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Newsletter

Market Comment

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Boeing Confident in 787's Design and Performance. On January 11, it said in a press release that "the 787 is a safe and efficient airplane that brings tremendous value to our customers. Its in-service performance is on par with the industry's best-ever introduction into service – the **Boeing 777**. Like the 777, at 15 months of service, we are seeing the 787's fleet wide dispatch reliability well above 90 percent. The 787 completed the most robust and rigorous certification process in the history of the **FAA [Federal Aviation Administration]**. We remain fully confident in the airplane's design and production system. While the 787's reliability is on par with the best in class, we have experienced in-service issues in recent months and we are never satisfied while there is room for improvement. For that reason, today we jointly announced with the U.S. **Federal Aviation Administration (FAA)** the start of a review of the 787's recent issues and critical systems. We are confident in the regulatory process that has been applied to the 787 since its design inception. With this airplane, the FAA conducted its most robust certification process ever. We expect that this review will complement that effort." Basically, the manufacturer praised the 787's dispatch reliability and the **FAA's** certification process, but it said little about the numerous small glitches: the fuel system, the brakes, the cracked windows, the electric systems and the lithium-ion (Li-ion) batteries.

Five days later, the **FAA** temporarily grounded the 787 – the first time an airliner fleet was grounded since the fatal **American Airlines DC-10** crash in 1979. **Boeing** Chairman, President and CEO **Jim McNerney** issued a statement saying: "The safety of passengers and crew members who fly aboard **Boeing** airplanes is our highest priority. **Boeing** is committed to supporting the **FAA** and finding answers as quickly as possible. The company is working around the clock with its customers and the various regulatory and investigative authorities. We will make available the entire resources of the **Boeing Company** to assist. We are confident the 787 is safe and we stand behind its overall integrity. We will be taking every necessary step in the coming days to assure our customers and the traveling public of the 787's safety and to return the airplanes to service."

In a scant five days, the two operators with a combined total of 24 787s, **All Nippon (ANA)** and **Japan Airlines (JAL)**, voluntarily grounded their planes following a second catastrophic battery failure. The battery in the rear of a **JAL 787** caught fire after landing at Boston's **Logan International Airport** and a week later an **ANA 787** made an

Table of Contents

Market Comment 1

AIRCRAFT & ENGINE ORDERS

<i>Airbus</i>	<i>3</i>
<i>Boeing</i>	<i>6</i>
<i>Regional</i>	<i>11</i>
<i>Engine News</i>	<i>14</i>
<i>Order Changes</i>	<i>15</i>
<i>Leasing Companies</i>	<i>16</i>

AVIATION BUSINESS

<i>Airline News</i>	<i>17</i>
<i>Bankruptcy of the Month</i>	<i>19</i>
<i>Cargo Pallet</i>	<i>20</i>
<i>Technical</i>	<i>21</i>
<i>Military Market</i>	<i>22</i>

AIRCRAFT DELIVERIES, SALES & LEASES

<i>Airbus</i>	<i>23</i>
<i>Boeing</i>	<i>25</i>
<i>Regional Jet</i>	<i>26</i>
<i>Turboprop Aircraft</i>	<i>27</i>
<i>Accidents & Safety</i>	<i>28</i>

PUBLICATIONS & FORMS

<i>Avmark Capabilities</i>
<i>Avmark Publication Samples</i>
<i>Current Avmark Publications</i>
<i>Publication Form</i>

emergency landing after smoke from the forward battery entered the flight deck. The popular press then reminded the public of all the faults discovered in new 787s over the previous year. The litany included an emergency landing by a **United** 787 due to an electrical fault, a brake failure in an **ANA** plane, two separate fuel leaks in GENx engines on **JAL** jets, and two cracked windows on other **ANA** Dreamliners. Understandably, the public conflated all these glitches into a systemic safety problem. The thought of fuel leaks and battery fires merged in the public's minds as portent of disasters. The **Federal Aviation Administration (FAA)** focused on the one problem that appeared to repeat, so it grounded the 787 Dreamliner until its lithium-ion batteries are proven safe. The agency said the **FAA** issued an emergency airworthiness directive (AD) to address a potential battery fire risk in the 787 and required operators to temporarily cease operations. The AD directly affected only the six 787s that are operated by **United Airlines**. Other civil aviation authorities followed the **FAA's** lead and the other operators of the airplane, **Air India**, **Ethiopian Airlines**, **LAN Airlines**, **LOT Polish Airlines** and **Qatar Airways** complied. The **FAA** said it will work with the manufacturer and carriers to develop a corrective action plan to allow the U.S. 787 fleet to resume operations as quickly and safely as possible. Further, the incidents on the Japanese aircraft resulted in release of flammable electrolytes, heat damage, and smoke. The root cause of these failures is currently under investigation. These conditions, if not corrected, could result in damage to critical systems and structures, and the potential for fire in the electrical compartment. The **FAA** will conduct a comprehensive review of the 787's critical systems, in addition to the continuing review of the aircraft's design, manufacture and assembly, the agency also will validate that 787 batteries and the battery system on the aircraft are in compliance with the special condition the agency issued as part of the aircraft's certification, it said. The **National Transportation Safety Board (NTSB)** was also investigating the cause of the battery fire at **Logan**. The Japanese are looking into the **ANA** incident. The Dreamliner has two high-capacity lithium-ion batteries, one located in an electronics bay at the rear of the airplane and the other is in the forward electronics bay, just behind and below the cockpit. The **NTSB** also investigated a series of lesser electrical problems, including one that caused a **United** flight to divert to New Orleans in December. Those problems were attributed to flawed circuit boards in electrical power-distribution panels.

January 2013

Page 3 of 29

So far, all the airlines involved have issued statements of support for **Boeing** and confidence in the 787. The stock market reacted by dropping **Boeing's** stock price by only 3 percent. Airlines have not even hinted that they would cancel or defer their existing orders, while **American** announced that it would press ahead with its commitment for 100 planes. The grounding of the planes will be very costly for the airlines and **Boeing**. One analyst banded about a \$500 million price tag for compensation to airlines and the re-engineering of the battery/electrical system. All airlines except **LOT** put the 787 in service and **LOT** was to launch its trans-Atlantic 787 flight the day the plane was grounded.

Investigators are looking closely at the batteries and battery chargers. The lithium-ion batteries are made by **GS Yuasa Corp.**, in Kyoto, Japan, and the chargers are part of the complex electrical system manufactured by **Thales SA**, France. Both companies are cooperating fully with the **FAA** and Japan's **Civil Aviation Bureau (CAB)**. In a press release from 2005, **GS Yuasa** said its lithium-ion cells were chosen for the **Electrical Power Conversion System** in **Boeing's** 787 Dreamliner. This contract is a historic first as it marks the first commercial aviation application of Li-ion technology anywhere in the world. Partnering with **Thales Alenia** for the battery system electronics and integration, **GS Yuasa's** lithium-ion cells will play a key role in on-board power, providing both **Auxiliary Power Unit** start and emergency power back-up capabilities. Apparently Li-ion batteries have been successfully used in military aircraft for 10 years and the A380 since 2006. The **CAB** and **FAA** investigating teams visited **GS Yuasa's** plant, and looked at battery design, production and quality. The Japanese team performed a greater level of scrutiny, including tracking battery batch numbers and production dates. The **CAB** said "Results have shown the battery was abnormal in both the Boston and Takamatsu [incidents]. They were the most damaged." The **FAA** and **NTSB** checked the **JAL** 787's flight recorder data and found that the APU battery did not exceed its designed voltage of 32 volts. They also examined the battery charger and the jet's auxiliary power unit. The charger was built by **Securaplane Technologies**, an Arizona-based subsidiary of **Meggitt Plc.**, in the U.K.. The **NTSB** visited the factory and examined the battery charger and downloaded nonvolatile memory from the APU controller, it said.

If the Li-ion batteries are the problem, does **Boeing** have a Plan B? Li-ion batteries offer twice the power at a lower weight than a traditional nickel cadmium battery of equal size. Presumably old-style batteries can be installed without too many changes to the aircraft's structure and electronic systems. Critics have said the 787 featured too much cutting-edge technology. Can **Boeing** step back from that edge without compromising the performance of the 787 while it solves the issues exposed by the faulty batteries? The manufacturer must fix the problem quickly and correctly or else the public perception of the plane will be seriously damaged. The **FAA** grounding of the DC-10 in 1979 helped destroy the plane's already tarnished reputation. **McDonnell Douglas** had to quickly develop the MD-11 to keep the production line open. That is not an option for **Boeing**. The manufacturer cannot minimize the 787's problems with press releases while touting the 787's fleet wide dispatch reliability and labeling the faults as "in-service issues." **Boeing** needs to be open and proactive in getting information to the public and to publicly fix the battery problems in order to retain the flying public's confidence.

Airbus Orders

Airbus Sold 268 Aircraft in December, boosting its order volume well above its 2012 goal. The company sold 914 new airplanes during the year, while losing 81 existing orders for 833 net orders in 2012. This number exceeded **Airbus'** target of 650 orders by 41 percent. Orders in December were led by 155 orders for the A320neo (new engine option) Family aircraft from several new customers. The

January 2013

Page 4 of 29

A320neo Family won a 62 percent market share against the 737 MAX. During the month, **Pegasus Airlines** bought 57 A320neo and 18 A321neo aircraft, while **Citilink** ordered 25 A320neos. **Avolon** purchased 20 A320neos, and **BOC Aviation** placed a mixed order for 25 A320/A321neo aircraft and another 25 A320/A321ceo (current engine option) versions. The month ended with an undisclosed customer contract for 12 A319, 16 A320 and 32 A321 ceo aircraft. **Middle East Airlines'** acquired five A320neo and five A321neo jetliners. By the end of the year, **Airbus** had sold 9,031 single-aisle aircraft, including 1,734 A320neo Family airliners. **Singapore Airlines** placed a repeat order for another 20 A350-900 XWBs and five more A380s. An undisclosed customer bought three A330-300s. **Airbus** sold 305 A320ceo Family aircraft, 478 A320neo Family aircraft, 82 A330/A340s, 40 A350 XWBs and nine A380s. **Airbus'** share of above-100-seat aircraft sales was 41.5 percent of the market with net orders of 833 aircraft worth \$96 billion.

Airbus Delivered 72 jetliners to customers in December, setting several new company records for one month's production. Fifty-four A320 Family, as well as 13 A330/A340 family and five A380s were handed over to airlines and leasing companies. **Airbus** closed out its A340 production program when it delivered the final two A340-500s to **AJW Capital Partners**, for lease to **Azerbaijan Airlines**. **Airbus** raised its A380 production to 30 per year, with the handover of five superjumbo jets in December. The company delivered a new record of 588 aircraft to 17 new and 62 long-standing customers. The manufacturer ended the year with 12,312 sales, 7,630 deliveries, and a record backlog of 4,682 aircraft, up from a backlog of 4,437 at the end of 2011. The backlog was valued at more than \$638 billion.

Year 2012's Deliveries were 10 percent higher than the previous record of 534 in 2011; 2012 was the 11th year of continuous growth in production. During the year, the manufacturer delivered a record 455 A320ceo Family airplanes, up from 421 in 2011. It handed over 103 twin-aisle aircraft in 2012, 16 more than the 87 it built in 2011. The A330 Family is now produced at a rate of 9.5 per month and the rate

Airbus Orders, Deliveries and Backlog December 2012

DEC ORD	DEC DEL	DEC CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			A318		
-0-	-0-	-0-	81	78	3
			A319		
12	6	-0-	1,526	1,357	169
			A320		
148	30	-20	6,094	3192	2,902
			A321		
80	18	-0-	1,330	775	555
			A330		
3	11	-0-	1,244	938	306
			A340		
-0-	2	-0-	377	377	-0-
			A350		
20	-0-	-0-	582	-0-	582
			A380		
5	5	-0-	262	97	165
This Month			This Year		BL
268	72	-20	833	588	4,682

Airbus sold 12,312 aircraft and delivered 7,630 as of December 31, 2012. Eighty-one orders have been cancelled.

Total orders, deliveries and backlog include cancellations

January 2013

Page 5 of 29

will rise to 10 in the spring of 2013. **Airbus** exceeded 2011's 26 A380 deliveries by 15 percent when it handed over a record 30 airplanes in 2012.

Avolon ordered 20 A320neo aircraft in December 2012. At the **Farnborough International Airshow** the Irish-based international leasing company signed an MOU for 15 A320neo aircraft. The December order added five more planes to the previous commitment. **Avolon** will select the engine maker at a later date. The lessor ordered eight Sharklet-equipped, current engine option A320s in December 2010. The order for 20 A320neos was valued at \$1.9 billion (\$95 million each) based on list prices. The delivery dates for **Avolon's** new planes were not announced. The first A320neo were expected to enter service in 2015 and the plane could be powered by **CFM International LEAP** or **Pratt & Whitney PW1100G** engines. **Avolon** CEO, **John Higgins**, said, "Our increased commitment to the neo reflects the strong customer feedback we have received since our original announcement for 15 neo aircraft in July 2012. They [the A320neos] are a natural complement to our extensive sale and leaseback and other financing capabilities."

Singapore Airlines (SIA) purchased five A380s and 20 A350-900s in December. **SIA** announced its intention to buy the 25 widebodies in October 2012. So far, **Singapore** has placed three consecutive orders for the A380, and it is the second largest customer of the type after **Emirates**. The flag carrier now has 19 A380s in service. The new A350 XWB order doubles the airline's backlog to 40. The A350-900s will eventually replace **SIA's** existing fleet of 19 A330-300s and five A340-500s. **SIA** has another 10 A330-300s on order. **Airbus' A380** order book stands at 262 from 20 customers. The A350 XWB attracted 582 orders from 34 customers. The first A350 XWB (Xtra Wide-Body) will enter service in 2014.

Pegasus Airlines, Turkey's second largest airline after state-owned **Turkish Airlines (THY)**, signed a contract for 58 A320neo and 17 A321neo aircraft, and optioned another 25 A320 Family airplanes in December. The firm order has a combined list price of \$7.5 billion (\$100 million each), and if the optioned aircraft are taken up, the total contract would be worth \$9.9 billion (\$99 million each), based on official **Airbus** prices. The Airbuses will replace the 41 737-800s that **Pegasus** ordered in September 1997. **Pegasus** was a new **Airbus** customer and the first Turkish airline to order the A320neo. The new A320neos will be fitted with 180 economy seats, and the A321neo will seat 220 passengers. The airline will deploy the new jets on domestic routes from Istanbul and to Europe and the Middle East.

Citilink, Garuda Indonesia's low cost subsidiary, placed a firm order for 25 A320neo aircraft, worth \$2.42 billion (\$96.8 million each) at list prices. The contract was signed in December 2012, and it represented **Citilink's** first direct purchase from **Airbus**. In June 2011, **Garuda Indonesia** ordered 15 A320ceo (current engine option) and 10 A320neo aircraft on behalf of its subsidiary. The parent also optioned the 25 A320s that were ordered in December. The first 25 A320s will be delivered in batches of five from 2014 through 2018. **Citilink** has leased 12 used A320s for its fast growing domestic network. It also operates seven ex-**Garuda** 737 Classics. The airline was founded in 2001 and performed shuttle services between major cities. **Garuda** spun-off **Citilink** as a separate business entity in the first quarter of 2012, and it will use the new A320s to expand the airline into a significant regional low cost carrier.

Middle East Airlines-Air Liban (MEA) signed a firm contract for five A321neo and five A320neo aircraft in early December. The flag carrier of Lebanon announced its Memorandum of Understanding

January 2013

Page 6 of 29

(MOU) for the ten neo aircraft in July 2012 at the **Farnborough International Airshow**. **MEA** will make its engine selection at a later date; it has already taken delivery of seven A320s and four A321s, which are all V2500-powered. The airline also leases three CFM-engined A320s, and flies four A330-200s.

China Eastern Airlines announced it would buy 60 A320 aircraft in November. In December, **Airbus** posted the sale of 12 A319, 16 A320 and 32 A321ceo aircraft as placed by an undisclosed customer. **China Eastern** said the Airbuses will be scheduled for delivery from 2014 to 2017 and they will be used mainly on domestic routes. The airline also said it won a "substantive discount" off the list price of \$5.4 billion (\$90 million each).

CIT Group placed a firm order for 10 A350-900s in January. Several years ago, **CIT** ordered five A350 XWBs so the recent commitment brought the lessor's A350 backlog to 15. **C. Jeffrey Knittel**, President of **CIT Transportation Finance**, described his company as one of the leading lessors in the world and reported it had more than 110 twin-aisle aircraft on order or in its portfolio. As of January, **CIT** had ordered 187 A320 Family, 51 A330 Family and 15 A350 XWB Family aircraft and had taken delivery of approximately 116 A320 Family and 37 A330s. The A350 XWB was scheduled for entry-into-service in 2014, and the program has won 572 firm orders from 34 customers worldwide.

Hawaiian Airlines signed a Memorandum of Understanding (MOU) to buy at least 16 A321neos. The A321s will be delivered between 2017 and 2020 and are valued at \$2.8 billion at list prices. The carrier took purchase rights for a further nine A321s. **Hawaiian's** A321s will seat 190 passengers in a two-class configuration. The A321neo can fly 3,650nm (6,750km) and will allow **Hawaiian** to serve cities on North America's Pacific Coast. The carrier operates 18 123-seat 717-200s on its inter-island routes and 16 767-300ERs and nine A330-200s on trans-Pacific services. **Hawaiian** has 13 more A330s and six A350-800s on order. The 767s are being phased out as the widebody Airbuses are delivered.

Syphax Airlines said it had ordered three A319/A320ceo (current engine option) and three A320neo (neo engine option) aircraft, worth \$600 million (\$100 million each) at list price. Delivery of the first two CFM56-engined airplanes will begin in 2015. The A320neos will arrive in 2019 and will be powered by LEAP-1A engines. The firm engine orders are valued at \$145 million at list price. **Syphax** intends to lease five more A320ceos over the next few years. The private Tunisian company is led by CEO **Mohamed Frikha** and he has planned to start long-haul services to Asia and the U.S. with two A330s. **Syphax Airlines** launched operations with two A319s in March 2012 and flies from Tunisia to France, Libya Morocco, Saudi Arabia, Turkey, and the U.K.

Bank of China Subsidiary, BOC Aviation, Singapore, ordered 50 A320 Family aircraft in December 2012. The order comprises a repeat order for 25 A320 and A321ceo (current engine option) airplanes and its first order of 25 A320neo (new engine option) Family aircraft. **BOC Aviation** will make its engine selection at a later date. The lessor placed its last order for A320ceo Family aircraft in 2010 and now has purchased 181 single-aisle Airbuses. As an investor in aircraft, **BOC** has been buying fuel-efficient aircraft that have a wide operator base; this order will further contribute to its growth, **Airbus** said. The lessor was also expanding its A320 fleet through purchase and leaseback transactions with airlines. **BOC Aviation** is Asia's largest aircraft leasing company and it will be celebrating its 20th anniversary this year. The first A320neo will enter into service from late 2015, and the A319neo and A321neo will debut in 2016.

Airbus Offering High Capacity A321neo. The manufacturer will install an additional over-wing exit door which will allow airlines to add 16 more seats, raising maximum capacity to 236 all-tourist seating. This will lower seat mile costs of five percent. With the addition of the extra over-wing exit door, the forward exit door can be deactivated, which will allow for more premium class seats to be installed in the forward cabin. The additional seats offer more flexibility in multi-class configurations, which will be useful on longer-range flights. The new cabin options will be available by late 2017.

Boeing Orders

Boeing Sold 183 New Aircraft in December, including 121 737s, four 767s, 52 777s and six 787s. In late December, **Aviation Capital Group (ACG)** ordered 60 737 MAX aircraft and an **Unidentified Customer** contracted for 35 737 MAX aircraft. The 737 MAX has accumulated more than 1,000 orders to date. **GECAS** ordered four 737-800s, one unidentified customer bought 15 737-800s and another unidentified customer bought five 737-800s. The **United States Navy** placed a repeat order for two 737-700C/C-40s. **FedEx** bought four more 767-300Fs for a total of 46. **Turkish Airlines** signed its commitment for 15 777s, and the **Republic of Iraq** announced its purchase of one 777-200LR. **China Airlines** picked up its first six 777-300ERs, and an unidentified customer bought 30 777s. **Aeromexico** purchased six more 787-9s. During December, one customer cancelled three 737 orders, and another dropped 22 737 commitments. **Boeing** lost two 787 orders. **Lufthansa** cancelled one 747-8I order and **Air Austral** dropped one of its two 777-200LR orders. The plane was picked up by the **Republic of Iraq**. The manufacturer delivered a new record of 64 commercial aircraft in the final month of 2012. A record number of 11 787s were handed over to customers, as well as 39 737s, four 747s, two 767s and eight 777s.

American Airlines confirmed its 2011 commitments for 260 Airbus A320s and 200 Boeing 737s in what could be the largest commercial aircraft order in aviation history. The airline reserved an equal number of purchase options which could potentially raise its commitments for more than 900 planes. **American** placed provisional orders in July 2011, but the contracts were held in abeyance after the airline filed for bankruptcy in November 2011. **Airbus** and **Boeing** posted 130 and 100 orders for single-aisle aircraft respectively, but **Airbus** pulled the **American** A320 orders in December 2011. **Boeing** continued to consider them to be firm and they remained on its orders and deliveries page. **American** also committed to buy 42 787 Dreamliners valued at \$8.7 billion (\$207.15 million each) at list prices. The airline optioned another 58 Dreamliners. As of mid-January, the press reported that **American** had firmed up its A320 Family and Dreamliner orders, but the manufacturers had not confirmed the purchases. **American** stated it placed firm orders for 100 737 MAX airplanes and 18 777 under restructured purchase agreements, and it took options for more of each type. The deal added two 777s to **American's** backlog and allowed the airline to convert some of its 111 outstanding 737-800 NG orders to the more advanced 737 MAX. The new agreements with **Airbus** and **Boeing** are subject to bankruptcy court approval. **American** said the 737 MAX aircraft will be delivered between 2018 and 2022, and the updated agreement allows the airline to buy 60 more MAX planes from 2022 to 2025. The first 787s will arrive in November 2014. **American** said it revised its 2011 agreement to purchase A320 Family aircraft as well.

Boeing sold two more 737s to an Unidentified Customer in the first week of January.

January 2013

Page 8 of 29

Boeing Had a Banner Year in 2012, recording 1,184 sales of 737NG and 737 MAX aircraft. The company sold seven 747s, and 23 767s. **Boeing** booked an astounding 75 new commitments for the 777 and 50 new 787 sales, for a gross total of 1,338 orders booked in 2012. As of December 31, **Boeing** lost a total of 136 previously ordered aircraft, including 60 737s, six 747s, one 767, seven 777s and 62 787s. The 787 sales total actually fell by 12 during the year, ending 2012 with a program total of 848. **Boeing's** gross orders of 1,338 beat the previous high of 1,214 sales in 2007, while the net orders after cancellation of 1,203 were a close second to **Boeing's** best year. The manufacturer delivered 415 737 NGs, 31 747-8s, 26 767s, 83 777s and 46 787s for a total of 601. The 737 and 787 deliveries broke records and the 83 777 deliveries were just five short of the record established in 2009. The manufacturer increased its deliveries by 26 percent over the previous year. **Boeing** (plus **McDonnell Douglas**) constructed an all-time high of 620 jet airliners in 1999. **Boeing's** unfilled commercial airplane orders stood at 4,373, the most in company history.

Boeing December 2012 Orders, Deliveries					
DEC ORD	DEC DEL	DEC CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			737		
121	39	-25	10,499	7,425	3,074
			747		
-0-	4	-1	1,525	1,458	67
			767		
4	2	-0-	1,108	1,040	68
			777		
52	8	-1	1,431	1,066	365
			787		
6	11	-2	848	49	799
This Month			This Year		BL
183	64	-29	1,052	601	4,373
Boeing sold 22,941 aircraft and delivered 18,568 as of December 31, 2012.					
The Current Program includes sales and deliveries of 737s, 747s, 767s, 777s and 787s.					
Sales totals are net, minus 136 cancellations.					

Turkish Airlines (THY) bought 15 777-300ERs in December, worth \$4.7 billion (\$313.3 million each) at list prices. Deliveries will begin in 2014, and the deal included options for five additional 777-300ERs. Aircraft valuation firm **Avitas** said the order was really worth about \$2.5 billion (\$166.67 million each) after standard market discounts were taken into account.

FedEx Express ordered for four more 767-300F Freighters, worth \$742 million (\$185.5 million each) at **Boeing's** current list prices. **Avitas** said the negotiated purchase price was about \$320 million (\$80 million each). The new 767Fs will replace the aging MD-10F freighters in the **FedEx** fleet. The 767 Freighter can carry approximately 58 tons of revenue cargo on intercontinental routes. **FedEx** has firm orders for 46 767Fs, and has yet to take delivery of any of them. The airline ordered its first 27 767Fs in December 2011. The airline now dominates **Boeing's** 767 backlog of 68 and the 46 freighters will keep the production line busy until **Boeing** starts delivering 767 tanker to the **United States Air Force** in 2015. The airline said it deferred delivery of two more 777F freighters due to very slow improvement in global cargo demand; the two 777 deliveries were pushed out one year from 2015 to 2016. In December

January 2013

Page 9 of 29

2011, **FedEx** deferred delivery of 11 777 freighters, and in June it converted four 777F orders into 15 767F orders which were of equal value. The airline had taken delivery of 23 of the 777 freighters to date. **Boeing** showed that **FedEx** has firm orders for nine more 777Fs, but the airline's annual report showed it still had outstanding commitments for another 24 Boeing 777s. Nine of the 777 orders were contingent on the **Federal Government** keeping **FedEx** under the work rules of the 1926 **Railway Labor Act** rather than the **National Labor Relations Act** of 1935. The current regulations make it more difficult for **FedEx**' employees to join a union.

China Airlines officially ordered six extended range 777-300ERs worth approximately \$2 billion (\$333.3 million) at list prices in December. **Avitas** said the order was really valued at approximately \$1 billion (\$166.67 million each) after standard discounts. The order included purchase rights for another four 777-300ERs. These will be the first 777s to join **China's** fleet. Taiwan's flag carrier will also lease four 777-300ERs from **GECAS** in 2014. The airline has two A330-300s and six 737-800s on order. The airline recently ordered 14 A350-900s and optioned six, all for delivery after 2016. Some of the A350s can be delivered as the -1000 model. **China Airlines** operates 13 747-400s, 10 737-800s, 18 747-400Fs, 21 A330s, and six A340s. The new 777s will replace aging 747-400s on trans-Pacific flights between North America and Asia.

Icelandair announced its commitment to buy eight 737 MAX 8s and four MAX 9s in December. The planes were valued at more than \$1.2 billion at list prices and the airline reserved purchase rights on another dozen 737s. **Icelandair** will take delivery of its first new jets in the first half of 2018. Its MAX 8s will seat 153 passengers and the MAX 9s will be configured with 172 seats. The airline reported that the planes will be purchased for less than the \$100 million list price and may be financed by the U.S. **Ex-Im Bank**. The 737 MAX aircraft will complement the flag carrier's existing 757 fleet, and its range will allow the airline to open new routes between North America and Europe. Over the past two decades, **Icelandair** has operated an all-**Boeing** fleet of 23 757s from its Reykjavik hub. The airline offers low-cost passenger and cargo services to 25 cities in Europe and North America. The 757s "perfectly" suit the carrier's transatlantic operations through Reykjavik, **Icelandair** said, but it must decide whether to operate its 183-seat 757s beyond 2020. The **Icelandair Cargo** division flies four 757 freighters. The long-range 737 MAX will offer significant fuel savings over the aging 757s.

Aeromexico finalized an order for six 787-9 Dreamliners in late December, and reconfirmed its purchase rights for another four 787s. The order was first announced at the **Farnborough International Airshow** in July when the airline committed to buy 100 **Boeing** airplanes. The 787s are valued at more than \$1.46 billion (\$243.3 million each) at published list prices. By year's end, **Aeromexico** had ordered 19 787s; the first one is due in mid-2013.

The Republic of Iraq officially ordered one 777-200LR in December. The 777 was originally allocated to **Air Austral** and it was delivered the day the order was announced. The 777 will be used on long-haul routes by **Iraqi Airways**. At the delivery ceremony, the country's aviation minister announced that Iraq ordered 30 Next-Generation 737-800s and 10 787-8 Dreamliners. The contract for the 737-800s was signed in April 2008 and the 787-8s were purchased in December 2009. Both orders were listed as undisclosed. The airline optioned 10 737s and five 787s as well. The 737s were valued at \$2.2 billion (\$73.33 million each) in 2008. The first 737-800s are scheduled for delivery in mid-2013 and the 787s are due in 2019.

January 2013

Page 10 of 29

The U.S. Navy ordered its 13th and 14th C-40A Clipper transport aircraft, valued at \$145 million (\$72.5 million each), in late December. **Boeing** said the two additional C-40As will increase the service's ability to move military personnel and cargo around the world. The C-40A is a modified Next-Generation 737-700C combi aircraft. They were purchased as part of the **Navy's Unique Fleet Essential Airlift Replacement Aircraft Program** and replaced the **Navy Reserve's** aging fleet of DC-9-based C-9B Skytrains. The C-40A is certified to operate in an all-passenger, all-cargo variant, or in combi configuration, which accommodates both cargo and passengers on the main deck. **Boeing** delivered the first C-40A to the **Navy Reserve** in 2001.

Aviation Capital Group (ACG) finalized its order for 50 737 MAX 8s and 10 737 MAX 9s in late December. The order was worth \$6 billion (\$100 million each) at current list prices. **ACG** was founded in 1989 and currently has 240 jets in its portfolio. It ordered 98 single-aisle Airbuses and took delivery of 30. It now has committed for 76 737 NG and 60 737 MAX aircraft, as well as five 787-8s. The lessor has taken delivery of 41 of the 737 NGs to date. **ACG** reported that it had been consistently profitable for the last 20 years and was a wholly owned subsidiary of the **Pacific Life Insurance Company**. **Boeing** sold 914 737 MAX aircraft in 2012, bringing total MAX orders to 1,064, by the end of 2012.

Boeing Delivered Six 787s in One Day. The Everett assembly plant delivered one 787-8 to each of the following: **All Nippon Airways, Japan Airlines, LOT Polish Airlines, Qatar Airways** and **United Airlines**. The North Charleston, S.C. factory delivered one 787 to **Air India** on December 20.

Boeing Increased the 777's Production Rate to 100 per year in October. It rolled out the first 777 off the speeded up production line in January. It was a 777F freighter that will be delivered to **Korean Air** in February. Planning for the increased rate was started almost a year ago and the first airplane parts entered the **Everett** factory in October. **Scott Fancher**, vice president and general manager of 777

787 Deliveries to China Stalled. At least three 787s built for **China Southern Airlines** and **Hainan Airlines** were ready for delivery in November, but were placed in storage. The press reported that the **Civil Aviation Administration of China (CAAC)** was waiting until March to issue Chinese certification for the aircraft. All aircraft must be given a certificate of airworthiness by the **CAAC** before it can fly in China. **Boeing** spokesman **Kevin Yoo** would only say that **Boeing** continues to work closely with our Chinese customers to finalize the delivery and [to] ensure successful EIS (entry into service) of the 787 with our customers in China. **Daniel Tsang** of **Aspire Aviation** in Hong Kong, thought Chinese authorities were using certification as a bargaining chip, perhaps to secure delivery slots for narrowbody airplanes. A less **Machiavellian** explanation was that China was asserting its rights to independently certify the airworthiness of western-built aircraft and engines. The **CAAC** said, "The approval process for the certification for the **Boeing** 787 aircraft is still in progress. The timing of the issue of the certificate will very much depend on the degree of cooperation of **Boeing** and the U.S. **Federal Aviation Administration (FAA)**. Currently the process is progressing smoothly." The recently reported glitches in the 787 may also have influenced the **CAAC's** delays. The **FAA** and **European Aviation Safety Agency (EASA)** have already certified the **Boeing** 787. **China Southern** and **Hainan** each have 10 787-8s on order and **Air China** purchased 15 787s. **Xiamen Airlines** committed to buy six 787s, but was waiting for government approval. The order has not been confirmed by **Boeing**. **Hainan** expected to receive five 787s in 2012 and **China Southern** was to accept its first one in September.

January 2013

Page 11 of 29

Program and Airplane Development, reported, "As we built the first airplane at the new rate, we saw some of the best production metrics ever. Our factory is running smoothly and we've reduced the time it takes to build a 777 by one day - from 49 to 48 days." The **Everett** factory boosted the 777 production rate twice in the past 31 months, going from five to seven per month in 2011 and to 8.3 per month in October 2012. **Boeing** delivered 1,066 777s as of January 1, 2013 and sold 1,431 to 66 customers around the globe.

Regional Report

Bombardier Aerospace delivered 233 aircraft during 2012, compared to 245 aircraft delivered the previous 11-month fiscal year, ending December 31, 2011. The Company sold 481 new aircraft in 2012, nearly twice the 249 sales in fiscal 2011 (net of cancellations). **Bombardier's** sales increases were driven by several large volume orders for both business and commercial aircraft, including those placed by **Delta Air Lines, Garuda Indonesia, NetJets, Nordic Aviation Capital, VistaJet** and **WestJet**. The delivery total was in line with the forecast of 235 business and commercial aircraft deliveries made in March 2012. The business jet unit sold 343 aircraft and delivered 179. In the previous year, they sold 191 and delivered 163 airplanes. The commercial airplane department delivered 50 new jets and turboprops and sold an additional 138. In 2011, 76 airliners were delivered and 54 were ordered. **Bombardier** delivered four CL415 fire-fighting, amphibious aircraft in each of the past two years. The manufacturer handed over only 14 CRJ regional jets and 36 Dash 8 turboprops in 2012. This was down from the previous year's production of 33 regional jets and 45 Dash 8s. The drop in commercial aircraft production was countered by a 16 unit increase in bizjet deliveries from 163 in 2011. The company sold 73 regional jets, 50 Dash 8Q-400s and 15 C-Series trunkliners in 2012 - up from only four CRJs and seven Dash 8s and down from 43 C-Series sales in 2011. **Bombardier** sold no CL415s last year, down from the four ordered in 2011. President and Chief Operating Officer, **Guy C. Hachey**, said, "A number of our existing customers reaffirmed their confidence in **Bombardier** aircraft

Sky Aviation's First Sukhoi Superjet 100 SSJ-95B (SN 95022) was delivered in January, a month later than scheduled. The plane will enter service by the end of the month. **Sky Aviation** was established in 2010, and it operates scheduled and charter flights in Indonesia. It ordered the dozen SSJ100s at the **Paris Air Show** in 2011, and scheduled them for delivery from late 2012 through 2015.

SuperJet International, the joint venture between **Alenia Aermacchi** (a **Finmeccanica Company**) and **Sukhoi Holding**, announced that **Sky Aviation** signed a "SuperCare" Agreement to cover its SSJ100s. The "SuperCare" agreement is a comprehensive "per-flight-hour" program developed by **SJI** with the aim of maximizing aircraft availability to operators and optimizing their maintenance and associated administrative costs, it said. The contract term is 10 years and is worth up to \$57 million. **Sky Aviation** was the Southeast Asian launch customer for the SSJ100 and the **SuperCare** after-sales support program.

The Painting of Lao Central Airline's First Sukhoi Superjet 100 was completed in **Sukhoi's** Ulyanovsk facility in Russia. The aircraft (SN 95026) will be delivered to **Lao Central** shortly. The Laotian carrier was the second Southeast Asian customer for the SSJ100 after it ordered three of the type and optioned six more. The SSJ100s will seat 93 passengers in two-class configuration. They will be operated to domestic destinations and to Bangkok, Hanoi, Ho Chi Minh, and Singapore from the airline's base in Vientiane, Laos People's Democratic Republic. **Lao Central** was founded in 2010 and is a subsidiary of the **Phongsavanh** group. The airline also operates two 737-400s and is the country's second largest airline, after **Lao Airlines**.

January 2013

Page 12 of 29

in 2012 with fleet growth and fleet replenishment orders, and we proudly welcomed new customers from emerging and traditional markets. We are the market leaders in business aircraft, and the restructuring of our commercial aircraft sales organization is yielding results. Overall, we are seeing positive momentum across our entire product portfolio.

Bombardier Aerospace sold 40 CRJ900 NextGen jetliners to **Delta Air Lines** in December. The order included 30 CRJ900 options and was worth \$1.85 billion (\$46.25 million each) at list price. The options were valued at \$1.44 billion (\$48 million each) at list price. The CRJs will be operated by **Delta Connection**, and the first will be delivered in the second half of 2013. **Delta Connection** will retire its fleet of CRJ200s; **Bombardier** will help the airline to sell its 50-seaters. **Bombardier** had booked 314 CRJ900 and CRJ900 NextGen orders by the end of the year.

First Special Mission CRJ700 Aircraft. An undisclosed Chinese customer purchased seven CRJ700 NextGen aircraft in early December. The airplanes and ancillary services are valued at approximately \$330 million (\$47.15 million each), based on the aircraft's list price. **Michel Bourgeois**, President of **Bombardier's Specialized and Amphibious Aircraft** unit, said, "This latest order is a great step in establishing the CRJ700 NextGen aircraft as an excellent special mission aircraft."

An Unnamed Airline based in the Americas signed a letter of intent to buy 12 CSeries medium-haul jets in December. The customer optioned another 18 of the 110- to 149-seat aircraft. A firm contract will be worth \$870 million (\$72.5 million each) at list prices, or up to \$2.08 billion if the 18 options are exercised. **Bombardier** has sold 148 CSeries airplanes since the aircraft's launch. The first CSeries will enter service in a year and a half. The Canadian transportation conglomerate stated the airline wished to remain anonymous for the moment. Analysts think the carrier is based in South America since no North American airline indicated that it was ready to buy the CSeries. The recent commitment is the first new sale announced in six months. The order was followed by the announcement that **airBaltic** firmed up the letter of intent that it signed at the **Farnborough Airshow** in July, 2012. **AirBaltic** ordered 10 149-seat CS300s worth \$764 million (\$76.4 million each) at list prices in December. It took purchase rights for another 10 CS300s valued at \$806 million (\$80.6 million each). The first CSeries aircraft will fly in 2013.

Embraer Reports Year End Totals. On December 31, 2012, the firm order backlog totaled \$12.5 billion. This backlog total included a **Aldus Aviation's** order for five E175s and 15 E190s which were attributed to an undisclosed client, and other **Embraer Defense & Security** contracts.

Fuji Dream Airlines (FDA), Japan, ordered two more EMBRAER 175s (E175s) in December. The two 84-seat planes were valued at \$81.6 million (\$40.8 million) at list price, and will join six more in **Fuji Dream's** fleet.

Aldus Aviation, an Irish aircraft leasing company, ordered five EMBRAER 175s (E175s) and 15 EMBRAER 190s (E190s) and took purchase rights for an additional 15 E-Jets. The deal will be worth \$1.56 billion (\$44.57 million each) if all the purchase rights are exercised. The firm orders were included in **Embraer's** 2012 fourth quarter backlog, where it was listed as an "undisclosed" customer. The delivery schedule for the new jets was not announced. The leasing company established a strong relationship with **Embraer** over the past 13 years, and has a niche business that is focused exclusively

January 2013

Page 13 of 29

on **Embraer** E-Jet operating leases. **Aldus Aviation** also offers independent advisory services regarding strategic, commercial, operational and equipment issues. It owned 21 Embraer 170/190/195 aircraft which were deployed in Europe, Middle East, Australasia, and Central and South America. **Aldus** acquired its first **Embraer** aircraft in 2008.

ATR Delivered a Record 64 Aircraft, worth \$1.44 billion in 2012. Deliveries were 18 percent higher than in 2011. Eleven customers purchased three ATR 42-600s, 71 ATR 72-600s and optioned another 41 aircraft. Since **ATR** was founded in 1981, the company has received net orders for 437 ATR 42s and 817 ATR 72s. By the end of 2012, ATR delivered 422 ATR 42 and 611 ATR 72 aircraft. The backlog stood at 221 aircraft, worth more than \$5 billion. This represents nearly three years of production for **ATR**.

AviancaTaca placed a \$700 million order for 15 ATR 72-600s, in December. The Latin American aviation group optioned another 15 aircraft worth (\$23.33 million each at list price). The first ATR 72 will be delivered in June 2013. The planes will enter service with **TACA Airlines** and serve its route network in Central America. The 70-seat ATR 72-600s will replace the Fokker 50s and ATR 42s in **TACA's** fleet.

Avation PLC, Singapore, ordered seven more ATR 72-600s valued at more than \$160 million (\$22.858 million each) at list price. **Avation** has now purchased 20 ATR 72s since placing its first order in early 2011. Its first seven aircraft have been leased to **SkyWest Airlines** and operated for **Virgin Australia**.

Malaysia Airlines (MAS) ordered 36 ATR 72-600s in December, worth \$981 million (\$28.03 million each at list price). The first of the new ATRs are expected to arrive in late 2013. Twenty of the turboprops will be delivered to **Firefly** and 16 will be operated by **MAS Wings**. ATR listed the contract as 20 firm orders and 16 options for ATR 72-600s in its 2012 summary.

Leeward Islands Air Transport Services (LIAT), Antigua, signed an agreement for three ATR 42-600s, and optioned two ATR 72-600s, worth approximately \$100 million (\$20 million each). ATR said the delivery of the first 42-600 was scheduled for June 2013. **Air Lease Corporation (ALC)** will long-term lease two new ATR 72-600s to **LIAT**. The aircraft will be delivered in June and August 2013. Antigua-based **LIAT** is owned by 11 Eastern Caribbean governments, and is the major scheduled airline in the area.

Embraer December 31, 2012 Orders & Deliveries

Type	Total Orders	Total Options	Total Deliveries	Current Backlog
E170	193	29	183	10
E175	198	266	163	35
E190	560	265	451	109
E195	142	20	111	31
Total	1,093	580	908	185

Type	4th Quarter Deliveries	2012 Deliveries
Light Exec Jets	37	77
Large Exec Jets	16	22
Embraer 170	1	1
Embraer 175	3	20
Embraer 190	10	62
Embraer 195	9	23
Total	76	205

Embraer delivered 106 commercial jets and 99 executive jets in 2012.

Qantas Airways, Australia's largest domestic and international airline, ordered three Dash 8Q-400 NextGen turboprop airliners. Based on the list price, the contract was valued at approximately \$98 million. The airline currently operates 31 Q400s, as well as two Dash 8-200, three Q200 and 16 Q300 aircraft. The aircraft will be used on **Qantas'** extensive domestic network. The Q400 aircraft has been vital to the airline's rapid expansion in regional Australia over the past five years.

Engine News

Embraer SA and Pratt & Whitney announced that the **PurePower® Geared Turbofan** engines will power **Embraer's** second generation of E-Jet. The manufacturer expected to officially launch the program later this year and the first of the new jets will enter service in 2018. The PW1700G Geared Turbofan engine will be installed on the 76-seat E-175 and the PW1900G will be fitted on the 90 to 120-seat E-190/E-195 family. The new engines range in thrust from 15,000 to 22,000 pounds. The Geared Turbofan engines combined with new aerodynamically advanced wings, state-of-the-art full fly-by-wire flight controls, and other systems improvements, should cause double-digit improvements in fuel burn, maintenance costs, emissions and external noise, **Embraer** said. **Embraer's** President and CEO **Frederico Fleury Curado** said, "The PurePower GTF engines are a great fit to the next generation of our E-Jets and we look forward to another long lasting and successful program with **Pratt & Whitney**." The first GTF engines will be delivered to the Brazilian airframer in late 2015. **Embraer** said the company was committed to invest in improvements to its E-Jet in order to offer the best product and to maintain its leadership in the 70 to 120-seat market. To date, it has delivered more than 900 E-Jets to 63 customers. The current line of E-Jets was designed in the late 1990s and entered service in 2002. Rival manufacturers such as **Bombardier** and **Mitsubishi** are working on Geared Turbofan powered airliners that will be in the same niche as the E-Jet family. Their jets will enter service in 2014 and 2015 respectively. In spite of the popularity of its current E-Jets, **Embraer** will have to play catch up with the rivals' more advanced products.

SkyWest Airlines signed its \$4.2 billion order for 100 **Mitsubishi Aircraft Corporation** MRJ90s, and placed options for up to 100 additional jets, worth another \$4.2 billion (\$42 million each at list prices). **Mitsubishi** intended to deliver the first new jets to **SkyWest** in 2017, while the first optioned aircraft will be handed over in 2021. MRJ90 regional jets will be powered by the **Pratt & Whitney** PW1200G geared turbofan engines. To date, the manufacturer sold 165 MRJ90s and booked options for another 160. So far, they have not sold any of the smaller MRJ70s. **ANI Group Holdings** signed a memorandum of understanding for five unspecified **Mitsubishi Regional Jets**. The first MRJs will be delivered to launch customers **All Nippon Airways** and **Trans States Airlines** in 2015.

Embraer's choice of the Geared Turbofan means that **General Electric** will have lots of catching up to do as well. All the newest generation of jets in the under-120 seat class will be powered by the **Pratt & Whitney** Geared Turbofan. **GE** dominated the current generation of regional jets with the CF34 engine that was first developed in the 1960s. The CF34 powers the current E-Jet family, the **Bombardier** CRJ family, and the **COMAC** ARJ21, which is still under development. The **Sukhoi** Superjet 100 is the only stand out because it is propelled by Russian/French **Powerjet** SaM146. **GE** is developing its next-generation regional jet engine, the **eCore**-derived NG34 powerplant. It could be ready for service by 2016 at the earliest. The **eCore** has a 10-stage High Pressure Compressor with a 22:1 pressure ratio, a composite fan case, and wide chord fan technology based on the GENx and **CFM** LEAP-X engines. **GE** said the NG34 would be similar to its very popular **LEAP-X** engines which are OEM on the **COMAC** C919 and 737 MAX and are an option on the **Airbus** A320neo Family. The next-generation E-Jet

family may have been **GE's** last shot at getting the NG34 on the newest batch of 70 to 120 seat regional jets. The engine manufacture may have missed by a wide mark. There is some compensation in that **GE** dominates the much larger 120-200 seater market.

Order Changes and Cancellations

Airbus Order Shuffle. In December, **TAM** exchanged four A319 orders for three A320s and one A321 order. **CALC**, China, picked up its first A319 and cancelled one of its 28 A320s. **TACA** dropped one A319 and ordered its 45th A320. **Virgin American** cancelled 20 A320s in December. The number of undisclosed A319 orders rose by 12, while the undisclosed A320 orders fell from 100 to 16. Thirty-two A321 orders were attributed to undisclosed customers. In November, **AirAsia X** cancelled its last A330-300 order and the airplane (SN 1339) was picked up by **Iraqi Airways**.

Lufthansa has formally cancelled one of its 20 747-8I orders in December. The airline intended to take delivery of one of **Boeing's** test aircraft 747-830 (SN 37826), in late 2012, but the manufacturer asked to retain the airplane for internal purposes for two more years. The 747 was painted in **Lufthansa's** basic color scheme and outfitted with the airline's interior. **Boeing** used it to test cabin systems such as air conditioning, galley and lighting equipment. The plane flew to **Lufthansa's** base in Frankfurt in December 2011 for promotional filming work and ground operational tests. This summer the airline said it would take only four 747s in 2012, so the cancellation was not a surprise. **Lufthansa** said it cancelled its order for SN 37826 "purely due to reasons of flexibility" and that it might order a "factory-new" 747-8I later. The airline's next 15 747-8Is will be delivered at a rate of five per year through 2015.

Boeing's Order Cancellations and Changes. In December, **Boeing** announced the cancellation of three 737-900ERs orders by **Blue Air**, Romania. **Aviation Capital Group** dropped one -800 and 19 737-700 commitments. The lessor purchased 60 737 MAX aircraft in their place. **Air Europa** cancelled orders for three 737-800s. **Air Austral** dropped one of its two 777-200LR orders. It was picked up by the **Republic of Iraq** and delivered to **Iraqi Airways**. **Boeing** lost one 787-8 order each from two unidentified customers. **WestJet** switched one 737-700 order for another -800. **Lion Air** exchanged seven 737-900ER commitments for seven -800s.

787 Order Changes. **Vietnam Air Leasing Company (VALC)** transferred its eight 787-9 orders to **Air Lease Corporation (ALC)**. **VALC** ordered the planes in December 2007, for lease to **Vietnam Airlines**. **ALC** will lease the planes to the flag carrier in 2017 and 2018. **ALC** reported the deal in April 2012. **LCAL's** five 787-8 orders are now attributed to an undisclosed customer in **Boeing's** database, and **LCAL** is no longer listed. The planes were to be leased to **Royal Brunei Airlines** with the first to be delivered in September 2013. The status of the order and the lease are not known. **Boeing** attributed one 787-9 order by a previously-unidentified customer to **Virgin Atlantic Airways**. The airline now has 16 787-9s on order. It ordered 15 787-9s in April 2007, optioned eight 787s and took purchase rights on 20 more. The 16th 787 was ordered in December 2009.

Leasing Companies

Vueling Airlines Leases New A320s. **Vueling** agreed to lease four new A320-200s from **BOC Aviation**. The V2522-A5 engine aircraft are scheduled to be delivered in the first half of 2013. **Vueling** will lease two A320-200s from **AWAS** as well. These aircraft will come from **AWAS**' existing backlog with **Airbus** in the first half of 2013. The airline operates two A319s and 53 A320s and was a new customer for **AWAS**. **Vueling** has been Spain's second largest airline and operates out of thirteen bases in Europe. It will use the new planes to expand its services from its main base at **Barcelona El Prat Airport**. **Vueling** intended to expand its services from Barcelona to more than 100 destinations in Europe, Northern Africa and the Middle East this year. **BOC** leased its first aircraft to **Vueling** in 2007 and said it was glad to support the Spanish carrier's growth plan. **BOC Aviation** has been Asia's leading aircraft leasing company with 203 owned and managed aircraft in its portfolio. It has another 50 aircraft on firm order.

Onex Corporation, Toronto, Canada, will acquire a 50 percent interest in **BBAM** for \$165 million. The sale is expected to close by the end of 2012 and was subject to certain conditions and approvals. **Onex** will acquire 35 percent interest in the world's third largest manager of commercial jet aircraft from **BBAM**'s management team and the other 15 percent from **FLY Leasing Limited**. **FLY** has been a global lessor of 110 commercial jet aircraft and has been managed by **BBAM**. It has aircraft on long-term operating leases to 53 airlines in 29 countries. **Onex** and **BBAM**'s management will invest \$25 million in newly issued shares of **FLY** at \$11.41 per share. **FLY** will receive nearly \$75 million in pre-tax gross proceeds from the sale of its interest in **BBAM** and the

Air Lease Corporation will lease two new **Boeing 777-300ERs** to **British Airways** for 10-year terms. The two widebodies will be delivered to the airline in May and July 2014. **ALC** ordered the 777s in 2011 as part of a larger contract for 24 737-800s, five 777-300ERs and four 787-9s.

GE Capital Aviation Services (GECAS) will lease two new **Boeing 737-800s** to a new customer, **Transavia France**. The aircraft were scheduled for early 2013 delivery and will expand the airline's fleet.

Avolon, a Dublin-based international aircraft leasing company, announced its agreement with **Wells Fargo & Company**, a leading diversified financial services company, to form a new joint-venture aircraft leasing business called **Avolon Capital Partners Limited (ACP)**. The formation of **ACP** was subject to a number of regulatory approvals. **Avolon** was founded in 2010 and has raised \$3.7 billion of debt capital from numerous financial institutions, including **Wells Fargo**. **Avolon Capital Partners** will build its aircraft fleet primarily through sale and leaseback transactions of new single aisle and twin-aisle aircraft. **ACP** will be based in Dublin and have an initial portfolio worth \$500 million. **Wells Fargo** will be the majority shareholder and provide banking and debt financing facilities for the business.

Avolon announced that its fleet grew to 167 aircraft as of December 31, 2012. By the end of the year, it increased its total capital to more than \$5.1 billion. It raised \$300 million of new equity from the **Government of Singapore Investment Corporation** and an additional \$1.3 billion of new debt finance. The lessor placed 40 aircraft valued at more than \$2 billion and ordered 20 Airbus 320neo and

January 2013

Page 17 of 29

20 Boeing 737MAX aircraft. **Avolon** has a customer base of 34 airlines and borrows from 24 financial institutions.

Copa Airlines contracted to sell and leaseback four new **Boeing 737-800s** with **MC Aviation Partners (MCAP)**, the aircraft leasing subsidiary of **Mitsubishi Corporation**. The airplanes were ordered by **Copa**, and are scheduled for delivery in March, April, August and October of 2013. The lease-terms are for 90 months.

Airline News

International Air Transport Association (IATA) released its November 2012 numbers which showed an improvement in both passenger and air freight traffic. Air travel was 4.6 percent higher than in November 2011. Air freight volumes rose 1.6 percent above the same period after declining by 2.6 percent in October from the previous October. Passenger capacity did not keep pace with traffic rising by 3.2 percent, which improved load factor by 1 point to 77.3 percent, when compared to November 2011. **IATA** cautioned that air cargo markets may not have reached a turning point in terms of regaining lost ground, but the economic growth in the U.S. and stability in the E.U. may favor a return to growth in 2013. Air travel was just 2 percent better than at the start of 2012, and this was weaker than the long-term average growth rate.

IATA Posts January Jet Fuel Prices. The association updates the world's average jet fuel price each week. On January 5 the average price of fuel was \$3.049 per gallon. The fuel price was \$3.055 per gallon on December 28. The January price was 0.2 percent less than a week before and was 1.3 percent higher than it was in early December. It was 1.0 percent less than in January 2012. **IATA** forecast that the global airline industry's fuel bill would total \$129.6 billion in 2013 (at \$110.0/barrel of oil). This

International Air Transport Association November International Traffic Growth.

Nov 2012 vs. Nov 2011	RPK Growth	ASK Growth	Pax Load Factor	FTK Growth	AFTK Growth
Africa	5.0%	4.4%	67.7%	2.2%	3.6%
Asia/Pacific	6.2%	2.5%	75.7%	-2.2%	-3.1%
Europe	4.0%	0.8%	77.8%	0.0%	0.5%
Latin America	11.0%	9.8%	76.3%	4.0%	7.9%
Middle East	10.5%	11.2%	73.5%	16.1%	6.4%
North America	2.6%	0.4%	79.6%	2.0%	0.0%
Industry	5.6%	3.1%	76.3%	1.4%	0.1%

Year to Date 2012 vs. 2011	RPK Growth	ASK Growth	Load Factor	FTK Growth	AFTK Growth
Africa	7.6%	7.4%	67.0%	4.8%	9.5%
Asia/Pacific	4.9%	2.8%	77.5%	-6.4%	-2.9%
Europe	5.5%	3.4%	80.7%	-3.2%	0.7%
Latin America	8.8%	7.6%	78.3%	-1.3%	6.4%
Middle East	15.5%	12.5%	77.4%	14.5%	11.7%
North America	1.3%	-0.3%	82.1%	-1.1%	-0.7%
Industry	4.1%	4.1%	79.0%	-2.1%	1.0%

RPK: Revenue Passenger Kilometers measures actual passenger traffic

ASK: Available Seat Kilometers measures available passenger capacity

PLF: Passenger Load Factor is the percent of **ASKs** used. In comparison of 2009 to 2008, **PLF** indicates point differential between the periods compared

FTK: Freight Tonne Kilometers measures actual freight traffic

AFTK: Available Freight Tonne Kilometers measures available total freight capacity

January 2013

Page 18 of 29

was an increase of \$32 billion over 2011. Fuel cost only 87 cents per gallon in 2000.

Air Canada will launch its new leisure airline, **Air Canada rouge** on July 1. The carrier will compete in Canada's growing leisure travel sector against other vacation-oriented airlines such as **Transat**, **Sunwing** and **WestJet**. The airline will start with two 767s and two A319s transferred from **Air Canada's** main line fleet. The planes will fly to holiday destinations in Europe and the Caribbean. **Rouge** intends to grow its fleet to 50 planes, including **Air Canada's** new 787 Dreamliners which begin to arrive in 2014. The airline will fly to several new (for **Air Canada**) destinations from Toronto, including Venice and Edinburgh, as well as Athens, Cuba, the Dominican Republic, Jamaica and Costa Rica. The airline plans to add more Canadian cities and more international destinations, including Asia as the fleet grows. **Rouge** will be able to offer low fares because it will pay lower wages than at its parent company. It will also squeeze 20 percent more seats into its airplanes.

Etihad Airways Talking to Jet Airways about buying a stake in the Indian carrier. **Jet** confirmed a potential deal where the Gulf carrier may pay up to \$330 million for a 24 percent share. **Etihad** declined to comment. **Etihad** and **Jet** have a code-sharing agreement, and a closer relationship would strengthen **Etihad's** competition with **Emirates Airline**, which carries much of the traffic between India and the Middle East. A decision to buy into **Jet** may be announced in January. **Jet** founder **Naresh Goyal** owns **Tail Winds Ltd**, an investment vehicle based on the Isle of Man, which currently holds 79.99 percent of **Jet Airways**. Some of those shares would be transferred to Mr. **Goyal** to comply with India's foreign investment regulations. **Jet** reported to the **Bombay Stock Exchange** that "Various structures are being explored by the legal and commercial teams."

Delta Air Lines to Buy Almost Half of Virgin Atlantic Airways. In December, the U.S. carrier agreed to acquire the 49 percent stake in **Virgin Atlantic** currently held by **Singapore Airlines**. The **Virgin Group** will retain its 51 percent share of the airline. **Delta** intends to close the purchase by the end of 2013. The transaction must be approved by European and American regulatory authorities. **Delta** CEO **Richard Anderson** said, "Our new partnership with **Virgin Atlantic** will strengthen both airlines and provide a more effective competitor between North America and the U.K., particularly on the New York-London route, which is the largest airline route between the U.S. and Europe." The two airlines' new joint venture will allow them to share costs and revenues from all joint venture flights. **Delta** may be getting a bargain because it will pay \$360 million for the **Virgin** shares which **Singapore** bought for \$965 million in 1999. The money buys into **Virgin's** London Heathrow slots, but traffic on transatlantic routes has been flat for 10 years. The partnership would boost **Delta** and **Virgin** to the number two spot in the lucrative New York-London market, after **American Airlines (AA)** and **British Airways (BA)**. **BA** and **AA** currently offer 416 flights, while **Delta** and **Virgin** can offer 271 flights on the London and New York area routes. **Delta/Virgin** will provide more than a quarter of the capacity on the route. **United Airlines** offers 127 flights between Newark and Heathrow. Without **Virgin**, **Delta** would remain in fourth place. Mr. **Anderson** said both airlines expect to receive anti-trust immunity because a **Delta-Virgin** partnership would have a smaller market share than **American** and **BA**. Further, **Delta's** **Skyteam** partners **Air France-KLM** and **Alitalia** are very supportive of the deal, and that it would be good for them as well. **Virgin Atlantic** may consider membership in **SkyTeam** over the next few months. **Delta** and **Virgin** would start codeshare and frequent flier partnerships before the share purchase deal closes.

AirAsia Plans to Launch a New Indian Airline in order to break into one of Asia's biggest aviation markets. This was in spite of the fact that only one Indian airline was profitable and the industry was over burdened by bureaucratic obstacles. The new airline would be founded with the help of an Indian business group which would own 51 percent. **AirAsia's** would probably cause the current Indian airlines to consolidate or force them into the arms of foreign airlines in the Gulf region.

Bankruptcy of the Month

Pinnacle Airlines will become a subsidiary of **Delta Air Lines** when it emerges from bankruptcy, pending court approval. It will continue to fly under its own operating certificate. The airline's unsecured creditor's committee, **Delta** and its pilot group, agreed to a re-organization plan that allows **Delta** to acquire the equity in **Pinnacle**, the regional airline said. The court should rule on **Pinnacle's** plan by May 15, when all of **Pinnacle's** new common stock will be issued to **Delta**. The Atlanta-based carrier served as the regional's debtor-in-possession lender throughout the bankruptcy process. **Delta** issued \$74.3 million in financing, and will be repaid with the common stock. **Delta** will provide up to \$30 million of additional funding to **Pinnacle** at the emergence from Chapter 11. It will loan another \$22 million to comply with the terms of a new collective bargaining contract with the **Air Line Pilots Association**. **Pinnacle** plans to sell its 13 owned CRJ900s and will continue to lease 41 CRJ900s from **Delta** as part of its capacity purchase agreements with **Delta Connection**. The regional will also lease 40 newly-ordered CRJ900s when they are delivered to **Delta**. **Pinnacle** will retire its 140 CRJ200s over the next two to three years, starting in June 2013.

Poland Supports LOT Polish Airlines. The **Treasury Ministry** loaned 400 million zlotys (\$130 million) to the flag carrier on December 20, 2012. The loan kept the state-owned airline afloat after years of losses and growing debt. **LOT** lost 1.1 billion zlotys (\$357.5 million) between 2008 and 2011 and up to 220 million zlotys in 2012. The airline would have to pay back the loan shortly if the **European Commission** did not approve the state aid. The Polish airline was slow to react to cut-throat competition from low-cost competitors such as **Ryanair** and **easyJet**. It also suffered from high fuel prices and lower demand due to Europe's recession. **LOT** said it would use the loan to pay its most pressing bills and maintain services through the winter season, hoping that traffic picks up in the spring. The airline was working on a rescue plan that would be presented by the end of March. The carrier would have to dismiss one third of its 1,800 employees and slash a third of its flights. **LOT** took delivery of its first two 787 Dreamliners in November and December. It was banking that being the first European carrier to fly the 787 would help boost its flagging fortunes. The airline planned a big party in Chicago to launch the 787 non-stop services to Warsaw but this was quashed when the **FAA** grounded the aircraft in early January. **LOT** will demand financial compensation for the lost revenue and other expenses.

AeroSvit Airlines was declared bankrupt on December 29, but it continued to operate a reduced schedule. A Kiev commercial court agreed to commence bankruptcy proceedings after it saw the extent of **AeroSvit's** debts. The airline owes money to several Russian airports, including Rostov-on-Don and St. Petersburg. Moscow's **Sheremetyevo Airport** banned the airline in December, after it ran up a debt of \$3 million, only to work out an agreement letting it resume operations there. The Ukrainian foreign affairs ministry reported that several **AeroSvit** aircraft were detained at various international airports after the bankruptcy proceedings were announced. One aircraft was refused permission to leave from

January 2013

Page 20 of 29

Warsaw on January 4, another was impounded at Stockholm, January 5, and a third was held at Tel Aviv on January 6. Rival **Ukraine International Airlines** returned stranded passengers to Kiev. **AeroSvit** said its reorganization plan forms part of the change program initiated by the airline in order to restore its operating efficiency and increase revenue inflows. The privately owned airline operated three A320s, 15 737 Classics and NGs, three 767-300ERs, and two EMBRAER 190s when it filed for bankruptcy. It has four 737-900ERs and three E-190s on order.

Kingfisher Airlines' employees sought to close the airline so that it could be liquidated. This may force **Kingfisher** to pay their back salaries which were several months overdue. The airline's lenders have taken legal action for its failure to repay over Rs 7,000-crore debt. Until January, lenders did not press too hard, in hopes the airline would implement a revival plan and they would be paid interest on their loans. Many loans are a year overdue and the lenders' patience has run out. The lenders discussed recovery measures with government officials.

Cargo Pallet

The **Luxembourg Government** bought back 35 percent of the cargo carrier **Cargolux** from **Qatar Airways** in December. The government intended to sell its stake soon. It sold its shares to **Qatar Airways** last year, but **Qatar** decided to pull out of **Cargolux** when the two could not agree on a strategy to insure the airline's profitability. The **Duchy of Luxembourg** sold the **Cargolux** shares for \$117.5 million in 2011, and bought them back for the same amount. A government spokeswoman said **Luxembourg** was talking with a number of potential buyers, and a deal could be concluded in a relatively short timeframe. The **Duchy** took over **Swissair's** 33.7 percent stake in **Cargolux** when the Swiss airline entered bankruptcy in 2009. **Cargolux** is also owned by the flag carrier, **Luxair** (43.4 percent) and two state-owned banks, **BCEE** (10.9 percent) and **SNCI** (10.7 percent). Government ownership was intended to be temporary in both instances when foreign airlines bailed out. **Cargolux** was not currently profitable and it has been taking delivery of expensive new equipment. It operated six 747-8F and 10 747-400F freighters, and has another seven 787-8Fs on order. **IATA** said European airlines' year-on-year freight traffic was flat, and capacity grew just 0.3 percent, which makes selling **Cargolux** a little harder.

International Lease Finance Corp. (ILFC) said its six **Airbus A320s** are being held hostage by **Kingfisher Airlines** and local government authorities. **ILFC** tried to repossess the planes because the airline was in default of its contract obligations. India's **Civil Aviation Authority** deregistered four aircraft already, but **ILFC** cannot fly them out of India because other government bodies, like airports and tax authorities, have not cooperated, **ILFC's** CEO **Henri Courpron** said. These other authorities have an axe to grind against **Kingfisher** and we are being held hostage to this process, he said. In December, **DVB Bank SE** said that authorities failed to help it to recover its two A320s from **Kingfisher** by refusing to de-register the planes. It was now impossible for **DVB** to sell them elsewhere, so the lender suspended all financing to Indian airlines. Both **DVB** and **ILFC** are losing monthly revenue because they cannot lease the planes to another customer. **ILFC** said India risks scaring away new funding. Indian authorities need to provide a safe harbor if they want to grow their industry, if they want support from the financing community in financing their aircraft generally... then they need to enforce the rules that allow the financiers to get access to their assets when it is warranted. Mr. **Courpron** said.

January 2013

Page 21 of 29

ATRAN Cargo Airlines received its second **Aeronautical Engineers, Inc. (AEI) Boeing 737-400SF** 11-pallet freighter. The high-gross-weight 737-400 (SN 28758) was built in 1997 and was converted from passenger to freighter configuration at AEI's authorized conversion center, **Flightstar Aircraft Services**, Jacksonville, Florida. **Aviation Capital Group (ACG)** leased the aircraft to **ATRAN Cargo Airlines**.

Fleet Air, a Budapest-based air cargo carrier, bought **Saab 340A Cargo** (SN 078) from **Siemens Financial Services**, Sweden, in December. The transaction was arranged by **Skyworld Aviation** and the plane was previously operated by **Central Connect Airlines**. The new operator received its AOC in 2007 and now flies contract and schedule cargo services with three **Saab 340A Cargo** aircraft (for clients requiring "just in time" technology driven services).

Technical

The **U.S. Federal Aviation Administration (FAA)** issued a Supplemental Type Certificate (STC) for **AAR Engineering Services'** custom interior modifications for **Boeing 767-300s**. **AAR's** design increased the aircraft's passenger count and included the installation of flatbed seats, new in-flight entertainment systems and a lower lobe crew rest, as well as the replacement of galleys the company said. **AAR Aircraft Services**, in Indianapolis, will provide custom modification kits produced to an undisclosed U.S.-based airline.

L-3 Platform Integration received its first **Boeing Business Jets 747-8LO** (SN 41060) at its VIP and Head-of-State Completion Center in Waco, Texas, in November. A second **BBJ 747** arrived in December. **L-3** will install a complete interior featuring the latest technologies in entertainment systems, lighting and sound elimination/dampening the company said. **L-3** will redeliver the **VVIP 747s** to confidential customers. **L-3** has delivered 50 VIP aircraft to date, including **A310, A340, 737, 757, 767, 777, and MD-11** aircraft. **L-3** is a **Boeing**-recognized completion center for both wide-body and 737 business jets.

THAI Smile, and its parent company **THAI Airways International**, signed up for **Airbus' Flight Hour Services Tailored Support Package (FHS-TSP)** marking **Airbus'** first sale of **FHS** to an **A320** operator. The 15-year contract has provisions for an extensive number of **A320** line replaceable units (LRUs) and spare parts availability, LRU repairs, logistics services, tools availability, APU and nacelle services, **Airbus** said. An on-site **Airbus** team will assist in daily spares management ensuring **THAI**

Boeing Reduced the Empty Weight of its latest 747-8F freighters by 2.5 tons and boosted aerodynamic performance by adjusting the aileron configuration. This has made the airplane more capable than the first freighters delivered a year ago. **Cargolux** accepted the updated 747-8F in November and it was the sixth to join its fleet. The airline's **Yves Germeaux** said he was very happy with the 747's performance. The airline delayed delivery of its first 747-8F by several weeks in late 2011, because it did not meet contractual guarantees. **Atlas Air** cancelled three 747-8F orders last year, partly due to performance issues. The recent airplane met **Cargolux'** performance expectations, while **Boeing** said the latest 747-8Fs actually exceeded its promised fuel burn by 1 percent. **Boeing** stated the plane's empty weight was 190.9 tons and its maximum take-off weight rose 1.3 percent to 448 tons. The changes in the positioning of the fly-by-wire outboard ailerons can be retrofitted on the older 747-8Fs. The manufacturer intended to introduce a second performance improvement package (PIP 2) for the **General Electric GENx-2b** engines in 2013.

Smile's aircraft technical dispatch. **THAI Airways International** signed an **FHS-TSP** contract for its A380s in 2012. **Airbus' FHS** now covers more than 100 aircraft with operators of A320, A330, A340 and A380 fleets. **THAI Smile** recently launched services with a fleet of new A320s. The carrier operated routes within Thailand and to selected international destinations, which provided connections with **THAI Airways International** and **Star Alliance** airlines. **THAI Smile** will acquire 11 new A320-200s, fitted with 174 seats in an all-economy class configuration.

Sabena Technics will install a VIP cabin in an A319-ACJ business jet for an undisclosed Asian customer. The cabin upgrade will include two lounges and the plane is scheduled for completion by mid-2013.

Military Market

The **Indian Government** selected six **Airbus Military** A330-200 MRTT's Multi-Role Tanker Transports for the **Indian Air Force (IAF)**. **Airbus** said that detailed negotiations began, and they were expected to finalize a production contract in 2013.

The A330 MRTT beat the **Ilyushin Il-78MK**, offered by Russia's **Rosoboronexport** arms agency. The A330 was used to refuel multiple fighter types and flew from the high-altitude **IAF** base at Leh during a flight test campaign. The MRTT order was reported in the Indian press in late 2012, but **Airbus Military** declined to comment at that time. In January, **Domingo Ureña Raso**, **Airbus Military's** CEO said, "This has been a long and tough competition and we are honored to have been selected." India's previous attempts to buy the MRTT were overturned by a government budget committee, forcing a repeat contest, and presumably a lower price offer. India was the fifth country to buy the MRTT after Australia, Saudi Arabia, the United Arab Emirates and the U.K.; a total of 28 aircraft have been ordered.

Airbus Military delivered 25 new aircraft, including five A330 MRTTs and 20 light and medium turboprop military transports in 2012. Its sales exceeded the target despite difficult global conditions. The company sold four CN235s and 28 C295s. No new A330 MRTT orders were booked, but the **Indian Government** committed to buy six at the end of December. The A400M program was progressing toward completion and should win its civil and military certification in the first quarter of 2013. The first A400M Atlas was scheduled for delivery to France in the second quarter. Three more are due to enter service by the end of the year. Seventeen A400Ms are on the production line or in final assembly. **Airbus Military's** backlog stands at 174 A400Ms, 17 MRTTs, five CN235s, and 20 C295s.

The First of India's 10 C-17A Globemaster III Airlifters was flown to Edwards Air Force Base in Palmdale, California, where it entered the U.S. Air Force's flight test program. **Boeing** will deliver the plane to the **Indian Air Force (IAF)** shortly. The IAF will take delivery of five C-17As this year and will take the last five in 2014. India's **Ministry of Defence** ordered the 10 C-17As on June 15, 2011, and the U.S. **Foreign Military Sales** contract was finalized on June 6, 2012. India has been the largest C-17 customer outside the United States. To date, **Boeing** has delivered 250 C-17As worldwide. The manufacturer will support the **IAF C-17** fleet through the **Globemaster III Integrated Sustainment Program (GISP) Performance-Based Logistics** contract. The **GISP** "virtual fleet" arrangement will ensure mission readiness by providing all C-17 customers access to an extensive support network for worldwide parts availability and economies of scale. This brings spares and support closer to the point of use and makes the C-17 more affordable to own and operate, **Boeing** said.

January 2013

Page 23 of 29

More C295 Sales. The **Colombian Air Force (CAF)** ordered one **Airbus Military C295** for military transport and humanitarian aid duties. The **Air Force** operates four C295s; having received its first in 2008. It now has two C295s on backlog. The **CAF** also operates six **Airbus Military CN235-200s** and six of the smaller C212s. The **Egyptian Air Force** ordered six additional C295 transport aircraft. That raised the **Air Force's** C295 fleet to 12 aircraft, and the third time it has chosen the C295. The first of the new planes will be delivered late in 2013. The order included spares parts, support equipment, training and field support.

Boeing delivered one 737-based AEW&C aircraft, two P-8 Poseidons, and two C-17As in the fourth quarter. The **Defense, Space & Security Programs** unit handed over three AEW&C planes, five P-8s, and 10 C-17As during 2012.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A318 & A319. **Airbus** delivered six A319s in December, including two ACJ-100Xs to private operators. **China Eastern Airlines** received two -115s (SN 5376 & 5412) for a fleet total of 20. **Air Namibia** accepted its third -112 (SN 5400), and **Alitalia** leased -111 (SN 5383) from **Airline Purchase Fleet**. The airline has two more on order.

Airbus A320. **Airbus** delivered 30 A320s in December, including the first Sharklet-equipped A320 to be delivered to an airline – **AirAsia's** -216/W (SN 5428). **AirAsia** took delivery of four standard -216s (SN 5397, 5420, 5430 & 5431) as well. **AirAsia** leased -216 (5431) to **Japan AirAsia** and -216 (SN 5420) to **Indonesia AirAsia**, which also leased -216 (SN 5165) from **ICBC Leasing**, China. This was the first Chinese assembled A320 to be operated by a non-Chinese airline. **ICBC Leasing** leased two -214s (SN 5356 & 5396) to **Lao Airlines**. **Garuda Indonesia Airways—Citilink** leased -214 (SN 5415) from **CIT Leasing Corp.**, and -214 (SN 5399) from **SMBC Aviation Capital**. **SMBC** leased -214 (SN 5421) to **Aeroflot**, and **Tiger Airways** leased the fifth -232 (SN 5426) to **Mandala Airlines**. **AWAS** leased the first of two new -214s (SN 5403) to **Spring Airlines** and **Dragonair** leased -232 (SN 5429) from **BOC Aviation**. Three **Tianjin FAL**-built A320s were delivered to Chinese airlines; **China**

Airbus Military has been offering several enhancements for its C295 medium transport and special mission aircraft, including efficiency-boosting winglets and an anti-ship missile system. **Airbus Military** sees a demand for C295s which can launch **MBDA Marte** anti-ship missiles. The test C295 will fly with an inert weapon on order to measure the aerodynamic effects on the aircraft. It has plans to release inert and live weapons by the end of the year. The **Marte** missile will be carried by a modified Mk 46 torpedo launcher. The **Chilean Navy** operates C295s which are fitted with torpedoes for anti-submarine warfare. The company has been considering the introduction of heads-up displays linked to an enhanced vision system, and an onboard inert gas generation system (**OBIGGS**) that should increase the twin-turboprop's battlefield survivability. **Airbus Military** will test the **OBIGGS** in the wing fuel tank by the fourth quarter. They have already completed ground testing of the equipment. A winglet equipped demonstrator aircraft will fly in early 2013. The winglets should increase the aircraft's performance in take-off, climb and cruise. It may be offered as a retrofit option for in-service versions. By the middle of 2014, the C295 should be flying with heads-up displays and an enhanced vision system installed.

Southern Airlines bought two -232s (SN 5151 & 5183), and **Shenzhen Airlines** accepted one -232 (SN 5176). **Starflyer**, Japan, took delivery of its first new -214 (SN 5393). The airline ordered three A320s in 2011, and leased another seven -214s. In the Americas, **Spirit Airlines** took delivery of its ninth of 108 -232s (SN 5387), and **JetBlue Airways** received its 129th -232 (SN 5417). **LATAM Airline Group** acquired its 49th -214 (SN 5408), and **Avianca** took delivery of one -214 (SN 5398). In the Middle Eastern region, **Etihad Airways** accepted one -232 (SN 5407), **Qatar Airlines** took delivery of one -232 (SN 5395), and **Air Arabia** took delivery of its 14th new -214 (SN 5423). **Libyan Airlines** received its sixth -214 (SN 5405), and **Afriqiyah Airways** bought -214 (SN 5414). **Air Astana** took delivery of its first new -232 (SN 5401) from the six A320 Family aircraft it ordered in May 2006. Elsewhere in Asia, **IndiGo** purchased its 72nd new -232 (SN 5411).

Cebu Pacific Air took delivery of its first A320-214 (SN 5442) equipped with Sharklets in January. The airline was the second to fly Sharklet-equipped A320s. **Cebu Pacific** currently operates 34 A320 Family aircraft, and has 48 more on order for future delivery, including 18 A320ceo and 30 A321neo. The airline has been one of the leading low-cost carriers in the Asian region, **Airbus** said. The airline has operated an extensive domestic and international network covering 32 destinations in the Philippines and 21 business and leisure destinations across Asia.

In January, **AWAS** leased a new A320-232 (SN 5433) to the **Qantas** group for operation by its **Jetstar Asia** subsidiary. The plane came from **AWAS**' order backlog. **Qantas** will lease another two A320s from **AWAS** in the first quarter of 2013. They will be operated by **Jetstar Asia**, in Singapore, and by **Jetstar** in Australia.

Airbus A321. **Airbus** delivered 18 A321s in December, a new record. Several airlines took delivery of two A321s each during the month. **Air China** received two -232s (SN 5346 & 5432), and **Gulf Air** accepted two -231s (SN 55321 & 5336) for a fleet total of four. **Vietnam Airlines** took delivery of two -231s (SN 5392 & 5427), and leased -231 (SN 5427) to **Cambodia Ankor Air**. **Vietnam** leased two more -231s (SN 5385 & 5418) from **Vietnam Aircraft Leasing**. **EVA Air** leased two -211s (SN 5328 & 5377) from **Aviation Capital Group**. **US Airways** obtained three -231s (SN 5368, 5409 & 5422), for a fleet total of 75 A321s. **Air Astana**, Kazakhstan's flag carrier, took delivery of its second -231 (SN 5404) out of the six A320 Family aircraft that it ordered in May 2008. **Air Astana** now operates one A319, seven A320s and four A321s. **Turkish Airlines** bought its 32nd -231 (SN 5388) and its new business partner, **Lufthansa**, acquired its 41st -231 (SN 5413). **Air Lease Corporation** leased -231 (SN 5382) to **Asiana Airlines**, Korea, and **China Eastern Airlines** acquired its 27th -231 (SN 5402).

Airbus A330 & A340. **Airbus** delivered a record 11 A330s in December, including one -243 (SN 1372) to **China Eastern Airlines**. Two airlines received -200F freighters ð **TAMPA Cargo** leased its first of four -243Fs (SN 1368) from **Avianca** and **Yangtze River Express Airlines** leased its first -202F (SN 1350) from **BOC Aviation**. **Jet Airways** leased its first three -302s (SN 1351, 1361 & 1370) from **GECAS**. **GECAS** also leased -302 (SN 1367) to **China Airlines**. **Cathay Pacific Airways** accepted -343E (SN 1366), **Air China** received -343X (SN 1373), and **Hong Kong Airlines** took delivery -343E (SN 1369). **Aeroflot** acquired its 17th -343X (SN 1371).

Airbus A380. **Airbus** delivered a record of five A380-800s in December, including three -861s (SN 110, 111 & 112) to **Emirates**. The airline now operates 31 A380s and has another 59 on order. It also

January 2013

Page 25 of 29

delivered the third of six -841s (SN 100) to **Thai International Airlines**; **Korean Air** accepted its sixth of 10 -861s (SN 096). **Airbus** met its production goal of 30 A380s in 2012. It delivered 13 A380s in the final quarter alone. The manufacturer has not announced its A380 delivery goal for 2013, but it may fall below 30 because **Airbus** has been struggling to deal with the continued effects of a wing-rib cracking problem which it was fixing. The world's airlines operated 97 super jumbos and the new order backlog stands at 160, the lowest number since the first A380 was delivered in October 2007. As of December 31, there were nine A380 operators and British Airways will become the tenth when it has received its first of the type in 2013.

Airbus delivered the last two A340s to **AJW Capital Partners** in December, which closed out a production run of 377 aircraft. The two -542s (SN 886 & 894) were leased to **Azerbaijan Airlines—AZAL**. The **AZAL** planes were built against a **Kingfisher** order in February and April 2008, but the airline eventually cancelled the two planes. **Airbus** flew its first A340 prototype (SN 001) in October 1991. The manufacturer retained that airplane and delivered all the others except **Etihad's** eighth -642 (SN 856) which was destroyed in a pre-delivery accident.

Boeing

Boeing 737NG. **Boeing** delivered 39 737s in December, which included three -823/Ws (SN 31159, 31160 & 33319) to **American Airlines**, and four -8H4/Ws (SN 36891, 37006, 37009 & 38818) to **Southwest Airlines**. **United Air Lines** accepted two -924ER/Ws (SN 37208, & 41745), and **Alaska Airlines** received its third and fourth of 38 -990ER/Ws (SN 41731 & 41732). **GOL Transportes Aereos** accepted delivery of two -8EH/Ws (SN 39608 & 39609), and **Ryanair** acquired its last five -8AS/Ws (SN 40316, 40317, 40318, 40319 & 40320), for a total of 348 deliveries over nearly 14 years. In Asia, **Malaysia Airlines** accepted its 13th and 14th -8H6/Ws (SN 40140 & 40141), and **Lion Air** received two -9GPERs (SN 38684 & 38726) for a total of 67. **Air China** purchased one -89L/W (SN 40019), **Shandong Airlines** acquired -85N/W (SN 39126), and **Shenzhen Airlines** received one -87L/W (SN 39131). It was leased to **Kunming Airlines**. **China Southern Airlines** accepted -81B/W (SN 38935), and **All Nippon Airways** took delivery of its 20th -881/W (SN 33913). In Europe, **airberlin** received its 65th -86J/W (SN 37773), and **Luxair** acquired its first -8C9/W (SN 41047). **Norwegian Air Shuttle** obtained its 33rd -8JP/W (SN 39018) from **Boeing**, and leased -86N/W (SN 38034) from **GECAS**. Elsewhere, **Comair Limited**, South Africa, obtained its third -8LD/W (SN 40855) for operation by **Kulula**, and **flydubai** took delivery of one -8KN/W (SN 40257). **Pegasus** received the 35th of 41-82R/Ws (SN 40729), and the U.S. Navy accepted its sixth P-8I Poseidon -8FV/W (SN 40816). **Aviation Capital Group (ACG)** leased -8HX/W (SN 38880) to **WestJet**, its 100th Next-Generation 737. **BOC Aviation** leased a fourth -8AL/W (SN 39051) to **Jet Airways**.

GECAS leased two **Boeing** 737-4M0s (SN 29201 & 29202) to new customer **AeroContractors Company of Nigeria Limited**. The planes were handed over in September and December. The airline leased -42C (SN 24232) from **AWAS** in June 2012. It has operated five -400s and four -500s and has three non-operational -400/500s in its fleet.

Boeing 747. **Boeing** delivered two VVIP 747-8s to **Boeing Business Jets** for eventual operation by governmental operators after opulent interiors are installed. The **UAE Government** took delivery of -8Z5 (SN 37500), and the **Oman Royal Flight** bought -8H0 (SN 39749). **Atlas Air** accepted its seventh

January 2013

Page 26 of 29

-87UF (SN 37572) and leased it to **Polar Air Cargo**. **Nippon Cargo** received its second of 12 -8KZF's (SN 36137) in December.

Boeing 767. LAN Airlines received its 32nd and 33rd -316ERs (SN 41993 & 42214). The airline has two more on order.

Boeing 777. Boeing delivered eight 777s in December, which included the seventh -3F1H (SN 35610) to **Dubai Aerospace Enterprises**. It was leased to **Emirates**, which also took delivery of its 51st of 120 -31HERs (SN 41084). **Etihad Airways** received its 12th -3FXER (SN 39687), **Air China** accepted its 11th -39LER (SN 38676), and **Saudi Arabian Airlines** obtained its sixth -368ER (SN 41053). The **Republic of Iraq** took delivery of its first -29MLR (SN 40993) at a ceremony in Baghdad in December. The 777 will be operated by **Iraqi Airways** along with a new A330-202 (SN 1339), two A320s, two A321s, one 737-200, two 737-700s, one 747-400, one 767-300 and six CRJ900s. The airplane was built for **Air Austral** which cancelled the plane when the **Iraqi** order was announced in December. **American Airlines** took delivery of its first two extended range -323ERs (SN 31543 & 41665) in December. The aircraft will enter service in early 2013 on **American's** Dallas/Fort Worth-Sao Paulo route. The airline has another 11 777-300ERs and five -200ERs on order. The new 777s were painted in **American's** new color scheme with a red, white and blue striped tail and stylized **American** eagle on the front fuselage.

AWAS delivered extended-range, factory-built freighter 747-4EVERF (SN 35171) to a new customer, **Southern Air**. The aircraft was part of AWAS's existing fleet and was operated by **Jade Air Cargo** from 2006 until January 1, 2012. Five other **Jade Cargo** 747-4EVERFs (SN 35169, 35170, 35172, 35173 & 35174) were still stored at Victorville, California.

Boeing 787. Boeing delivered a record 11 787s in December. Some of the airplanes were built over the past two years and had undergone post-assembly rework. **LOT Polish Airlines** took delivery of its second 787-8 (SN 37894) on December 20. **LOT** will be the first European airline to operate the 787 after the **FAA** raises its grounding order. **Qatar Airways** accepted its fourth and fifth -8s (SN 38321 & 38329) in mid-December. The airline has 25 more **General Electric** GENx-powered 787s on firm order, and another 30 on option. **United Airlines** received another three -8s (SN 34821, 34823 & 34825) from **Boeing**. **Air India** launched a new daily flight between Delhi and Paris after receiving its fifth and sixth -8s (SN 36282 & 36283). The Dreamliners have 18 full-flat business 238 economy seats. **All Nippon Airways** obtained its 17th -8 (SN 40749) and **Japan Airlines** received its seventh -8 (SN 34839). **LAN Airlines** took delivery of its third -8 (SN 38472).

Regional Jet

Bombardier delivered another CRJ1000 NextGen (SN 19029) to **Garuda Indonesia** in December. The flag carrier also leased CRJ1000 (SN 19028) from **Nordic Aviation Capital** in early December.

Embraer. The manufacturer delivered three EMBRAER 190-200 IGWs, E195 (SN 19000575, 19000590 & 19000592) to **Azul Linhas Aereas** in December. **Azul** leased E195 (SN 19000580) from **CIT Leasing**. **LOT Polish Airlines** leased E195 (SN 19000583) from **Jetscape**, and **Tianjin Airways** bought E190 (SN 19000591).

January 2013

Page 27 of 29

GE Capital Aviation Services Limited (GECAS) leased the first E190 (SN 19000154) to **Myanmar Airways**, the flag carrier of Myanmar. The aircraft was previously leased to **Republic Airlines** and was ferried to Myanmar in December. A second ex- **Republic** E190 (SN 19000231) will be leased in early 2013.

Cabot Aviation arranged the sale of two Dash 8s for **GMG Airlines**, Bangladesh. The first, Dash 8-100 (SN 245) went to **Skytrans** in Cairns, Australia. **Skytrans** now operates a fleet of 14 Dash 8s. The second ex-GMG aircraft, Dash 8-Q300 (SN 464) was sold to **Air Inuit**, Canada. In recent weeks, **Cabot** has also sold a **Boeing 737-400**, a **BAe 146-200QT** and one CFM56-3C1 engine.

Turboprop Aircraft

ATR. Precision Air Services, Tanzania, took delivery of its second ATR 42-600 (SN 1003) in December. Two more ATR 42s will be handed over in 2013, and its only ATR 72-600 was scheduled for 2014. **Avation Airframe Holdings** received one -600 (SN 1058) and leased it to **Skywest Airlines** for operation for **Virgin Australia Airlines**. **Air Lease Corp. (ALC)** leased one -600 SN (1059) to **Passaredo Transportes Aereos**. **Wings Abadi Airlines**, Indonesia, took delivery of three -600s (SN 1062, 1063 & 1067) and **Uni Airways** accepted one -600 (SN 1061). **Azul Linhas Aéreas Brasileiras** received one -600 (SN 1060), and **Air New Zealand** took delivery of one -600 (SN 1065).

GECAS leased ATR 72-600 (SN 1064) to **Jet Airways/JetKonnet** in January. **Intersky** became the first Austrian airline to take delivery of an ATR 72-600 (SN 1038), and it will receive its second (1042) in March. The planes were built for **Caribbean Airlines** and were redirected to **Intersky**.

Bombardier delivered three Dash 8Q-402 NextGens (SN 4396, 4398 & 4412) to **Maple Leaf Financing** in December. They were leased to **Spicejet**. **Ethiopian Airlines** bought its third and fourth Dash 8Q-400 NextGens (SN 4428 & 4429). The latter airliner (SN 4429) entered service with **Ethiopian's** affiliate, **ASKY Airlines** of Togo.

Accidents and Safety

From Aviation Safety Foundation

Japan Airlines' Boeing 787-8 Flight 008 arrived at **Logan International Airport** with 183 passengers and crew on January 7. Everyone had disembarked when a mechanic observed smoke in the cockpit and called the fire department. The fire was in an avionics bay where the batteries for the APU were located. The fire took about 20 minutes to put out with **Halotron** gas that displaced oxygen. The battery pack then exploded and a dry chemical powder put the fire out. The 787 uses several lithium-ion rechargeable batteries to power its extensive electronics, and in 2007 the **FAA** imposed special conditions on the use of the batteries because they are a greater fire hazard than other battery technologies. The batteries must be designed to prevent overheating, and if a battery does fail, it should not release dangerous gases or damage nearby wiring, the **FAA** ruled. Lithium batteries can burn violently and were not easily extinguished the **NTSB** reported.

One Week After the Lithium-ion Battery in a **Japan Airlines 787** burst into flames on the tarmac at Boston's **Logan International Airport**, an **All Nippon Airways 787-8 Dreamliner** made an emergency landing at **Takamatsu Airport** while en-route between Yamaguchi to **Haneda Airport** near Tokyo. The plane was carrying 129 passengers and eight crew members, who exited down the emergency slides. Several passengers suffered minor injuries during the evacuation the police said. **ANA** said the pilot got a warning signal indicating a battery problem and smoke was in the cockpit. The battery did not catch fire, but its smoke was toxic. **ANA** said a Dreamliner cockpit window cracked during a flight to Matsuyama and another jet leaked oil on a flight to **Miyazaki Airport**. **ANA** also replaced windows after domestic Dreamliner flights on December 18 and December 24. The carrier canceled a regional Dreamliner flight on January 9 due to a glitch in the computer controlling the brakes. Other issues that **ANA** faced were the need to check the tail wing in March. In July, a **Rolls-Royce** engine gearbox issue led to some delays and cancellations. Another major problem occurred in October when a leaking fuel pipe had to be replaced. The fuel leaks were caused by manufacturing errors. **Japan Airlines** also suffered a cracked window on a flight to Tokyo from New Delhi in October. The flight returned to New Delhi to replace the window. That carrier had four issues with the 787 since starting scheduled 787 operations in November 2011. The airline had cockpit computer error messages that led to delays and cancellations before being fixed by **Boeing** software updates in May.

The Aviation Safety Network said 2012 was an extremely safe year for civil aviation; only 475 people were killed in 23 airliner accidents. Another 36 people were killed on the ground. These numbers were much lower than the ten-year average of 34 accidents and 773 fatalities. This was the safest year since 1945 by number of accidents, a year when civil airliners numbered in the hundreds and not the tens of thousands of today. **ASN President Harro Ranter** said, "Since 1997 the average number of airliner accidents has shown a steady and persistent decline, probably for a great deal of thanks to the continuing safety-driven efforts by international aviation organizations such as **ICAO, IATA, Flight Safety Foundation** and the aviation industry." The last year marked the longest period without a fatal airliner accident in modern aviation history. The 68-day period ended on January 30. The airline industry did not have an accident that killed more than 100 people for 632 days, starting July 28, 2010. A **Dana Air MD-83** crashed on June 3, 2012, killing 163 people. Africa was the least-safe continent, where 22 percent of all fatal airliner accidents occurred, even though it accounted for only 3 percent of all aircraft departures.

EasySky lost **British Aerospace 3101 Jetstream 31 (HR-AWG, SN 764)** when it ran off the runway at **San Pedro Sula Airport**, Honduras, on December 31, 2012. The airplane veered off the runway and stopped in a ditch. One pilot suffered minor injuries and the other 18 people on board were able to walk away. **EasySky** operated regular domestic flights between **Roatan Airport** and San Pedro Sula.

Dana Air, Nigeria, resumed flights in January after a seven-month hiatus. One of its MD-80s crashed into a Lagos apartment block and killed 163 people. The government pulled **Dana Air's** operating certificate in June and re-instated it in September before the crash investigation was completed. There was still no official explanation of the crash, although the pilot reported dual engine failures before the plane crashed. **Joe Obi**, a spokesman for the **Aviation Ministry** said, "A thorough audit of the airline has been done and the remaining fleet is airworthy." The airline now operates five 140-seat MD-83s on a single route from Lagos to Abuja and back.

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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.

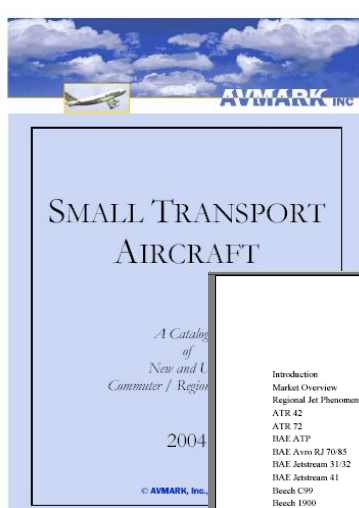
AVMARK's Historic Jet and Turboprop Values; summary of the then current fair market values as published in the AVMARK Newsletter for all jets and turboprops in service.

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 is using old generation propeller aircraft to carry 90 million passengers using state of the art technology.

Airline Association (RAA):

Source:

Ref:

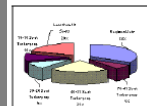


Table of Contents

Introduction	1
Market Overview	2
Regional Jet Phenomenon	4
ATR 42	5
ATR 72	12
BAE ATP	19
BAE Avro RJ 70/85	23
BAE Jetstream 31/32	29
BAE Jetstream 41	36
Boeing C-99	40
Boeing 1900	44
Canadair Regional Jet (CRJ) 100/200	51
Canadair Regional Jet (CRJ) 700	58
CASA 212	62
CN235	66
Dornier 228	70
Dornier 328	74
Dornier 328JET	78
Dornier 728JET	82
de Havilland DHC-6	86
de Havilland DHC-7	90
de Havilland DHC-8 100/200	93
de Havilland DHC-8 300	100
de Havilland DHC-8 400	104
Embraer 120 Brasília	108
Embraer Regional Jet (ERJ) 135/140/145	112
Embraer 170	121
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
Dimensions	
Length	74 ft 8 in
Wingspan	60 ft 7 in
Height	24 ft 11 in
Weights	
Empty	48,815 lb
Max Ramp	56,105 lb
Max Takeoff	53,510 lb
Max Landing	22,875 lb
Max Ramp	10,525 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 Brake, Airsearch Air Conditioning, Stall Warning.

Optional Equipment: KLN 900 GPS/W, FMS, Area Navigation (RNAV), Microwave Landing System, VLF/UHF 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 Air Traffic Control (ATC) - 1 CFZ 600 Automatic Flight Director (AFD), Dual King Gold Crown VHF Nav, Radios, DME, Radio Altimeter, Honeywell P-800 Weather Radar.

Price List

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

ATR 42-300 85-99 2.0

Direct Operating Costs (\$ per block hour)

Utilization (Block Hours / Year)	Average Stage Length (nm)
100	300

Flying Operations

Flight Crew, Salaries / Expenses	\$198	\$188
Fuel, Oil, Taxes	\$173	\$162
Other	\$3	\$3

Aircraft Costs

Insurance	\$3	\$3
Maintenance	\$478	\$415
Depreciation	\$62	\$62
Rentals	\$318	\$318

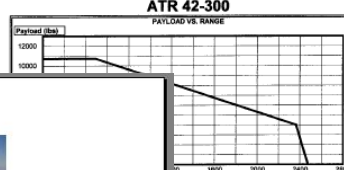
Total Direct Operating Costs \$806 \$683

Cost per Available Seat Mile - \$	12.33	8.65
Cost per Airplane Mile	\$5.67	\$4.44
Cost per Seat Block Hour	\$18.67	\$15.11

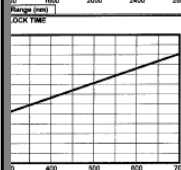
Note: Data from DOT Airline Reports.

ATR 42-300

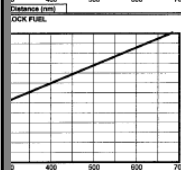
PAYLOAD VS. RANGE



Range (nm)



Distance (nm)



ATR 42

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

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

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

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

TYPICAL CABIN CONFIGURATION

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

US \$ 350.00

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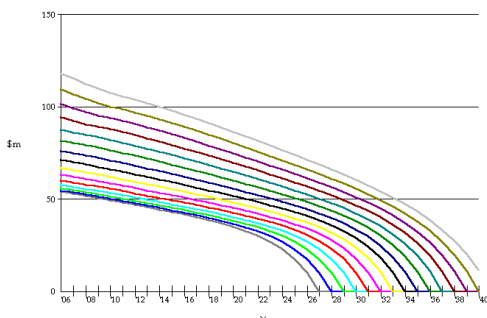
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TAV reports current fair-market values by year of build and projects the future value of 116 transport category aircraft. The future values are based on an economic model that projects the values based on the earning stream of approximately 130 different types of aircraft for their useful lives. The model takes into account the operating cost and characteristics of each aircraft, worldwide and future traffic volumes, fare levels and current and future fleet compositions. The values are presented in both constant and then-current dollars.

CAVAS Graph



Profit & Loss Report

Aircraft Type	Period	1	2	3	4	5	6
REVENUES (US\$)							
Passengers	49,328,754	49,270,739	49,212,559	49,154,213	49,095,701	49,037,189	48,978,677
Freight & Mail	8,879,176	8,868,733	8,858,261	8,847,758	8,837,226	8,826,673	8,816,141
Other Revenue	986,575	985,415	984,251	983,084	981,914	980,744	979,574
TOTAL OPERATING REVENUE	59,194,505	59,124,887	59,055,070	58,985,055	58,914,841	58,844,627	58,774,413
VARIABLE EXPENSES							
Fuel	6,918,975	6,917,340	6,915,670	6,913,977	6,912,265	6,910,533	6,908,781
Landing Fees	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823	3,021,823
Enroute Charges	392,440	392,440	392,440	392,440	392,440	392,440	392,440
Pax Commissions	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313	7,399,313
Freight Commissions	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876	1,331,876
Food & Supplies	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194	3,993,194
Passenger Liability Insurance	379,590	379,590	379,590	379,590	379,590	379,590	379,590
TOTAL VARIABLE COST	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212	23,443,212
SEMI-VARIABLE EXPENSES							
Crew Salaries & Expenses	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760	5,177,760
Maintenance & Engineering	587,650	587,650	587,650	587,650	587,650	587,650	587,650
TOTAL SEMI-VARIABLE COST	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410	5,765,410
TOTAL OPERATING COST	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622	29,208,622
OPERATING PROFIT OR LOSS	29,985,883	29,916,265	29,846,448	29,776,343	29,706,129	29,635,915	29,565,701
D-CHECK ADJUSTMENT							
Cumulative Hours	4,830	9,660	14,490	19,320	24,150	28,980	33,810
Cumulative Dollars	315,000	630,000	945,000	1,260,000	1,575,000	1,890,000	2,205,000
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,861,448	24,393,043	23,924,638	23,456,233	22,987,828
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,861,448	24,393,043	23,924,638	23,456,233	22,987,828

Profit & Loss Report

Aircraft Type	Period	1	2	3	4	5	6
FIXED EXPENSES							
Station Overhead	346,597	346,597	346,597	346,597	346,597	346,597	346,597
Maintenance Burden	176,295	176,295	176,295	176,295	176,295	176,295	176,295
Other Overhead	0	0	0	0	0	0	0
TOTAL FIXED COST	522,892	522,892	522,892	522,892	522,892	522,892	522,892
TOTAL OPERATING COST	31,464,497	31,464,497	31,464,497	31,464,497	31,464,497	31,464,497	31,464,497
General & Admin. Allocation	1,573,225	1,573,225	1,573,225	1,573,225	1,573,225	1,573,225	1,573,225
TOTAL COST	33,037,722	33,037,722	33,037,722	33,037,722	33,037,722	33,037,722	33,037,722
OPERATING PROFIT OR LOSS	26,156,782	26,156,782	26,156,782	26,156,782	26,156,782	26,156,782	26,156,782
D-CHECK ADJUSTMENT							
Cumulative Hours	4,830	9,660	14,490	19,320	24,150	28,980	33,810
Cumulative Dollars	315,000	630,000	945,000	1,260,000	1,575,000	1,890,000	2,205,000
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,861,448	24,393,043	23,924,638	23,456,233	22,987,828
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,861,448	24,393,043	23,924,638	23,456,233	22,987,828

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
2006	54.00	54.61	55.83	57.66	60.10	63.14	66.80	71.07	75.94	81.43	87.52	94.23	101.54	109.47	118.00
2007	52.85	53.49	54.70	56.56	58.99	62.01	65.62	69.95	74.86	80.37	85.52	92.18	99.12	106.73	115.25
2008	51.68	52.36	53.61	55.43	57.85	60.84	64.42	68.69	73.65	79.18	84.76	90.48	96.97	104.20	112.39
2009	50.49	51.19	52.46	54.29	56.70	59.67	63.24	67.50	72.44	77.95	83.52	89.23	95.07	101.04	107.10
2010	49.28	49.99	51.28	53.11	55.51	58.47	62.02	66.26	71.18	76.68	82.35	88.17	94.13	100.24	106.40
2011	48.05	48.77	50.07	51.90	54.29	57.24	60.78	64.99	69.86	75.36	80.99	86.84	92.90	99.17	105.44
2012	46.80	47.53	48.84	50.67	53.05	55.98	59.51	63.71	68.56	73.95	79.87	85.91	92.16	98.61	105.07
2013	45.53	46.27	47.58	49.41	51.78	54.70	58.22	62.41	67.24	72.61	78.52	84.55	90.80	97.25	103.70
2014	44.24	44.98	46.29	48.12	50.49	53.40	56.91	61.09	65.91	71.26	77.15	83.17	89.41	95.86	102.31
2015	42.93	43.67	44.98	46.81	49.17	52.07	55.57	59.74	64.55	69.90	75.78	81.80	88.03	94.46	100.90
2016	41.60	42.34	43.65	45.48	47.83	50.72	54.21	58.37	63.16	68.49	74.36	80.37	86.60	93.03	99.46
2017	40.25	40.99	42.30	44.12	46.47	49.35	52.83	57.00	61.77	67.00	72.76	78.75	84.96	91.39	97.82
2018	38.88	39.62	40.93	42.75	45.10	47.97	51.44	55.60	60.36	65.59	71.35	77.33	83.54	89.97	96.40
2019	37.49	38.23	39.54	41.36	43.71	46.57	50.03	54.18	58.92	64.14	69.89	75.96	82.16	88.59	95.02
2020	36.08	36.82	38.13	39.95	42.30	45.15	48.60	52.74	57.47	62.68	68.42	74.48	80.77	87.20	93.63
2021	34.65	35.39	36.70	38.52	40.86	43.71	47.15	51.28	56.00	61.20	66.94	73.00	79.28	85.71	92.14
2022	33.20	33.94	35.25	37.07	39.41	42.25	45.68	49.80	54.51	59.70	65.43	71.48	77.75	84.18	90.61
2023	31.73	32.47	33.78	35.60	37.93	40.77	44.19	48.30	53.00	58.18	63.91	70.05	76.32	82.75	89.18
2024	30.24	30.98	32.29	34.11	36.44	39.27	42.68	46.78	51.47	56.64	62.37	68.50	74.82	81.25	87.68
2025	28.73	29.47	30.78	32.60	34.92	37.75	41.15	45.25	50.00	55.16	60.89	67.01	73.42	79.94	86.37
2026	27.20	27.94	29.25	31.07	33.39	36.21	39.60	43.69	48.43	53.59	59.31	65.42	71.82	78.34	84.77
2027	25.64	26.38	27.69	29.51	31.82	34.63	38.01	42.09	46.82	51.97	57.68	63.78	70.18	76.69	83.12
2028	24.06	24.80	26.11	27.92	30.23	33.03	36.40	40.47	45.20	50.34	56.04	62.13	68.53	75.04	81.47
2029	22.46	23.20	24.51	26.32	28.62	31.41	34.77	38.83	43.55	48.68	54.37	60.45	66.84	73.35	79.78
2030	20.84	21.58	22.89	24.69	26.98	29.76	33.11	37.16	41.87	47.00	52.68	58.75	65.14	71.65	78.08
2031	19.20	19.94	21.25	23.05	25.33	28.10	31.44	35.48	40.18	45.30	50.97	57.03	63.42	69.93	76.36
2032	17.54	18.28	19.58	21.38	23.65	26.41	30.74	34.77	39.46	44.57	50.23	56.28	62.67	69.18	75.61
2033	15.86	16.60	17.90	19.70	21.96	24.71	28.94	32.96	37.64	42.74	48.39	54.43	60.82	67.25	73.68
2034	14.16	14.90	16.20	18.00	20.25	23.00	27.22	31.23	35.90	41.00	46.64	52.67	59.06	65.49	71.92
2035	12.44	13.18	14.48	16.27	18.51	21.25	25.46	29.46	34.12	39.21	44.84	50.87	57.25	63.68	70.11
2036	10.70	11.44	12.74	14.53	16.76	19.50	23.70	27.69	32.34	37.43	43.05	49.07	55.44	61.87	68.30
2037	8.94	9.68	10.98	12.76	15.00	17.73	21.92	25.90	30.54	35.62	41.23	47.25	53.62	59.99	66.42
2038	7.16	7.90	9.20	10.98	13.21	15.94	19.12	23.10	27.17	32.24	37.85	43.86	50.23	56.60	63.03
2039	5.36	6.10	7.40	9.18	11.39	14.10	17.27	21.24	25.30	30.36	36.37	42.37	48.74	55.11	61.54
2040	3.54	4.28	5.58	7.36	9.56	12.27	15.43	19.48	23.53	28.58	34.59	40.60	46.97	53.34	59.71
2041	1.70	2.44	3.74	5.52	7.71	10.82	13.96	18.00	22.04	27.04	32.05	38.05	44.05	50.05	56.05

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