf Airways** for domestic services. The latter airline plans to launch operations from Damman to Riyadh and Jeddah, in the first quarter of 2015 with four new A320s. **Al Maha** has one A320-214/W (HZ-ALA, SN 6347) on the ramp at Toulouse and plans to acquire another nine A320s. All it needs is permission. The political differences between Saudi Arabia and Qatar were patched up in December.

Qatar Airways Bought a 9.99 Percent Stake, worth about £1.15 billion (\$1.7 billion), in **International Consolidated Airlines Group (IAG)**, the owner of **British Airways (BA)** and **Iberia**. The Gulf flag carrier is already in the **oneworld** alliance and has limited code-sharing deals and a freight partnership with **BA**. **Qatar** intends to gain greater access to destinations served by **BA's** London and **Iberia's** Madrid hubs, particularly across the Atlantic, to North America through **British Airways** and South and Central America through **Iberia**. The tie-up will create opportunities for **IAG** in Southeast Asia, India and the Middle East, where **Qatar** has an extensive network; it also gives **IAG** a wealthy long-term backer whose support could be useful in funding future growth. **IAG** CEO **Willie Walsh** said he was "delighted" to have the airline as a shareholder. **Qatar Airways** is owned by the country's sovereign wealth fund, and operates more than 130 aircraft and has 340 on order. It has a huge Middle Eastern hub but does not have much transatlantic traffic.

Ethiopian Airlines is negotiating to purchase stakes in airlines in the Democratic Republic of Congo and Rwanda, with the intent of managing them. The flag carrier has already made deals with the governments of Malawi and South Sudan, and it wants to become a global carrier which controls travel in Africa. IATA reports that Ethiopia's state-owned airline is the largest airline in Africa measured by revenue. CEO **Tewolde Gebremariam** said, "We have a technical agreement with **Rwandair** and we manage the technical maintenance of their fleet. We are going to expand that to a commercial and equity partnership. We are also in discussions with the Democratic Republic of Congo, and the airline is looking at Ugandan airlines as well. **Ethiopian** has managed **Malawi Airlines** since 2013 and it will set up a national carrier for South Sudan. The carrier has a deal with **ASKY**, a West African airline, which is partially owned by the **ECOWAS** regional bloc of countries and a number of banks.

Air Arabia announced that it will open a new international hub at **Amman Queen Alia International Airport** in Jordan. The Sharjah-based low-cost carrier recently purchased a 49 percent stake in Jordan's **Petra Airlines**. The **RUM Group** will retain 51 percent of the airline, which will be renamed **Air Arabia Jordan**. It will lease two A320s from outside sources since all of **Air Arabia's** 44 A320s have been allocated to itself or its other affiliates, **Air Arabia Egypt** and **Air Arabia Morocco**. Amman will be **Air Arabia's** fifth fixed-based operation. CEO **Adel Ali** said, "Jordan was something we wanted to do since 2010, but we were just coming out of the crisis and then the Arab Spring slowed us down. Now there is more clarity. Amman is a nice location between Middle East and Europe. The country has an open skies policy with Europe, and the new carrier will fly between the Middle East, Europe and Africa."

Portugal's Flag Carrier TAP Air Portugal is for sale again, and three airlines have submitted provisional offers. The **Portuguese Government** owns the airline and is willing to sell up to 66 percent now and the remaining 34 percent in the next few years. The sale carries several stringent pre-conditions, including the prohibition against laying off large numbers of workers while the state is a shareholder. This gives the labor unions at least a 30 month reprieve. The privatized **TAP** must also continue to be the Portuguese flag carrier and must keep its headquarters and main hub in Lisbon. The airline owes approximately €1 billion in debts and the government is prohibited from injecting fresh capital into the company under **European Union** rules. The **EU** and the **International Monetary Fund** bailout of 2011 required that the government sell much of its state-properties. Portugal has successfully sold other companies and reached its revenue targets. The **Government** does not expect to bring much cash from **TAP's** sale, but would be rid of the airline's huge debt. The sale is expected to allow the airline to grow under private ownership because it would fail under state control. The press said two Brazilian airlines **GOL Linhas Aéreas** and **AZUL Linhas Aéreas Brasileiras** were potential bidders for **TAP**.

Etihad Airways and **Alitalia** completed all the formalities related to the transfer of air transport operations from **Alitalia CAI** to the new **Alitalia SAI**. **Etihad Airways** paid for the capital increase of €387.5 million (\$449.5 million) for the acquisition of a 49 percent share in **Alitalia SAI**. The remaining 51 percent shareholding is held by **Alitalia CAI** through **MidCo**, which has also contributed assets and liabilities for the continuation of the airline. The transaction was closed on December 31, 2014 and **Alitalia SAI – Società Aerea Italiana** commenced operations on January 1, 2015.

Abu Dhabi's Etihad Airways is buying a 33.3 percent stake in **Darwin Airline**, Switzerland, which has rebranded itself as **Etihad Regional**. Last month **Darwin** lodged a formal complaint with the country's competition commission claiming anti-competitive behavior by **Luft-hansa-owned SWISS Inter-national Air Lines**. **Etihad** CEO **James Hogan** was confident that the regulatory process relating to the **Darwin** deal will be positive. "Our commitment to work with **Darwin Airline** remains strong and will not be compromised by the aggressive actions of competitors," he said. Swiss authorities have given **Darwin** until January 31 to answer questions before they approve the **Etihad** purchase. **Etihad** has already agreed to relinquish a role in the appointment of top executives in order to secure approval from the Switzerland's **Federal Office of Civil Aviation (BAZL)**. **BAZL** was concerned that **Etihad** would have too much control in running the business. The majority of **Darwin** shares must be owned by Swiss or EU citizens, who must also exercise management control.

Air India may order **Boeing 737 MAX** aircraft to expand its fleet. The airline will not retire its 737-800s but will grow the fleet. A final decision on the purchase has not been made yet. Indian carriers are still expanding to meet rising travel demand even though high fuel costs and below-cost fares mean most airlines lose money. **Air India** plans to acquire 40 **ATR 72-600s** for its regional **Alliance Air** unit to connect smaller cities. **Alliance Air** has already contracted to lease five **ATR 72s** from **Avation**, Singapore. **Air India** has not earned a profit since 2007 and has to sell real-estate assets to pay down its \$6.5 billion debt.

SpiceJet, India's Second Largest Low-Cost Carrier, plans to shrink to profitability. The new owners of **SpiceJet** intend to cut the airline's fleet and its routes, and return to a simpler business model. They will return the fleet of 15 **Bombardier Q400** regional aircraft to **Export Development Canada**, that country's export credit agency. The airline will operate 17 **Boeing 737-800/900NGs** and focus on profitable services between India's major cities. Billionaire **Ajay Singh** agreed to buy a controlling stake in **SpiceJet** and intends to invest \$240 million by the end of January. The plan still needs regulatory approval from the **Directorate General of Civil Aviation (DGCA)**. Mr. **Singh** said the airline could break even in the next financial year by keeping its costs low and taking advantage of low oil prices. **SpiceJet** was too complex and served too many new markets. It will now operate one type of aircraft (737NG) with a lean workforce and will focus on low costs, like its rivals, **IndiGo**, **GoAir** and **Air-Asia India**. Those airlines are all aggressively expanding and hope to benefit from the shrinking **SpiceJet**, and the expectation that fares will rise. **SpiceJet** has lost money since March 2011 and nearly collapsed in December, 2014 when a cash crunch forced the airline to briefly ground its fleet. The airline cut daily flights to 230 and its 737 fleet from 31 in January 2013 to 17 today. The company cancelled its last eight 737-800 orders but retains its commitment to buy 42 737 MAX aircraft after 2018. It employs 5,000 people.

Bankruptcy of the Month

Cyprus Airways Suspended Operations after the **European Commission** ordered the floundering airline to pay back over €65 million (\$78 million) in illegal state aid. The airline's last flight was on January 9. EU Competition Commissioner **Margrethe Vestager** said the flag carrier could not remain viable without continued state subsidies, so she ordered the return of government money paid to the airline in 2012 and 2013 as part of a restructuring package. The airline's current restructuring plan was "based on unrealistic assumptions" the **EU Commission** said. A company can only receive state

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assistance once every 10 years, and the airline had already been bailed out in 2007. Cyprus's Finance Minister **Harris Georgiades** said, "The company has ceased being a viable entity ... and cannot continue to operate." The state fully compensated passengers who had purchased tickets. The airline was 93 percent owned by the state and employed 550 people. Its share of traffic to and from the island had fallen to only 10 percent from 30 percent in 2012. Some competitors jumped in and increased services to Cyprus, but its longer-haul flights outside the **European Union** were not quickly covered. As might be expected, the labor unions were critical. "It's pretty clear from the decision that the government didn't put a viable restructuring plan in place. Our union clearly says that was deliberate," the head of the carrier's pilots union, **Petros Souppouris**, said. Cyprus suffered from harsh bailout conditions from the **IMF** and the **EU** in 2013, which pulled the country from the brink of bankruptcy. The government tried to sell the loss-making airline for several years. **Ryanair**, Ireland, and **Aegean Airlines**, Greece, have both submitted applications to Cypriot authorities to create subsidiaries on the island. The **Cyprus Airways** trade name and logo are offered for sale while they still have name recognition and value. The authorities would not speculate on who might be interested in bidding. The airline operated only two A320-231s (SN 256 & 2334) when it folded.

Skymark Airlines filed for bankruptcy protection under Japan's corporate reorganization law in January. It had ¥71 billion (\$603 million) in liabilities and ¥4.5 billion (\$38 million) in cash and near cash items as of September 30, 2014. The airline expects to report a net loss of ¥13.6 billion (\$116 million) for the 2014 business year, and had a net loss of ¥5.7 billion (\$48 million) in the first six months of the year. It was being crushed by a substantial cancellation fee of ¥70 billion (\$600 million) demanded by **Airbus** after its \$2 billion order

BOC Aviation demanded the return of three leased 737NGs from **SpiceJet** in January. This is the second test of the **Cape Town Convention** of 2001, which regulates aircraft leases in the developing countries that dominate aircraft demand. The rules are only now being implemented in important markets like India. In return for 10 percent cheaper lease rates, the pact gives owners clearer rights to repossess assets in the event of default. The suspension of operation by **Kingfisher Airlines** a few years ago were a debacle for lessors, because the airline did not formerly declare bankruptcy and the Indian **Directorate General of Civil Aviation (DGCA)** was slow to deregister aircraft, the first step in repossession. Lessors warned again that India's fast-growing airline industry would find it hard to finance their fleets unless India protected the owners of leased jets. Those warnings were ignored by lessors themselves in their scramble to place aircraft with India's airlines. **BOC CEO Robert Martin** said, "SpiceJet is a very frustrating situation. Obviously when we lease planes we like people to pay us. And if they don't pay us, then generally the way an operating lessor reacts is by moving its planes to somewhere else in the world." Other lessors want permission to repossess another eight jets and **Export Development Canada** is working on the return of 15 **Bombardier** Q400s that it financed and that **SpiceJet** has declared surplus. Other lessors such as **GECAS**, **BBAM**, **AWAS**, **ICBC**, **MCAP** and **ALC** all have 737NGs on lease to **SpiceJet**. The airline is trying to finalize a new shareholder structure and cash lifeline and is negotiating to resolve disputes. **Sanjiv Kapoor**, **SpiceJet's** Chief Operating Officer, said, "In general with the imminent change of ownership and re-capitalization, we expect all matters related to payables to be resolved soon in co-operation with our partners and suppliers, and are in regular contact with them." Under the **Cape Town Convention**, airlines have 60 days to return airplanes, and Indian officials said **SpiceJet** still has time to meet the deadline.

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for six A380s was cancelled in July, 2014. **Skymark** already paid ¥26.5 billion in A380 pre-delivery payments to **Airbus**. **Skymark** also is suffering from high operating costs and intense competition from **ANA**, **Japan Airlines** and the new low-cost startups such as **Jetstar Japan**. The weaker yen pushed up fuel costs and the airline faced additional expenses when it introduced five new A330s on international services. The company will be delisted from the Tokyo stock exchange on March 1, and **Skymark** will get financial support for restructuring from private-equity firm **Integral**. President **Shinichi Nishikubo** will resign and Chief Financial Officer **Mazakazu Arimori** will take over. The airline has approximately 2,275 employees.

Cargo Pallet

PacAvi Group and HAITEC Aircraft Maintenance Begin A320 P2F Conversion.

The leasing company flew **Airbus A320** (SN 293) to **HAITEC** at **Frankfurt Hahn Airport**, Germany, where it will be converted in to a freighter on an aggressive schedule. It will be the prototype for **PacAvi's** passenger to freighter (P2F) conversion. The program will then be certified by the **FAA**, **EASA**, and other governmental authorities. **HAITEC** CEO **Frank Rott** said, "The **Airbus A320** passenger-to-freighter conversion program is an ideal addition to our value-added range of services, as we continue to expand our facilities and capabilities. It is exciting to be producing the first narrowbody **Airbus** freighters. These A320 freighters represent technologically highly advanced products, which will hit the marketplace just when demand is at a peak." There are plenty of A320s available for conversion, 143 early-model A320s are currently stored around the world. **PacAvi Group** announced its A320 and A321 P2F conversion program in September 2014. The **Group's** CEO, Dr. **Stephan Hollmann**, said, "There are currently about 600 freighters of the size category of the A320 and A321 operating globally, and this market is set to grow rapidly in the **BRIC** countries and around the world. Right now the only products of similar capacity are from **Boeing**. We look forward to the opportunity to provide **Airbus** operators and others technologically advanced freighters at highly competitive price points." **AeroTurbine**, a wholly owned subsidiary of **AerCap**, will perform freighter conversions at its Goodyear, Arizona, facility, where it currently conducts passenger to freighter conversions for other aircraft as well as aircraft MRO services for A320 aircraft. **PacAvi** is partnering

Precision Aircraft Solutions Started the Conversion of the first 757-200PCF aircraft for **Asia Pacific Airlines**, Guam. The plane is fitted with **Pratt & Whitney** engines and **Boeing APB** winglets and it will be certified for 180 minutes ETOPS in order to cover the long distances over the Pacific. **Asia Pacific** currently operates a fleet of three **Boeing 727-200** freighters in the western and southern Pacific areas, carrying primarily the U.S. mail and fresh tuna for the Japanese and U.S. markets. **Precision** also began conversion of **Rolls-Royce**-powered 757-200 (SN 25886) for Chinese cargo carrier, **SF Airlines**. This will be the 10th **Precision** conversion for **SF Airlines** since 2009. **Air China Technics** is performing the conversion at the **Chengdu Aircraft Maintenance Base**. During 2014, a total of 20 passenger 757s were converted into freighters.

Precision Aircraft Solutions received **FAA** approval for a new Maximum Zero Fuel Weight (MZFW) increase on both winglet- and non-winglet-equipped **Precision Conversions** PCF freighters. The company can offer MZFW as high as 200,000 lbs. (90,718 kg), which is 12,000 lbs. (5,443 kg) over the original certificated MZFW for **Rolls-Royce**- and **Pratt & Whitney**-powered 757s. The **Rolls-Royce**-powered variants planes can carry payloads of up to 84,000 lbs. (38,101 kg), and **Pratt**-engined variants, built after line number 210, can carry 82,000 lbs. (37,194 kg). The weight upgrade greatly expands available feedstock for operators and improves residual value for owners, **Precision** said.

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with **Guangzhou Aircraft Maintenance Engineering Co. (GAMECO)** to perform A320 and A321 P2F conversions for the Chinese and Asian markets. Dr. **Hollmann** said, "We continue to make swift and steady progress toward the commercial introduction of A320 family freighters in 2016 and 2017. **GAMECO** is an ideal partner to address the world's fastest growing markets. There are 50-60 narrowbody freighters of A320 and A321 size produced annually and we are well positioned to dominate this market in the coming years." **GAMECO** worked on 737 and A300 P2F conversion in the past. **Airbus** considered A320 and A321 freighter conversions but dropped the idea several years ago because it was not part of its core business of building new airplanes. Dr. **Hollmann** said, "Our project is not dependent on **Airbus**. All of the information required in order to get the Supplemental Type Certificate (STC) is publicly available. We are in close collaboration with the **FAA (Federal Aviation Administration)** and **EASA (European Aviation Safety Agency)** on the technical requirements for the STC development and they are extremely helpful." **PacAvi's** press release said it "does sales and leasing of aircraft, STC program management, aircraft conversion engineering, and related activities. Principal offices are in San Diego, CA, and Bremen and Dresden in Germany."

Aeronautical Engineers (AEI) delivered its 400th conversion on December 15. The 11 pallet position 737-400SF (SN 25105) was converted at **Commercial Jet** in Miami, Florida, and it was painted at **Commercial Jet's** Dothan, Alabama facility. The airplane was redelivered to its owner, **Vx Capital Partners** and leased to **TNT Airways**, Liege, Belgium. **AEI** successfully completed 26 conversions for customers around the world this year, and it currently has another 10 aircraft undergoing modification. The company announced that it now offers the new eight pallet CRJ200 SF freighter conversion for delivery later this year, and a 12 pallet 737-800SF conversion in 2017. There are currently 252 CRJ200s in storage, nearly one third of the fleet. A total of 36 737 Classics were converted into freighters in 2014.



Military Market

A400M Deliveries. The **Turkish Air Force** took delivery of its second of 10 A400M Atlas (SN 013) tactical transports from **Airbus Defence & Space** in late December. The aircraft was flown to **Kayseri Air Base** in central Turkey. The first Turkish A400M was handed over in April. The **French Air Force** accepted its sixth A400M (SN 014) on December 12, while the **German Luftwaffe** accepted A400M (SN 018) on December 18. The latest deliveries means **Airbus** has now delivered a total of 10 A400Ms to four customers. A total of 174 A400M Atlas transports are on order for the current operators, plus Belgium, Luxembourg, Malaysia and Spain. Malaysia will receive its first of four aircraft (SN 022) in the first quarter of 2015.

Boeing Delivered the Eighth P-8A Poseidon of 2014, completing all the planned deliveries to the **Navy** for the year. The P-8A, (SN 44140) was the 21st for the program and flew to **Naval Air Station Jacksonville**, where it joined other P-8As being used to train **Navy** crews. The 'Mad Foxes' of **Patrol Squadron (VP) 5** are conducting

Boeing Completed the KC-46 Tanker's First Flight on December 28. The **Boeing 767-2C** took off from **Paine Field**, Everett, Washington, and landed at **Boeing Field** near Renton, three and a half hours later. **Boeing** will install the aircraft's military systems following certification. **Boeing** is building four test aircraft, including two civil-certified 767-2C freighters and two KC-46A Tankers. The 767-2Cs will be test flown and then receive their aerial re-fueling systems, while the KC-46s will fly as fully equipped tankers through the **FAA** and military certification process. **Boeing** is expected to deliver the first 18 of 179 ordered KC-46 aircraft to the **Air Force** by 2017.

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operational missions during the second overseas deployment of a P-8A Poseidon squadron. Last summer the **VP-16 'War Eagles'** completed 600 sorties and 3,500 flight hours on the P-8A's maiden deployment. **Boeing** is currently under contract for 53 P-8As.

The U.S. Air Force Picked the 747-8I to replace its Air Force One presidential aircraft. The decision came after **Boeing** slowed 747 production to 1.3 a month from 1.5 a month due to declining orders. **Air Force** Secretary **Deborah James** said, "The **Boeing** 747-8 is the only aircraft manufactured in the United States (that) when fully missionized meets the necessary capabilities established to execute the presidential support mission. The **Air Force** decided to skip a competition because there was no clear competitor, except the A380 (how would it look for the U.S. President to fly around the world in a "French" airplane?). The **Air Force** specified that the presidential transport must be a four engined aircraft, which would provide an extra margin of flight safety over twin-engine planes, Ms. **James** said. The government intends to award a sole-source contract to **Boeing**, but the two must still negotiate a contract covering the price and the modifications needed to adapt the jet for presidential use. Contract details and costs were not released. The **Air Force** will competitively bid the maintenance contract during the plane's planned 30-year life. The **Air Force** now operates two VC-25As, based on the **Boeing** 747-200B, which were ordered by President **Reagan** and delivered in 1990. Ms. **James** said the Air Force One program would use proven technologies and commercially certified equipment to keep the program affordable. The 747-8I is list priced at about \$370 million, but the **Air Force** reportedly allocated \$1.65 billion for the two jets from 2015 to 2019. In 1990, the **Air Force** paid \$325 million each for the 747-200Bs that were list priced at approximately \$85 million each when they were ordered in 1986. The extra money paid for the VVIP interior, communications gear and all the security apparatus (electronics and anti-missile defenses) that are required to keep the President safe. The sale will be a boon to **Boeing** which will squeeze out another two sales from its nearly moribund 747 program. It may be the end of the decade before the new 747s enter service since it took three years for the VC-25As to be completed after they left the assembly line in 1987.

Alenia Aermacchi sold two C-27J Spartan medium transports to the **Peruvian Air Force** in a deal valued at around \$100 million (\$116 million). **Peru** holds another eight options. The Latin American nation has already purchased a pair of the **Rolls-Royce** AE 2100-powered aircraft. They will be delivered in early 2015. The latest batch will be handed over in 2016 and 2017. **Peru's** C-27Js will be operated by the **8th Air Group** based in Callao, near to the capital Lima.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A319. Five A319s were delivered in December, including the eighth and ninth -115/Ws (SN 6384 & 6393) for **Z/C Aviation Partners**. They were leased to **American Airlines**. **Airbus Tianjin FAL** supplied two -115/Ws (SN 6250 & 6269) to **China Eastern Airlines**, and **Tibet Airlines** received one -115/W (SN 6404) from

AWAS leased one used A319-132 (SN 2273) to a new customer **Bangkok Airways**, Thailand, from its existing portfolio. It was handed over to the airline in January and will be used on its domestic and international network operating from **Suvarnabhumi International Airport** in Bangkok. The airline now operates 11 A319s, eight A320s and nine ATR 72s.

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Airbus in Hamburg. **Airbus** shipped 34 A319s to customers in 2014.

Airbus A320. **Airbus** delivered 31 A320s during December. **China Eastern Airlines** received three -200s, including two -214/Ws (SN 6379 & 6355) and one **Tianjin FALi** built -232/W (SN 6284), and it also leased two **Tianjin FAL** -214/Ws (SN 6258 & 6274) from **China Aircraft Leasing Co. (CALC)**. **BOC Aviation** leased one **Tainjin-built** -232/W (SN 6229) to **Beijing Capital Airlines**, and one -232/W (SN 6237) to **China West Air**, as well as one European-assembled -232/W (SN 6388) to **Vistara Airlines**, India. **AWAS** leased two -214/Ws (SN 6350 & 6375) to **Kuwait Airways**, and an additional new -214/W (SN 6403) to **Spring Airlines**, China, in late December. The aircraft came from **AWAS'** existing order with the manufacturer. **Spirit Airlines** accepted two -232/Ws (SN 6370 & 6383) and sold the latter one to **SMBC Aviation Capital** for lease back. This was the last of four transactions between the two companies. **Sichuan Airlines** took delivery of three -214/Ws (SN 6367, 6386 & 6397), and **Wizz Air Hungary** acquired two -232/Ws (SN 6360 & 6394). **Qantas** leased one -232/W (SN 6362) to **Jetstar Airways** and -232/W (SN 3281) to **Jetstar Japan**. **Vueling Airlines** purchased two -232/Ws (SN 6377 & 6400). Two Indonesian airlines leased one -200 each. **Garuda's Citilink** leased -214/W (SN 6408) from **ICBC**, and **Batik Air** sold its fifth new -214/W (SN 6372) to **SMBC** and leased it back. Elsewhere in Asia, **VietJetAir** acquired its second of 14 -214/Ws (SN 6378), and **Air China** accepted -214/W (SN 6283) from the **Tainjin** factory. **SMBC Aviation Capital** leased -214/W (SN 6410) to **Spring Airlines**, and **Thai Smile/Thai Airways International** leased -232/W (SN 6374) from **AWAS**. **CALC** leased -214/W (SN 6392) to **Juneyao Airlines**. **Airbus** delivered one -214/W (SN 6365) to **Air Arabia**, and one -214/W (SN 6412) to **easyJet**. The manufacturer completed 305 A320s for its customers in 2014.

Airbus A350. **Airbus** delivered the first A350-941 (A7-ALA, SN 006) to **Qatar Airways** on December 22, 2014. **Qatar** should receive another eight A350-900s by December 31, 2015. It has ordered 43 -900s and 37 -1000s. The airline flew its first A350 service from Doha and Frankfurt in January. It will deploy the twinjet across its network, to other European destinations as well as to points in the Far East, the Indian subcontinent and ultra-long-haul flights to the eastern seaboard of the U.S., the airline said. **Qatar** is now first carrier in the world to have operated every **Airbus** aircraft family, including the A300/A310, A320, A330/A340, A350 and A380.

Airbus A321. **Airbus** delivered a record 18 A321s in December, including four A320s to **LATAM Group**. Two -211/Ws (SN 6409 & 6414) were taken by **TAM Linhas Aéreas** and two -211/W (SN 6398 & 6406) were flown by **LAN Airlines**. **LAN** now has three A321s in service. **UTair Aviation** leased two -211/Ws (SN 6156 & 6268) from **VEB Leasing** in mid-December. The airplanes were built in August and September respectively and were stored before delivery. They were flown from Hamburg to Teruel, Spain, for continued storage due to **UTair's** financial difficulties. **China Southern Airlines** acquired two -231s (SN 6366 & 6385), and **China Eastern** bought -231/W (SN 6396). **American Airlines** leased -231/W (SN 6401) from **AerCap**, and a seventh -231/W (SN 6407) from **Aviation Capital Group**. **American** also took delivery of a **US Airways**-ordered -231 (SN 6387) for a fleet total of 139. **GECAS** leased -211/W (SN 6389) to **Thomas Cook Scandinavia** and -211/W (SN 6376) to **Condor**, Germany. **JetBlue Airways** acquired its 13th -231/W (SN 6390), and **Etihad Airways** purchased -231/W (SN 6382). **TACA International** transferred one new -231/W (SN 6399) to its sister company, **Avianca**. **Asiana** leased -231 (SN 6395) from **ICBC Financial Leasing**.

Airbus A330. Airbus delivered four -200s, two -200Fs and nine -300s in November, including two -243s (SN 1540 & 1586) to **Synergy Aerospace** which leased them to **Avianca Brasil**. **China Eastern Airlines** accepted -243 (SN 1588), and **Libyan Airlines** received -202 (SN 1505). The **Libyan A330** was built in April 2014 and is still in storage. **Synergy Aerospace** took delivery of -243F (SN 1534) and leased it to **Avianca Cargo/Tampa Cargo**. **Qatar Airways Cargo** received its second of five -243Fs (SN 1584). **Afriqiyah Airways** took delivery of two -302s (SN 1499 & 1535) that were built in April and June; the airplanes are stored until the political situation in Libya calms. **GECAS** leased -303 (SN 1580) to **KLM Royal Dutch Airlines**. **Korean Air** bought its 19th -323E (SN 1590), and it has three more on order. **AirAsia X** received its 16th -343X (SN 1589), and **Garuda Indonesia Airways** acquired -343E (SN 1585). It was sold to **Avolon Aerospace** for lease back. **Oman Air** took delivery of -343E (SN 1582) and **Air China** accepted -343E (SN 1587). **Srilankan Airlines** sold new -343E (SN 1583) to **Hong Kong Aviation Capital** and leased it back.

Airbus A380. **Etihad Airways** welcomed the first of its 10 new **Airbus A380-861s** (SN 166) at a ceremony in Abu Dhabi on December 18. **Etihad** is the 13th airline and the third Gulf airline to operate the A380. The airplane was the 150th A380 delivered by **Airbus**. The airline will have five A380s in operation by the end of 2015, and they will operate on **Etihad's** most in-demand routes, such as Abu Dhabi to London, New York and Sydney. **Qatar Airways** received its third and fourth A380-861s (SN 145 & 160) in December. **Emirates** accepted another two -861s (SN 168 & 169) for a total of 57. **Airbus A380** test aircraft -861 (SN 004) was flown to Lourdes, France, for storage in December. It may have been the VVIP A380 that **Prince Alwaleed bin Talal** cancelled. The airplane was built in 2005 and has been used as a **Rolls-Royce Trent** and **Engine Alliance GP7200**-engined test bed since then. **Skymark's** cancelled A380-841 (SN 167) was seen at **Toulouse Airport**.



Boeing 737 NG. Boeing delivered 45 737s in December, including six -8H4/Ws (SN 35973, 37037, 37045, 42524, 42529 & 42530) to **Southwest Airlines**, for a fleet total of 80. **American Airlines** accepted three more -823/Ws (SN 31199, 31208 & 33331) for a fleet of 247. **United Airlines** received two -924ER/Ws (SN 60121 & 60316), and has 34 more on order. **Delta Air Lines** acquired one -932ER/W (SN 31942) for a total of 31, and the **U.S. Navy** obtained its 21st -8FV P-8A (SN 44140). **WestJet** took delivery of its 20th of 38 -8CT/Ws (SN 60127). In Asia, **Dragon Aviation Leasing** leased four -89P/Ws (SN 61308, 61309, 61310 & 61311) to **China United Airlines**. **Lion Air** took delivery of two new -8GP/Ws (SN 39829 & 39830) and two -9GPER/Ws (SN 38301 & 38304). The first -800 was sold to the **Bank of Utah**, owner trustee and leased to **9 Air**, China. The second -800 was leased to **Lion's** subsidiary, **Malindo Air**, Malaysia. The -900ERs were leased to **Thai Lion Air**. **Shenzhen Airlines** acquired three -87L/Ws (SN 37620, 39160 & 39161). **Xiamen Airlines** received two -85C/Ws (SN 39904 & 39912) on December 22. Rather than assign new serial

Financial Products Group (FPG), a Tokyo-based independent financial services firm and **Amentum Capital**, Dublin, Ireland, acquired of two 737-800s (SN 35647 & 36814) from **CDB Leasing**. The aircraft are on lease to **Norwegian Air Shuttle**.

Siam Air (Siam Air Transport Company Limited) is a new Thai airline that started operations this month between Bangkok's **Don Mueang Airport** and Hong Kong with two **Boeing 737-300s** (SN 25893 & 26440) that it acquired from **Orient Thai Airlines**.

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numbers, **Boeing** decided to retain the serials of the six fuselages that were destroyed in a train derailment, and assigned modified production numbers for the fuselage, by adding the suffix **ñPò**. In the case of SN 37620, the new production number was 5035P, and SN 39904 had production number 5034P assigned. Two -89L/Ws (SN 41099 & 41100) were delivered to **Air China**, and the latter one was transferred to **Shandong Airlines**. **China Eastern Airlines** bought one -86D/W (SN 41501) and one -89P/W (SN 41511), and transferred the former to **Shanghai Airlines**. **China Southern Airlines** received its 23rd -81B/W (SN 38934), and **Hainan Airlines** accepted one -84P/Ws (SN 39218). **Boeing** delivered one -881/W (SN 44558) to **All Nippon Airways**, and one -8H6/W (SN 40162) to **Malaysia Airlines**. **Oman Air (SAOC)** acquired -81M/W (SN 44421), **Jet Airways** obtained its 30th and final -85R/W (SN 39070), and **flydubai** took delivery of its 42nd -8KN/W (SN 40270). Four leasing companies bought five -800s for lease out. **Avia Capital Leasing** leased -8LJ/W (SN 41202) to **Orenair (Orenburg Airlines)**, Russia. **Aeromexico** leased -852/W (SN 36706) from **Jackson Square Aviation**. **SMBC Aviation Capital** leased -8FH/W (SN 39952) and leased it to **Sun Country Airlines**, and **GECAS** leased one -86N/W (SN 43420) to **Nok Air**. **Aviation Capital Group** took delivery of two -8LP/W (SN 41711 & 41842) and placed them in storage. The airplanes were originally ordered by **UTair** but the delivery positions were transferred to **Aviation Capital**. **Boeing** delivered -8JP/W (SN 43877) to what it called an unidentified customer, which was revealed to be **Norwegian Air Shuttle**.

Boeing 747. **Air China** accepted two more 747-89L Intercontinentals (SN 41193 & 44932) and has two more (SN 41194 & 41847) on order. **Nippon Cargo Airlines** received its eighth -8KZF (SN 37393). The airline has six more on order. To date, **Boeing** has delivered 56 747-8 Freighters and 27 passenger 747-8Is.

Boeing 767. **Federal Express** took delivery of its ninth -3S2F (SN 43542) in December. The cargo airline has 39 more on order.

Boeing 777. **Boeing** delivered nine 777s in December, including one 777-2FBLR (SN 60116) to a **Business Jet / VIP Customer**. The airplane was originally built for **Ceiba Intercontinental** and is now stored at Basel, Switzerland, awaiting the interior installation. The Equatorial Guinean flag carrier already operates one 777-2FBLR in quasi-governmental service. **Saudi Arabian Airlines** accepted two -368ERs (SN 42261 & 42262), and **Emirates** purchased its 71st of 120 -31HERs (SN 42318). **Turkish Airlines –THY** acquired its 16th -3F2ER (SN 60410). **China Eastern Airlines** received its fourth of 20 -39PERs (SN 43271), and **China Southern Airlines** took delivery of its fifth -31BER (SN 43223). **Cathay Pacific Airways** received its 43rd -367ER (SN 42145), and now has six on backorder. **American Airlines** received its 16th -323ER (SN 31549), and has four more on order.

Boeing 787. **Boeing** delivered a record 18 787s in in December, including four 787-8s to **Avianca** (SN 37502, 37503, 37504 & 37505). The airline's 787s will fly from Bogota, Cali and Medellin to Madrid,

Thai Airways International celebrated the Thai flag-carrier's 75th **Boeing** airplane that was delivered directly from the factory. Marking the milestone delivery, **Boeing** and **Thai** collaborated to transport 1,000 wool blankets onboard **Thai's** newly delivered 777-3D7ER (SN 42113). The blankets were donated by **Another Joy Foundation**, and will be distributed by the airline to people in need in Thailand during the cold winter months. This was the third humanitarian effort between **Boeing** and **Thai** and is part of **Boeing's** long-running **Humanitarian Delivery Flights** program which started in 1992. The airline has two more 777-300ERs on order.

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Barcelona and London. **AZAL—Azerbaijan Airlines** acquired its first two -8s (SN 37920 & 37921) and became the first airline in the **Commonwealth of Independent States** to operate the 787. **Japan Airlines** took delivery of its 17th and 18th -8s (SN 34849 & 38315), **AerCap/ILFC** leased a fourth -8 (SN 35320) to **Thai Airways International**. **Royal Air Maroc**, the flag airline of Morocco, celebrating the delivery of its first of five GENx-powered 787-8s (SN 43817) on December 31, and selected a 10-year **OnPoint** solution agreement with **GE Aviation** for the maintenance, repair and overhaul of its GENx engine fleet. The airline was the first carrier in the Mediterranean region to operate the 787. **Boeing** delivered the first of two -8s (SN 36843) to **Aeromexico**, the 18th of 27 -8s (SN 36290) to **Air India**, and the 32nd -8 (SN 34525) to **All Nippon Airways**. **TUI Travel PLC** purchased its ninth -8 (SN 37228) and leased it to **Arke**. **United Airlines** bought its 12th and final -8 (SN 35879). **Air New Zealand** acquired its third 787-9 (SN 37963), and **Virgin Atlantic Airways** obtained its second of 17 -9s (SN 37967). **Etihad Airways** received its first 787-9 (SN 39646) on December 31. The plane is painted in the airline's new "Facets of Abu Dhabi" color scheme, which was revealed at a ceremony in 2014. The colors are reminiscent of the desert landscape, inspired by the culture, Islamic design and architecture motifs of the **United Arab Emirates**. The airplane is the first of the 41 787-9s and 30 787-10s the UAE flag carrier has on order. **Etihad** is the first airline in the Middle East to operate the 787-9. As of December 31, 2014, 59 customers have ordered 1,071 787s.

American Airlines took delivery of its first 787-8 (N800AN, SN 40618) on January 23. The airline will use the inaugural 787 for flight training, and then fly it on domestic routes, starting in the second quarter. The 787s will then be put into international services. The next four -8s (SN 40619 to 40622) are due shortly.



Bombardier delivered three CRJ900 NextGen aircraft (SN 15345, 15346 & 15347) to **American Airlines Group** in December. The aircraft will be operated by the group's wholly-owned subsidiary **PSA Airlines** under the **American Eagle** brand. **American** now has 15 of the 30 ordered CRJ900s in its fleet. **China Express Airlines** accepted its 11th CRJ900LR NextGen (SN 15344), and the **Peoples Liberation Army Air Force (PLAAF)** received CRJ700NG (Challenger 870) (SN 10341) in December.

AeroCentury Corporation purchased two CRJ900s (SN 15128 & 15129) from **Adria Airways** and leased them back. The national carrier of Slovenia is a **Star Alliance** member, and offers scheduled flights to twenty-two destinations throughout Europe.

Sukhoi Civil Aircraft Company delivered five Sukhoi Superjet 100s (SN 95074, 95076, 95079, 95082 & 95084) to its launch customer **Aeroflot**. The airline has 18 SSJs in service and now has 32 on order. The second tranche of 10 SSJs are subject to a leasing contract between **Sberbank Leasing** and **Aeroflot**. **Interjet**, Mexico, received its 12th SSJ 100 (SN 95049), and it has eight more on order. Two SSJs (SN 95070 & 95077) allocated to **UTair**, were seen at Moscow.

Red Wings added Sukhoi Superjet 100 (SN 95021) to its fleet of eight **Tupolev Tu-204s** in November. The airline is based at **Domodedovo International Airport**, Moscow, Russia, and the SSJ100 will operate flights from Moscow to Makhachkala and Grozny in southern Russia, and will be used on other routes. The airplane was originally delivered to **Moskovia Airlines** in August 2013 and is now leased from **Sukhoi Civil Aircraft Company**, for the next three years, with possible extensions. The aircraft is fitted with a 93-seat two-class cabin configuration.

Embraer. **Republic Airways** accepted one EMBRAER 170-200 LR (E175) (SN 17000444) in December, for operation on behalf of **American Eagle**. **United Airlines** leased four new E175s (SN 17000438, 17000442, 17000443 & 17000448) to **Mesa Airlines**. **SkyWest Airlines** received two E175s (17000441 & 17000445). **Royal Air Maroc** leased two EMBRAER 190-100s (E190) (SN 19000682 & 19000684) from **Aldus Aviation**. **Embraer** delivered E190-100LR (SN 19000679) to **CIT Leasing**, which leased it to **Aeromexico Connect/Aerolitoral, S.A de C.V.** **AZUL Linhas Aéreas** leased two E195s (SN 19000685 & 19000686) from **AZUL Linhas Aereas HKAC Leasing E195**. **Minsheng Financial Leasing Co.** took delivery of E190 ECJ Lineage 1000 (SN 19000683) and sold it to **Wilmington Trust**, trustee.

Finnair signed a Memorandum of Understanding to sell and leaseback six ATR 72s with **Doric Asset Finance**. The transaction is expected to be closed by the end of March 2015 and is valued at approximately €75 million (\$90 million). The aircraft are operated by **Flybe Nordic** and the lease terms are eight years. The proceeds from the transaction will be used to finance **Finnair** fleet investments in the coming years, including the purchase of 19 **Airbus A350** aircraft.

UTair Ukraine returned five 2012-vintage ATR 72-500s (SN 994, 1000, 1029, 1036 & 1037) to lessor **BLF**, Bermuda, in December. The airplanes were sold to **ABRIC Leasing**, Ireland, through **Bristol Associates**.

Embraer announced that **Aldus Aviation**, Ireland, will lease two used E195 E-jets (SN 19000029 & 19000057) to **Kalstar Aviation**, a regional operator in the province of Kalimantan on Borneo Island, Indonesia. The airline will be the first E-jet operator in Indonesia, and the airplanes will be operated on routes within Indonesia. **Kalstar** was established in 2007 and currently operates three ATR 42-300s, four ATR 72s, one 737-300 and two 737-500s.

Turboprop Aircraft

ATR. In December, **Alliance Air**, **Air India's** fully-owned regional subsidiary, leased its first new ATR 72-600 (SN 1197) from Singapore-based **Avation**. The airline will lease four more ATRs by July 2015. **ATR** delivered its 200th ATR -600 aircraft (SN 1223) to **Air Algerie** in December. It is the airline's first of three -600s that were ordered earlier this year. The **Algerian Government** also received one -600 (SN 1200) during the month. **TransAsia Airways** accepted two -600s (SN 1198 & 1222), and **Alpha Star**, Saudi Arabia, acquired its first -600 (SN 1184). **Fiji Airways** leased its second -600 (SN 1221) from **Nordic Aviation Capital (NAC)**. **Dubai Aerospace Enterprise (DAE)** leased the last of five ATR 72-600s (SN 1195) to **Azul Linhas Aéreas Brasileiras**. **DAE** Managing Director **Khalifa H. Al Daboos** said, "We intend to continue to develop our business and increase our fleet through sale and lease-backs of targeted aircraft, such as the ATR 72-600." **DAE** placed a direct order with the manufacturer for up to 40 ATR 72-600s in 2014. The total portfolio at year-end 2014 was valued at approximately \$3.6 billion.

Bombardier. **Island Air** leased two new Q400 NextGens (SN 4481 & 4482) from **Island Air Leasing** in December. **WestJet Encore** took delivery of its 16th Q400NG (SN 4483).

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Viking delivered two DHC-6-400 Twin Otters (SN 911 & 912) to the **Peruvian Air Force** in December. The **UAE Air Force** received -400 (SN 904) and **MASWings**, Malaysia, acquired -400 (SN 909). **NASS Holdings** purchased -400 (SN 903) from **Viking** in November.

Antiques and Other Junque

Delta Air Lines retired four of its 16 **Boeing** 747-451s in 2014, but it will retain one as an operational spare and may use it for charter flights, or when another airplane has mechanical problems, said spokesman, **Michael Thomas**. **Delta** intends to retire the entire 747 fleet by 2017. **United**, the other U.S. major to operate the 747-400, is also retiring its fleet and replacing them with smaller twin-jet widebodies.

EVA Air, Taiwan, retired its last of six **Boeing** 747-45E(M) Combis (SN 28093) on January 5. The aircraft operated passenger and cargo services, and performed diplomatic missions for the island nation's government. The plane will be sold or disassembled for parts. **EVA Airways** operated the 747 Combi from May 1993 until now. **EVA's** Combis were fitted with 276 seats and a dedicated main deck cargo space. Three airlines, **Asiana**, **Kuwait** and **KLM** still fly the -400 Combi. **EVA** continues to operate three passenger -45Es, three factory-built -45EF freighters and five -45E(BDSF) special freighters.

Qantas Airways retired its last five **Boeing** 767-338ERs (SN 25363, 25575, 25577, 29117 & 29118) in December and January and flew them to Alice Springs for storage. The 767s carried nearly 168 million passengers on 927,000 flights over a 29-year career. **Qantas** operated 41 **Boeing** 767s, including 34 -338ERs, six -238ERs, and one -381F freighter (SN 33150) which continues to fly with **Qantas Freight** on services between Sydney and Auckland. **Qantas** took delivery of its first 767-238ER (SN 23304) in July 1985, and the first 767-338ER (SN 24146) followed in September 1988. The 767s served the Asia marketplace as well as flights to Honolulu that were too thin for the 747-400. The 767 was replaced in domestic service by the **Airbus** A330-200 and by increased utilization of the **Boeing** 737-800 fleet. Four of the stored -338ERs will be sold to **Boeing Capital** that has reportedly sold them to Canadian low-cost carrier **WestJet**, for its long-haul operation.

Qantas's first **Boeing** 747-438 (VH-OJA, SN 24354) is expected to be donated to an Australian aviation museum. It flew its last commercial flight on December 7 and was ferried home from a short storage in Victorville, California. The airplane was the first of 21 **Qantas** 747-438s and it was delivered in August 1989. **Qantas** wants to give the aircraft to a museum because of its place in Australian aviation history, but the **Qantas Founders Museum** ruled out taking VH-OJA, and the **Historical Aviation Restoration Society (HARS)** has demurred for the present. **Qantas Founders Museum** at Longreach in Western Queensland, is the home of **Qantas's** first 707-138 (VH-EBA, *City of Canberra*) which was restored by volunteers and a gift of \$1 million from the **Australian Government**. The museum is also home of 1979-model **Qantas** 747-238B (VH-EBQ, *City of Bunbury*).

The **Japanese Self Defense Forces** retired its last YS-11 turboprops in November 2014. The **JSDF** operated the twin-RR Dart-engined YS-11 since the 1960s.

Accidents and Safety

From Aviation Safety Foundation

Ethiopian Airlines Boeing 737-43QSF (ET-AQV, SN 28493) special freighter was written off after a runway excursion at **Accra-Kotoka Airport**, Ghana, on January 10, 2015. The three crew members were injured. The right main gear and engine were separated from the aircraft and the nose was damaged as well. The 18 year old freighter was leased from **Aviation Capital Group**.

Kazan Aircraft Production Association Antonov An-26B (RA-26082, SN 11705) passenger plane was substantially damaged in a takeoff accident at **Magadan-Sokol Airport**, Russia, on January 3, 2015. The airplane skidded off the runway and the right hand main gear collapsed. The right hand wing contacted the ground causing damage to the wing tip and number 2 engine propeller blades. The press said the airplane suffered engine problems prior to the accident.

Loganair Saab 340B (G-LGNL, SN 246) left the runway upon landing at **Stornoway Airport**, Scotland, on January 2, 2015. The nose gear collapsed and two passengers suffered minor injuries. The airplane was operating a **Flybe** service from Glasgow, Scotland.

Trigana Air Service de Havilland Canada DHC-6-300 Twin Otter (PK-YRU, SN 685) was damaged after trying to land during strong winds at **Enarotali Airport**, Indonesia, on January 11. The airplane left the runway and ran into a ditch. The Twin Otter's nose gear and number 2 propeller were damaged in the crash, but there were no personal injuries.

Syrian Air Force Antonov An-26 (YK-AND, SN 3008) military transport crashed near **Abu adh Dhuhur Air Base**, Syria, on January 18, and all six crew and 24 passengers were killed. The **Syrian** state media said the airplane crashed due to fog but **al Qaeda's Nusra Front** claimed that it shot down the aircraft.

2014 Accident Statistics. In spite of the loss of two **Malaysian** 777s and the **AirAsia** A320, 2014 was the best year ever for airline safety to date. The fatal accident rate for airlines was one fatal accident per 2.38 million flights, up from the 2012 average of 2.37 million flights, and 2013 average of one per 1.91 million flights. Over the past five years, the average was one fatal crash per 1.75 million flights. The numbers exclude **Malaysia** flight MH17, because it was shot down by a missile and is considered a war risk loss, not an accident. The missing **Malaysia** flight MH370 was been included in the fatal accident rates, even though no one knows exactly what happened to it. The **Aviation Safety Network (ASN)** reported a record low total of 21 fatal airliner accidents and 990 fatalities. 2014 was the 24th safest year ever in terms of fatalities. Ten accidents involved cargo flights, and eight were passenger airplanes. Worldwide air traffic rose to 33 million flights and the accident rate was one fatal passenger flight accident per 4,125,000 flights. **ASN** President **Harro Ranter** said, "Since 1997 the average number of airliner accidents has shown a steady and persistent decline, for a great deal thanks to the continuing safety-driven efforts by international aviation organizations such as **International Civil Aviation Organization (ICAO)**, **IATA**, **Flight Safety Foundation** and the aviation industry." Africa was still the least safe continent, and accounted for 43 percent of all fatal airliner accidents, while it accounts for 3 percent of the world's air traffic. **ICAO** performs aviation safety audits and African nations scored only 4.6 on a scale of 10.

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Indonesia AirAsia Airbus A320-216 (PK-AXC, SN 3648) apparently climbed too quickly and stalled. The salvage operation has raised the cockpit voice recorder and the flight data recorder. The tail section and much of the fuselage have been raised from the Java Sea and dozens of bodies have been recovered. There is no evidence of sabotage or a hijacking.

Airbus Is Talking With the European Aviation Safety Agency (EASA) about fitting ejectable flight data recorders on to its lineup of airliners. The installation of this device could have assisted with the location of the **AirAsia A320** wreckage. **Airbus** wants to develop a flight data and cockpit voice recorder that would be ejected from the tail of the aircraft during a crash into water. It would float free of the wreck and emit a satellite distress signal. This device has been fitted on military airplanes for many years. **EASA** and other worldwide regulatory authorities have been discussing the installation of ejectable recorders on all commercial aircraft. This was prompted by the disappearance of **Malaysia Airlines** flight MH370. An **Airbus** spokesman said the company was ñworking with **EASAé** and other stakeholders to advance the approval of such a solution industry-wide. In the future, applicability for our other aircraft products could be likewise considered, but presently we have decided to focus on the A350 and A380.ò

AVMARK CAPABILITIES

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

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Aircraft appraisal, inspection and technical monitoring; analysis of market conditions and forecast of values; assistance with aircraft acquisitions and placement; valuation of facilities, equipment and other assets.

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Our staff undertakes corporate reviews of entire airlines or specific aspects of airline operations, advising airline executive management, government and international organizations (i.e. World Bank), on various aspects of airline restructuring and/or privatization. Specific issues addressed include airline valuation, strategic planning, scheduling and fleet planning, market development, revenue management, operations and maintenance efficiency. We also provide a full range of services for start-up carriers.

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We prepare traffic/operation forecasts and financial analysis for airport and other facilities planning; competitive evaluation of performance/design characteristics and market potential for new aircraft; critical assessment of capability, marketing strategy and opportunities for suppliers of products and services; and air service needs related to tourism development.

PUBLICATIONS

We publish the *AVMARK Newsletter* monthly; containing market information, various analyses and commentary; also reports all orders, purchase sales and leases of new and used transport aircraft. We also publish several other statistical compilations from our extensive database on aircraft, carriers, traffic, costs and operations.

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.

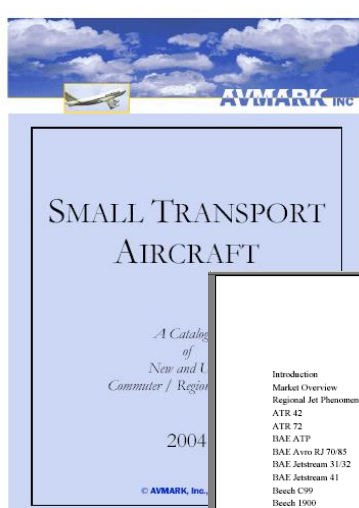
AVMARK's Historic Jet and Turboprop Values; summary of the then current fair market values as published in the AVMARK Newsletter for all jets and turboprops in service.

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

Sample of Avmark Publications

SMALL TRANSPORT AIRCRAFT CATALOG

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



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

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

Airline Association (RAA):

1990:

1991:

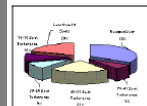


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de Havilland DHC-8 100/200	93
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Metrol	124
Fokker 50	128
Fokker 70	132
Let 410/420	136
Saab 340	140
Saab 2000	144
Shorls 330	148
Shorls 360	152

ATR 42-300

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

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

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

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

Avionics: EDZ 820 Electronic Flight Instrument System (EFIS) - 4 CRT's for dual Attitude and Heading Reference Systems (AHRS), Dual Autopilots, Dual Computers (ADC), 1 CFZ 600 Automatic Flight Director, Dual King Gold Crown VHF Nav, Radios, DME, Radio Altimeter, Honeywell P-800 Weather Radar.

Price List

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

ATR 42-300

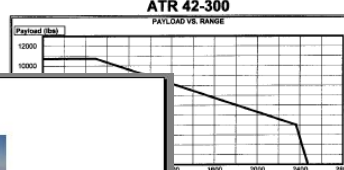
Direct Operating Costs (\$ per block hour)

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

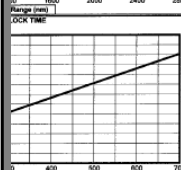
Note: Data from DOT Airline Reports.

ATR 42-300

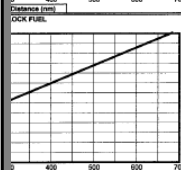
PAYLOAD VS. RANGE



Range (nm)



Distance (nm)



ATR 42



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

The baseline aircraft is the ATR 42-300/320 powered respectively by PW120/121 engines. The latest version is the ATR 42-500 powered by PW127x engines and Hamilton six-bladed propellers. Thus increasing the payload to 12,015 lb and the cruise speed to 300 kts.

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

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

TYPICAL CABIN CONFIGURATION

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

US \$ 350.00

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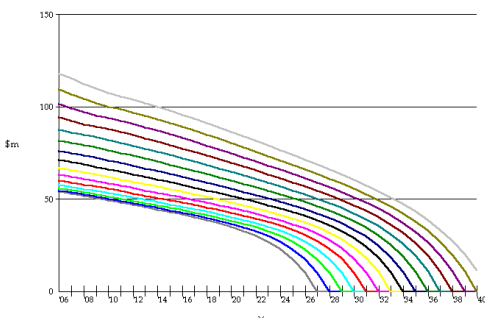
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CAVAS Graph



Profit & Loss Report

Aircraft Type	Period	1	2	3	4	5	6
REVENUES (US\$)							
Passengers	49,328,754	49,270,739	49,212,559	49,154,213	49,095,701	49,037,189	48,978,677
Freight & Mail	8,879,176	8,868,733	8,858,261	8,847,758	8,837,226	8,826,673	8,816,141
Other Revenue	986,575	985,415	984,251	983,084	981,914	980,744	979,574
TOTAL OPERATING REVENUE	59,194,505	59,124,887	59,055,070	58,985,055	58,914,841	58,844,627	58,774,413
VARIABLE EXPENSES							
Fuel	6,918,975	6,917,340	6,915,670	6,913,977	6,912,265	6,910,533	6,908,781
Landing Fees	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823
Enroute Charges	392,440	392,440	392,440	392,440	392,440	392,440	392,440
Pax Commissions	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313
Freight Commissions	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876
Food & Supplies	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194
Passenger Liability Insurance	379,590	379,590	379,590	379,590	379,590	379,590	379,590
TOTAL VARIABLE COST	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212
SEMI-VARIABLE EXPENSES							
Crew Salaries & Expenses	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760
Maintenance & Engineering	587,650	587,650	587,650	587,650	587,650	587,650	587,650
TOTAL SEMI-VARIABLE COST	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410
TOTAL OPERATING COST	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622
OPERATING PROFIT OR LOSS	29,985,883	29,916,265	29,846,448	29,776,631	29,706,814	29,636,997	29,567,180
D-CHECK ADJUSTMENT							
Cumulative Hours	4,830	9,650	14,459	19,257	24,045	28,833	33,621
Cumulative Dollars	315,000	0	0	0	0	0	0
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282	22,052,464	21,235,646

Profit & Loss Report

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

Select Aircraft Type

Available Aircraft

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

Picture

Selected: Airbus A340-300

Description: Widebody 4 Engine Passenger

Manufactured: 1992 To 2006

Values: \$54.00m \$118.00m

Estimated Life: 35 years File No. 013

Search Term

Add Modify Delete OK

Aircraft: Airbus A340-300 - Widebody 4 Engine Passenger

CAVAS Figures

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2007	54.00	54.61	55.83	57.66	60.10	63.14	66.80	71.07	75.94	81.43	87.52	94.23	101.54	109.47	118.00
2008	52.85	53.49	54.70	56.56	58.99	62.01	65.63	69.95	74.86	80.37	85.52	92.18	99.12	106.73	115.25
2009	51.68	52.36	53.61	55.43	57.85	60.84	64.42	68.69	73.65	79.18	84.76	90.48	96.97	104.20	112.39
2010	50.49	51.19	52.46	54.29	56.70	59.67	63.24	67.50	72.44	77.95	83.52	89.23	95.67	102.47	110.19
2011	49.28	49.99	51.27	53.10	55.50	58.46	62.01	66.25	71.17	76.66	82.32	88.13	94.17	100.47	107.60
2012	48.05	48.77	50.05	51.88	54.28	57.23	60.77	64.99	69.89	75.37	80.94	86.69	92.71	98.99	105.60
2013	46.80	47.52	48.80	50.63	53.03	55.98	59.51	63.71	68.60	74.07	79.62	85.35	91.36	97.63	104.14
2014	45.53	46.25	47.53	49.36	51.76	54.71	58.23	62.42	67.30	72.76	78.30	83.92	89.71	95.67	101.80
2015	44.24	44.96	46.24	48.07	50.47	53.42	56.93	61.11	66.00	71.45	76.97	82.57	88.34	94.28	100.39
2016	42.93	43.65	44.93	46.76	49.16	52.11	55.61	59.79	64.67	70.11	75.62	81.21	86.96	92.97	99.14
2017	41.60	42.32	43.60	45.43	47.83	50.78	54.28	58.45	63.32	68.75	74.25	79.82	85.55	91.44	97.48
2018	40.25	40.97	42.25	44.08	46.48	49.43	52.92	57.08	61.94	67.36	72.84	78.37	83.94	89.64	95.48
2019	38.89	39.61	40.89	42.72	45.12	48.07	51.56	55.71	60.56	65.97	71.44	76.95	82.50	88.18	93.90
2020	37.51	38.23	39.51	41.34	43.74	46.69	50.17	54.32	59.16	64.56	70.01	75.50	81.01	86.54	92.10
2021	36.12	36.84	38.12	39.95	42.35	45.30	48.77	52.92	57.75	63.14	68.56	74.01	79.48	84.97	90.49
2022	34.72	35.44	36.72	38.55	40.95	43.90	47.37	51.51	56.34	61.72	67.13	72.56	78.01	83.48	88.97
2023	33.31	34.03	35.31	37.14	39.54	42.49	45.96	49.99	54.79	60.16	65.56	70.97	76.40	81.84	87.29
2024	31.89	32.61	33.89	35.72	38.12	41.07	44.53	48.55	53.34	58.70	64.09	69.49	74.90	80.32	85.74
2025	30.46	31.18	32.46	34.29	36.69	39.64	43.10	47.11	51.89	57.25	62.63	68.02	73.42	78.82	84.22
2026	29.02	29.74	31.02	32.85	35.25	38.20	41.66	45.66	50.43	55.79	61.16	66.53	71.91	77.28	82.64
2027	27.57	28.29	29.57	31.40	33.80	36.75	40.21	44.21	48.97	54.33	59.69	65.05	70.41	75.76	81.11
2028	26.11	26.83	28.11	29.94	32.34	35.29	38.75	42.74	47.50	52.85	58.20	63.54	68.87	74.19	79.50
2029	24.64	25.36	26.64	28.47	30.87	33.82	37.28	41.26	45.99	51.33	56.66	61.98	67.28	72.56	77.82
2030	23.16	23.88	25.16	26.97	29.37	32.32	35.78	39.75	44.47	49.79	55.10	60.39	65.66	70.91	76.14
2031	21.67	22.39	23.67	25.48	27.88	30.83	34.29	38.25	42.95	48.25	53.53	58.79	63.99	69.14	74.26
2032	20.17	20.89	22.17	23.98	26.38	29.33	32.79	36.74	41.43	46.71	51.97	57.19	62.35	67.46	72.51
2033	18.66	19.38	20.66	22.47	24.87	27.82	31.28	35.23	39.91	45.17	50.42	55.62	60.75	65.81	70.83
2034	17.14	17.86	19.14	20.95	23.35	26.30	29.75	33.70	38.37	43.62	48.84	53.95	58.97	63.93	68.84
2035	15.61	16.33	17.61	19.42	21.82	24.77	28.22	32.17	36.83	42.07	47.27	52.44	57.50	62.42	67.29
2036	14.07	14.79	16.07	17.88	20.28	23.23	26.68	30.62	35.27	40.50	45.67	50.79	55.81	60.70	65.54
2037	12.52	13.24	14.52	16.33	18.73	21.68	25.13	29.07	33.71	38.93	44.08	49.16	54.15	58.99	63.68
2038	10.97	11.69	12.97	14.78	17.18	20.13	23.58	27.52	32.15	37.36	42.50	47.56	52.52	57.34	61.99
2039	9.41	10.13	11.41	13.22	15.62	18.57	22.02	25.96	30.58	35.77	40.81	45.76	50.61	55.31	59.84
2040	7.84	8.56	9.84	11.65	14.05	16.99	20.43	24.37	28.98	34.15	39.17	44.11	48.94	53.53	57.95
2041	6.26	6.98	8.26	10.07	12.45	15.39	18.83	22.76	27.35	32.50	37.41	42.23	46.83	51.21	55.45
2042	4.67	5.39	6.67	8.48	10.87	13.80	17.23	21.15	25.73	30.86	35.74	40.51	45.00	49.25	53.35
2043	3.07	3.79	5.07	6.88	9.27	12.19	15.61	19.52	24.09	29.20	34.04	38.61	42.94	46.99	50.84
2044	1.46	2.18	3.46	5.27	7.66	10.59	14.01	17.91	22.46	27.54	32.27	36.63	40.63	44.25	47.55
2045	-0.15	0.57	1.85	3.66	6.05	8.97	12.39	16.30	20.69	25.54	30.83	35.54	39.54	42.70	45.80
2046	-1.74	-1.02	0.26	2.07	4.46	7.38	10.79	14.69	19.06	23.86	28.9	34.0	38.9	42.9	45.8



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