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Newsletter

Market Comment

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Boeing Offers 777X to Customers. The Board of Directors gave the sales team the authority to offer the stretched 777X to airlines and leasing companies on April 28. Boeing spokesperson Karen Crabtree said, "We've made great progress in our development work and we are beginning to discuss additional technical, pricing and schedule details with customers regarding 777X. It is anticipated that the manufacturer will officially launch the program at the Paris Air Show, with Emirates Airlines as the launch customer. It is very possible that the aircraft's specifications and contract details will not be worked out by mid-June, so Boeing may delay any major announcements until the 2013 Dubai Airshow in November. The manufacturer is holding talks with customers about additional technical, pricing and schedule details about the proposed three models of 777X, Boeing said. Further, the company reported, "We are aggressively moving forward per our plan and customers are happy with our progress." The first 777Xs will enter service by the end of the decade. They will be exclusively powered by General Electric GE9X engines. The de-rated derivative of the GE90-115B will be certified by mid-2018. Boeing will develop the 406-passenger 777-9X first. The -9X will replace the 365-seat 777-300ER, and will enter service in 2019. The second model will be the 350-seat 777-8X, and then Boeing will offer the extra long-range 777-8XL which will also seat nearly 350 passengers. That model may be aimed at Emirates, the largest operator of the 777 with 127 in its fleet and 64 777-300ERs on order. The new twin-jets will feature the new GE9X engine and a carbon-fiber composite wing that will have the longest wingspan of any Boeing jet at 233 feet. The 777X may be equipped with folding wingtips so that the jet will fit into airport gates. Boeing's management is looking for a place to build the 777X, although it is most likely that the plane will be assembled on the current 777 line in Everett. It is estimated that it will cost Boeing \$1 billion to set up another assembly line (perhaps in South Carolina). Just the threat to move the line forced Washington State Governor Jay Inslee to say the state was developing a comprehensive aerospace strategy with the paramount goal ... to win the 777X for Washington. I hope the Legislature will ... prioritize investments that support our efforts so that we can clearly demonstrate to Boeing that there is no reason to consider any place other than Washington to build the 777X. The unions in Washington will also be squeezed for concessions. The site for wing assembly is also in question, because the 233 foot wings will be too large to transport easily. The center wing sections of the current 777s are built in Japan, but production may be moved to Everett or to a new assembly line.

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Emirates is planning a major 777X order to start replacing the 175 777s that it will have in its fleet in 2017. The 777X is just one of several aircraft that the UAE flag carrier plans to buy. President **Tim Clark** told the press, "We're not saying we're going to buy 175, but we're looking to replace a large chunk of them with the 777X." The airline is also considering buying another 30 A380s to add to its fleet of 33 delivered and 57 ordered A380s. The 777X competes with the A350-1000, which has won 110 firm orders and a recent commitment from **British Airways** for 18 -1000s, worth \$6 billion at list price. **Boeing** forecasts a market of 2,000 twin-engined mini-jumbo jets over the next 20 years, worth \$500 billion at list prices. The total market for twin-aisle wide-body planes is worth \$2.1 trillion over the next 20 years.

Airbus Orders

Airbus Sold 83 A320 Family Aircraft and Delivered 58 Aircraft in April. The sales brought the manufacturer's backlog to 4,973 – yet another industry record, which represents more than seven years of production. **Airbus** sold one ACJ319 corporate jet to an unnamed private customer. **Turkish Airlines (THY)** purchased 53 A321neos (new engine option) and four A320neos, along with 25 A321ceo (current engine option) aircraft. **Turkish Airlines'** purchase brought **Airbus'** A320neo Family orders to 2,125 aircraft from 40 customers. April's new sales increased total orders booked during 2013 to 514 aircraft. The cancellation of 21 previous orders lowered net sales to 493 aircraft. **Airbus** originally forecast selling 700 aircraft in 2013, but it now projects gross orders of more than 800 aircraft this year.

Airbus delivered 45 A320 Family aircraft and 13 A330s to international customers in April. Chinese airlines received nearly 20 percent of **Airbus'** April production, including six A321s, four A320s, one A319 and one A330. Low-cost carriers, such as **easyJet**, **Vueling** and **Wizz Air** in Europe, **GoAir** and **IndiGo** in India, and **Jetstar Japan** and **Peach Aviation** in Japan, accepted a large proportion of April's overall A320 Family deliveries. The manufacturer delivered 202 aircraft this year, 10 percent more than in the same period in 2012.

Turkish Airlines (THY) announced in March, that it would order up to 117 single-aisle jets including the A320neo. On April 19, the airline signed an order for 57 A321neo and A320neo jets plus 25 A321ceos. **THY** placed options for another 35

A321neos. The aircraft are scheduled for delivery between 2015 and 2020, and will be fitted with Sharklet wing tips. Most of the airline's current A320s and A321s are powered by IAE V2500-A engines, but the airline has not announced its power-plant choice for the new batch of aircraft.

Nepal Airlines Corporation (NAC), the national flag carrier, signed a Memorandum of Understanding (MoU) to buy two A320s equipped with Sharklet wing tip devices, and with Required Navigation Performance (RNP) which allows the aircraft to fly precisely along predefined routes using state-of-the-art onboard navigation systems. This is particularly useful for operations at high altitude airports which are constrained by mountains such as Kathmandu, **Airbus** said. The deal will be worth around \$180 million at list prices when formalized. **Nepal Airlines** flies to four international destinations and 25 domestic cities.

China Aviation Supplies Holding Company (CAS) has signed a General Terms Agreement (GTA) for the purchase of 42 A320 Family aircraft and 18 A330 aircraft. By April 1, 2013, approximately 750 A320 Family aircraft and more than 110 A330s were in operation with 14 Chinese airlines. Last year, the **European Union** implemented its carbon-dioxide emissions trading scheme (ETS) which angered China enough to suspend its orders for long range Airbus jets. The ETS was delayed for one year, allowing **CAS** to buy the 18 A330s. The **Chinese Government** still has temporarily frozen 27 A330 orders. The announcement did not offer details about aircraft price or delivery dates. **CAS** will transfer its orders to Chinese airlines when they require new capacity.

Oman Air purchased three A330-300s in May, worth \$718 million (\$239.3 million each) at list price. The airline intends to expand its long-haul operations with the new wide-bodied jets. When they are delivered (date not announced), the flag carrier will have 10 A330s in its fleet.

International Consolidated Airlines Group (IAG) announced that it would order 18 A350-1000s worth almost \$6 billion (\$333.3 million each) at list prices, for its subsidiary **British Airways (BA)**. The

Airbus Orders, Deliveries and Backlog

April 2013

APR ORD	APR DEL	APR CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			A318		
-0-	-0-	-0-	79	79	-0-
			A319		
1	2	-0-	1,522	1,368	154
			A320		
4	32	-0-	6,210	3,306	2,904
			A321		
78	11	-0-	1,677	808	869
			A330		
-0-	13	-0-	1,246	977	269
			A350		
-0-	-0-	-0-	616	-0-	616
			A380		
-0-	-0-	-0-	262	101	161
This Month			This Year		BL
83	58	-0-	493	202	4,973

Airbus sold 12,805 aircraft and delivered 7,832 as of April 30, 2013. Twenty-one orders have been cancelled. Total orders, deliveries and backlog include cancellations and order changes. Airbus expects to deliveries from 600 to 610 aircraft in 2013.

A350s will be delivered from 2017 through 2023. **IAG** also optioned 18 more A350s for **BA**, and will reserve some for its Spanish unit, **Iberia**. **British Airways** was the first European carrier to commit to buy the A350-1000. Once the purchase is approved by **IAG's** shareholders, **Airbus' -1000** model backlog will stand at 128 units. **Iberia** will replace its long-haul A330s and A340s with A350-1000s after the airline returns to ña position to grow profitably, having restructured and reduced its cost base,ò **IAG** said. It also would exercise 18 options for 787 Dreamliners; **BA** has firm orders for 24 787s. The firm orders for the **Airbus** and **Boeing** twin-jet widebodies will be used to replace 30 of the airline's 52 aging 747-400s and the oldest of its 46 777-200s. The A350-1000 can seat 350 passengers in a three-class layout and closely matches the 747-400s capacity of 345 seats in **BA's** four-class setup. The A350s will be powered by **Rolls-Royce** Trent XWB engines, similar to the Trent 1000 engines installed on the 787s. **Rolls-Royce** said the Trent XWB engines and maintenance contract are worth \$1.6 billion. **BA** will also start taking delivery of 12 A380s this summer. The airline will launch A380 service to Los Angeles on October 15. The last of the A380s will arrive in 2016. The first 787-8s will be delivered to **British Airways** this summer.

Qatar Airways said it may order up to 15 A330 aircraft as interim lift as it waits for **Boeing** to deliver more 787 Dreamliners. The new A330s would be worth \$3.5 billion (\$233.3 million each) at list price. The airline recently returned its five 787s to service and has 29 A330s in its fleet. **Qatar Airways** said it might firm up half of its 30 A330 options. **Qatar** may also order more A380s (valued at \$389.9 million each at list price), the airline's chairman said. Mr. **Akbar Al Baker** suggested that he is looking for bargain prices from **Airbus** if he signs an order. **Airbus** recently increased the A330 monthly production from nine to 10 and may raise output to 11. The range of the A330-300 will be increased by 500 miles when a center fuel tank is installed. That version will fly in 2015. The new order will be signed at the **Paris Air Show** in June. Mr. **Al Baker** said he still supports the 787 Dreamliner and, ñWe may order additional Dreamliners because we have purchase rights for another 30.ò The airline is expected to buy the 787-9 model (list priced at \$243.6 million); the first of which will be delivered in 2014.

Airbus' sales of its largest version of the A350 languished until now. Twelve months ago, the A350-1000's backlog shrank to 62 after **Etihad Airways** canceled six -1000s, and **Airbus** had not added an order since 2008. **Airbus** redesigned the -1000 and saw previous critics of the plane, **Air Lease Corp**, **Cathay Pacific Airways** and **Qatar Airways**, order 48 of the 350-seat aircraft. As of May 1, 2013, the firm backlog was 110. The **British Airways (BA)** commitment for 18 and more than 18 options will raise firm orders to 128. The two major Japanese airlines, **ANA—All Nippon Airways** and **Japan Airlines**, are now negotiating with **Airbus** to buy the -1000 model. All three carriers are considered prime candidates for **Boeing's** soon-to-be-launched 777X. After years of struggle to secure orders for the biggest A350, **Airbus** will soon struggle to fill the resurgent demand. **Airbus** sales chief **John Leahy** recently said, ñI could sell many more if I had the production slots. I'm lobbying internally to increase -1000 production.ò **Airbus** sold out its first three years of -1000 production slots. The airlines want to replace their 365-seat 777-300ERs and seem unwilling to wait for delivery of the Boeing 777X at the end of the decade. The first A350-1000s will be delivered to **British Airways** and **Qatar Airways** in 2017. **BA** is the European launch customer for the -1000 and there is more demand for the type in the region, according to Mr. **Leahy**. **Airbus** added payload and range to the -1000, but that has not fully satisfied its biggest customers, **Qatar** and **Emirates**. They say the design required additional work.

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Kuwait Airways may order 25 new **Airbus** jets and lease another 13 to update its fleet. The purchase needs government approval and could be signed by June. The airline was recently awarded \$500 million by **Iraqi Airways** for damages caused by the Iraqi invasion of Kuwait in 1991. The Kuwaiti airline compared bid tenders from **Airbus**, **Boeing** and **Bombardier** and judged the **Airbus** offer as the best one. **Kuwait Airways** previously intended to lease 19 passenger aircraft, worth \$3 billion, from Kuwait's **Alafco**, but cancelled the deal in August 2007, after the government withheld approval. The new order from **Airbus**, for 15 A320neos and 10 A350-900s, will be worth \$4.38 billion at list prices. The first of the ordered airplanes would arrive in 2019. **Kuwait** intends to lease 13 A320s and A330s for six years starting this summer. The new Airbuses would replace 11 jets in its current fleet.

Airbus said Japan's biggest carriers are in advanced negotiations to buy the A350-1000. **Japan Airlines (JAL)** may order 20 A350s by September to replace the oldest of its 46 Boeing 777s. Up until now, **JAL** has never bought an **Airbus** aircraft. **ANA** said it was talking about all three A350 models, the -800, -900 and -1000. It operates 52 777s. The -1000 model will be ready for delivery in late 2017 and it was list priced at \$332.1 million. **Airbus** said the -1000 will offer 25 percent better operating economics than the 777-300ER. The 777X may be officially launched at the **Paris Air Show** in June. It will be offered in two sizes (up to 400 seats) and could be in service by 2019 or 2020. Analysts say the Japanese airlines are not willing to wait, even though Japanese aerospace companies build around 30 percent of the parts in the 777 and 787.

Singapore Airlines (SIA) intends to order 30 more A350-900s, and will place options for a further 20 aircraft. The airline may select A350-900s or the larger A350-1000 when exercising the options. When confirmed this will be the third A350 order from **Singapore**, and it will bring the airline's firm order total to 70, excluding options.

Airbus A318 Not Dead Yet. The manufacturer is showing off a **Tyrolean Jet Services ACJ318** corporate jet at the 2013 **European Business Aviation Convention & Exhibition (EBACE 2013)** show in Geneva. The ACJ318 gives potential customers the chance to see how much wider and taller its cabin is in comparison with other large business jets. The Austrian company operates its ACJ318 for a private customer, and it is also offered for VVIP charters. It seats up to 19 passengers in unprecedented comfort and space and features a lounge area, a private office/bedroom, and beautiful bathrooms, **Airbus** said. Chief Operating Officer, Customers, **John Leahy** said **Airbus'** smallest aircraft is fitted with the widest and tallest cabin in the business jet industry, and it has intercontinental range, as well as "the kind of comfort and space to which other manufacturers aspire" with a similar wingspan and length of other large business jets. The ACJ318 is now offered with popular features such as domed ceilings and the fuel-saving Sharklet winglets. The airplane will be assembled in Hamburg, if ordered. To date, **Airbus** has sold and delivered 79 A318 passenger planes and ACJ318 corporate jets. In January, corporate customers cancelled the last two ACJ318s on backlog, which led **AVMARK** to speculate that the program was finished. Even though the A318 has the worst seat-mile operating economics of the current **Airbus** and **Boeing** single-aisle programs, the plane is being marketed to customers who care more for luxury and convenience than fuel economy.

Boeing Orders

Boeing Sold 51 Aircraft in April and lost five 747-8F orders. On April 23, an Unidentified Customer ordered 50 737 MAX aircraft. It is speculated that **Jet Airways** is the buyer. Later in the month,

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Business Jet sold one 777-200LR to a **VIP Customer**. **Dubai Aerospace Enterprise (DAE)** cancelled its five 747-8Fs that were ordered in December 2007, as part of its \$10.9 billion order for 70 737 NGs, five 747s, 15 787s, and 10 777-300ERs. The lessor took delivery of only three 737-800s from that order and was forced to cancel the rest of the contract due to the recession. The five 747s were valued at \$1.76 billion. **DAE** still has five 777Fs on order for lease to **Emirates Cargo**. The loss of the 747F order may have influenced **Boeing's** decision to cut production due to shrinking demand for the aircraft. **Boeing** slowed 747 production to 1.75 planes a month because of the weakness in the global air-cargo market. The 747-8F is currently list priced at \$352 million.

As of April 30, **Boeing** sold 206 737 NGs and 737 MAX, three 747Fs, 20 777s and 42 787s, for a total of 271 aircraft. Those orders were offset by the loss of orders for three 737s, five 747Fs, and eight 777Fs, for a net increase of 255 sales. The manufacturer delivered 37 737s, one 767 and six 777s in April for a total of 181 aircraft this year.

In early May, **KLM (Royal Dutch Airlines)** purchased one 777-300ER and an **Unidentified Customer(s)** ordered two 737s and two 777s. In the second week of May, **Boeing** booked 115 new orders, including 35 737s for **Southwest Airlines**, 70 737s for **Turkish Airlines**, and 10 737s for **WestJet**. **Southwest** cancelled 30 737 NG orders. By May 21, **Boeing** sold six 777-300ERs to **Swiss International Air Lines**, and 101 737s to an **Unidentified Customer**. The manufacturer lost 24 more existing 737 orders.

Turkish Airlines (THY) finalized its order in May, for 40 737 MAX 8s, 10 737 MAX 9s and 20 more 737-800NGs. The airline took options on another 25 MAX 8s. **THY's** largest **Boeing** order in history was valued at \$6.9 billion (\$98.6 million each) at list prices. The 20 737-800s will be delivered in 2016. The first 20 MAXs will arrive in 2018, if the options are taken up. **THY** will take 15 more MAXs in 2019, 30 in 2020 and the remaining 10 in 2021. The 737-800s will be powered by **CFM International** CFM56s, while the manufacturer's LEAP-1B will power the 737 MAX. The **Turkish** deal brought the total number of 737 MAX orders to 1,285, and **Boeing** currently has more than 3,100 unfilled orders for

Boeing April 2013 Orders, Deliveries

APR ORD	APR DEL	APR CANX	TOTAL ORD	TOTAL DEL	BACK LOG
737					
50	37	-0-	10,702	7,564	3,138
747					
-0-	-0-	-5	1,523	1,464	59
767					
-0-	1	-0-	1,108	1,045	63
777					
1	6	-0-	1,443	1,096	347
787					
-0-	-0-	-0-	890	50	840
This Month			This Year		BL
51	44	-5	255	181	4,447

Boeing sold 23,196 aircraft and delivered 18,749 as of April 30, 2013.

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

Sales totals are net, minus 16 cancellations. Boeing expects to deliver from 635 to 645 aircraft in 2013,

737s. The airline bought 117 A320 Family aircraft from **Airbus** on March 15. It ordered 25 A321neos, four A320neos, and 53 A321neos, and optioned another 35 A321neos. **Turkish Airlines** currently serves more than 220 cities in 99 countries around the world. In March 2013, the carrier received its 100th direct delivery from **Boeing** and currently operates 737 NGs and 777-300ER jets. It has 100 Boeing airplanes on order including 737 NGs, 737 MAXs and 777-300ERs.

WestJet Airlines, Calgary, Canada, will purchase 10 new 737-800NGs, and delay five 737-700NG deliveries from 2014-2015 to 2016 and 2017. The 10 737-800s will be delivered between 2014 and 2015. **WestJet** will also sell 10 of its oldest 737-700s to a third party in 2014 and 2015. The airline said the retirement of its 2002-2003 model 737s will lower the average fleet age by a year. The fleet numbers will not grow, but capacity will increase because **WestJet** will replace smaller 737-700s with larger 737-800s. Thirteen of its oldest 737s are leased from **GECAS** and **ILFC**. Fifteen of its newer 737s are leased from **BOC Aviation and Aviation Capitol Group**. **WestJet** operates 103 737-600s, -700s and -800s and currently has 30 737-700s and two 737-800s on order.

Southwest Airlines became the 737 MAX 7 launch customer when it converted orders for 30 Next-Generation 737-700s into MAX 7 series orders in May. The airline also exercised options to buy five more 737-800NGs. At current list prices, the total order for 35 aircraft was valued at \$2.9 billion (\$82.86 million each). Deliveries of the MAX 7s are scheduled to begin in 2019. After the MAX 7 conversions and exercised options for 737-800s, **Southwest** has unfilled orders for 180 737 MAX airplanes, 97 737-700NGs and 40 737-800NGs. As of May 16, **Boeing** had orders for 1,376 737 MAX aircraft.

Jet Airways, India, is expected to order 50 737 MAX aircraft and up to 10 777-300ERs from **Boeing**, and 50 A320neos from **Airbus** at the **Paris Air Show** in June. The **Centre for Asia Pacific Aviation (CAPA)** said **Jet** had confirmed an order for the 737s, and that the A320neos would be used by **Jet's** low-cost unit, **JetKonnnect**. The 110-plane order could be worth around \$10 billion at list prices. **Jet Airways** declined to comment on its plans. **Boeing's** website reports undisclosed orders for fifty-two 737s. **Jet Airways** currently operates 100 **Airbus**, **Boeing**, and **ATR** aircraft.

Boeing To Display 787 Dreamliner At Paris Air Show. The manufacturer will put a **Qatar Airways** 787 through its paces at the show at **Le Bourget Airport**. **Boeing** wants the public to forget the four-month grounding of the 787, and it wants to counter the unveiling of the A350 test aircraft. **Gilles Fournier**, managing director for the Paris show said, "We expect a flying display of the **Boeing** aircraft every day but this remains to be confirmed. **Airbus** is not expected to fly its A350 prototype to Paris, but the plane should perform its maiden flight before the show starts on June 17. A successful first flight would take the shine off of the 787s flying display. **Boeing** flew an **All Nippon** 787-8 to **Paris Air Show** in 2011, but it remained grounded during show week. **Airbus** could really steal the show if its A350 made a low pass over the air field during a test flight. Once upon a time, manufacturers were bolder when they presented their planes to the public. **Boeing** test pilot **Tex Johnston** famously barrel rolled the Model 367-80 (707 prototype) near Seattle in 1955. This was not authorized by **Boeing**, but it helped the company sell more than 1,000 commercial 707s and 820 KC-135s. Perhaps boldness went out of fashion after the Russian supersonic **Tupolev** Tu-144 crashed at **Paris Air Show** in June 1973.

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TUI Travel signed a commitment to buy 60 737 MAX 8 and MAX 9 airplanes in late May. The order will be valued at \$6.09 billion at list prices when it is finalized, and it will be posted on the **Boeing Orders and Deliveries** website.

Boeing Commercial Airplanes' first-quarter revenue shrank to \$10.7 billion due to fewer deliveries and lower services revenue. The operating margin improved to 11.4 percent because lower Research and Development costs partially offset other rising costs. During the quarter, **Boeing** delivered the first 777 aircraft produced at the rate of 8.3 per month. The company also agreed to a four-year contract extension with the **Society of Professional Engineering Employees in Aerospace (SPEEA)**. In April, the first 737 produced at the new 38 per month rate was delivered and **Boeing** bumped up 787 production to seven per month. The **Federal Aviation Administration (FAA)** allowed the airlines to return the 787 to service in April, after the planes were fitted with the enhanced battery system. **Boeing Commercial Airplanes** booked 209 net orders during the quarter and its backlog remains strong, with more than 4,400 airplanes valued at a record \$324 billion.

Boeing Rolled Out the First British Airways 787 in May. The airplane will be delivered in June or July. It is the first 787 to be built at the seven-planes-per-month production rate and is the 114th 787 that **Boeing** has manufactured. This milestone 787 is also the 100th Dreamliner to be completed at the Everett, Washington, factory. The other 14 were assembled at **Boeing South Carolina**. The manufacturer intends to deliver 10 planes per month by the end of 2013. It now operates three production lines, two at Everett and one at Charleston, South Carolina. Fifty 787s have been delivered to eight airlines as of April 30. The program has 840 unfilled orders with 58 customers worldwide.

Regional Report

Bombardier's First Quarter 2013 Results. Revenues totaled \$4.3 billion, compared to \$3.5 billion in the same period last year. Earnings before financing expense, financing income, income taxes and before special items, totaled \$240 million, or 5.5 percent of revenues. This compared to \$188 million, or 5.4 percent in the

Singapore Airlines (SIA) will buy 30 787-10X aircraft worth approximately \$279 million each at list price. The first 787-10X Dreamliner will be delivered in early 2018. The deal is contingent on **Boeing** formerly launching the aircraft. It was offered for sale in November 2012, and may be officially launched at the **Paris Air Show** in June. **Singapore** will make its engine selection later. The airplane will be used on medium-range routes.

Bombardier March 31, 2013 Orders & Deliveries

CRJ	Total Orders	Total Deliveries	Current Backlog
Challenger	33	33	-0-
CRJ1/2/440	1,021	1,021	-0-
CRJ700	347	333	14
CRJ900	314	263	51
CRJ1000	67	30	37
Total	1,782	1,680	102
C-Series	Total Orders	Total Deliveries	Current Backlog
CS100	63	-0-	63
CS300	82	-0-	82
Total	145	-0-	145
Dash 8	Total Orders	Total Deliveries	Current Backlog
Q1/2/300	671	671	-0-
Q400	467	433	34
Total	1,138	1,104	34

Bombardier delivered five CRJs and eight Dash 8-400s this quarter.

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first quarter of 2012. On an adjusted basis, net income amounted to \$156 million, up \$6 billion from last year's net income. **Bombardier's** available short-term capital resources rose to \$5.1 billion and included cash and cash equivalents of \$3.7 billion. Last quarter 2012's resources stood at \$4.0 billion and the cash on hand was \$2.6 billion. The overall backlog reached \$63.0 billion on March 31, 2013, down slightly from a backlog worth \$64.9bn at the end of 2012.

Embraer and United Airlines signed a firm contract for 30 enhanced EMBRAER 175 jets, and the airline optioned another 40 E175s. The deal for 70 aircraft is valued at \$2.9 billion (\$41.43 million each) at current list prices. The first E175 delivery is scheduled for the first quarter of 2014. **Embraer Commercial Aviation** President and CEO, **Paulo Cesar Silva**, said the relationship with **United** started with its merger partner **Continental Airlines'** launch order for the ERJ-145 regional jet in 1996. Further, "This order from **United**, one of the world's leading airlines, validates our investment strategy in the E-Jets, where we offer an optimized product with all of the additional benefits of a proven and mature platform. The E175 has proven itself to be the best product for the U.S. regional market for the next decade and beyond." **Continental** bought EMB 120 Brasilias in the 1980s and acquired 275 ERJs, the largest fleet of **Embraer** regional jets in the world. Currently, 38 E170s are flying with **United's** regional partners under the **United Express** brand. The E175s will also be operated for **United Express**. The aircraft will be configured in a 76-seat layout. **United** expects its E175s will be 10 percent more fuel efficient than the ERJ-145s that they are replacing. The E175s will also offer a large first-class cabin, wider fuselage, and larger overhead bins, than the current jets. The enhanced E175 features new wingtips, systems optimization, and aerodynamic refinements that will lower fuel burn by as much as 5 percent. Longer maintenance intervals and component improvements will increase aircraft productivity and bring maintenance costs down, **Embraer** said. There are more than 150 E175s currently in service with 12 carriers around the world. The aircraft offers a 2,000 nm (3,706 km) range, short-field performance, and superior hot-and-high capability. The **United** order will allow **Embraer** to raise its production rate next year. The plane maker cut its E-Jet production by 15 percent in 2013 in response to several years of lower demand. The U.S. airlines have re-entered the regional jet market, now that they renegotiated pilot contracts that had previously limited their regional fleets to 50-seat jets. Mr. **Silva** expects to sell from 200 to 400 new regional jets to major U.S. carriers by the middle of 2014.

Embraer March 31, 2013 Orders & Deliveries

Type	Total Orders	Total Options	Total Deliveries	Current Backlog
E170	193	27	184	9
E175	245	313	165	80
E190	556	264	459	97
E195	142	20	119	25
Total	1,136	624	925	211
Type	1st Quarter Deliveries		2013 Deliveries	
Light Exec Jets	8		8	
Large Exec Jets	4		4	
Embraer 170	1		1	
Embraer 175	2		2	
Embraer 190	8		8	
Embraer 195	6		6	
Total	29		29	

SkyWest, Inc., the St. George, Utah-based parent of **SkyWest Airlines** and **ExpressJet Airlines**, signed a firm order for 40 EMBRAER 175s. They will be delivered to **SkyWest Airlines** and operated for **United Airlines** under a Capacity Purchase Agreement (CPA). The firm order is worth \$1.66 billion (\$41.5 million each) and will be filled between the second quarter of 2014 and mid-2015. **SkyWest**

placed re-confirmable firm orders for another 60 E175s, worth \$2.49 billion. The airplanes will be firmly ordered when **SkyWest** enters capacity purchase agreements with other major airlines to operate the E175s. **SkyWest** took options for an additional 100 E175 jets, raising the total potential order to 200 aircraft, worth \$8.3 billion if all orders are confirmed. **Embraer** said the order marks another U.S.-based win, after it sold 30 E175s to **United** in April and **American** agreed to buy 47 E175s in January.

Embraer May Stretch the E-Jet. The manufacturer is looking at a stretched version of its second generation E-Jet. The new E-Jet family will be launched this summer and the first ones will enter service in 2018. The updated airplanes will feature new wings, fly-by-wire controls and new **Pratt & Whitney** PW1700G engines for the 70-seat E170/175 models, and PW1900Gs for the 90-seat E190/195s. The proposed stretched E-Jet would probably be slightly larger than the E-195, which seats about 106 passengers in a standard two-class configuration. **Embraer** will not bump the size up to 140 seats, which would compete directly with the A319neo and 737 MAX-7.

Embraer's First Quarter Results. The company delivered 17 commercial and 12 executive (8 light and 4 large) jets; four fewer E-Jets and one less executive jet than were delivered in the same quarter of 2012. The firm order backlog grew to \$13.3 billion, mainly due to the **American** order booked in March, as well as continued orders in the Defense & Security segment. Revenues reached \$1.086 billion and the gross margin was 22.2 percent in the quarter. This was from aircraft deliveries and the company's growing Defense & Security business. **Embraer's** net income totaled \$30 million and its net cash was \$98.2

Turboprop Aircraft Manufacturer, ATR, announced that **ATR's** newest -600 series aircraft received its certification from the **Federal Aviation Administration (FAA)** in April. The **FAA** certified both the ATR 42-600 and the ATR 72-600, which enables **ATR** to deliver the aircraft to countries that require **FAA** rather than **EASA (European Aviation Safety Agency)** certification. The **FAA** relied, in part, on work done by **EASA**. All of the tests done by **EASA** were used to validate proper operation of the new systems and equipment installed onboard the aircraft. The data was supplemented by the flights conducted by the **FAA** test pilots. Since the new ATR 42-600 and ATR 72-600 program was launched in October 2007, **ATR** has received orders for more than 300 -600 series aircraft and the -600 accounts for almost two thirds of the under-90-seat regional turboprop aircraft on order, the manufacturer said. The previous **ATR** models were popular with U.S. airlines, but so far, no American airline has purchased the new -600 series.

Engine News

International Airlines Group (IAG) Bought Rolls-Royce Trent XWB Engines worth \$1.6 billion at list prices. The engines will power 18 **Airbus** A350-1000s that will be delivered to **British Airways**. The contract included long-term **TotalCare** service support. **IAG** also optioned another 18 A350 aircraft. The A350-1000 is exclusively powered by the higher-thrust version of the Trent XWB.

CFM International completed the design of the advanced LEAP-1B engine, which will be the exclusive powerplant for the **Boeing** 737 MAX. The freezing of the engine configuration allows **CFM** to finalize and release detailed engine design drawings. Over the next six months, it will begin manufacturing LEAP-1B engine parts leading to the build-up of the first engine in early 2014. **CFM** plans to perform its first full engine test in mid-2014. The LEAP-1B is on schedule for flight testing in

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2015 and the engine should be certified in 2016. The 737 MAX is scheduled to enter service in 2017. Design freeze of the LEAP-1A and LEAP-1C variants were achieved in June 2012. The first full LEAP-1A engine is currently being built and is on schedule to begin ground testing this fall.

CIT Aerospace chose **Rolls-Royce** Trent XWB engines to power the ten A350 XWB aircraft and Trent 700 engines to power 13 A330 aircraft. It ordered 10 A350s in January 2013 and 10 A330-300s in July 2012. The Trent XWB is the only engine offered with the Airbus A350, so it is the fastest selling Trent engine with more than 1,200 already sold. **Rolls-Royce** has sold more than 1,400 Trent 700 engines, and it has captured 70 percent of new A330 orders in the last four years. The engine variant that will power the A350-800 and -900 was awarded **European Aviation Safety Agency (EASA)** type certification in February. The engine will power the first A350 XWB into the air this summer and the aircraft will enter service in 2014.

GE Aviation has sold more than 200 CF34 engines to customers since December 2012. **Republic Airways** ordered 47 firm and 47 optioned CF34-powered **Embraer** E175s and **Aldus Aviation** bought five E175s. **Delta** signed contracts for 40 firm and 30 optioned CF34-powered **Bombardier** CRJ900 Next-Gen aircraft in December. Also during the last month of 2012, **Fuji Dream Airlines** bought two E175s with CF34 engines. **Allen Paxson**, general manager of the CF34 Engine Program at **GE Aviation**, said, "2013 will be a strong year for CF34 engine orders as several North American regional jet operators are expected to make fleet renewal decisions." Since 1992, **GE** has delivered more than 5,700 CF34 engines to 200 operators in more than 70 countries. The engines have accumulated more than 92 million flight hours and 75 million cycles on **Bombardier** CRJ and **Embraer** E-Jet aircraft. They have set the standard for dispatch reliability of 99.95 percent, **GE** said.

Order Changes and Cancellations

Airbus Order Shuffle. In April, **GECAS** cancelled four A320 orders and picked up four more A321s, for a total of 287 A320s and 25 A321s. **Intrepid Aviation** exchanged two of its nine undelivered A330-200F freighters for two more A330-300 passenger planes. **CIT Aerospace** switched one A330-300 order to the -200 model. The lessor now has ordered 35 A330-200s and 15 A330-300s.

Boeing's Order Cancellations and Changes. In April, **Boeing** announced that **Dubai Aerospace Enterprise (DAE)** cancelled the five 747-8Fs that it ordered in December 2007.

Embraer dropped six EMBRAER 190ARs orders from **Air Nigeria** in the first quarter of 2012. The airline ceased operations in April 2012. It operated two E190s at the time.

Leasing Companies

Air Lease Corporation (ALC) announced the lease of two new **Boeing** 777-300ERs to **Ethiopian Airlines**. The aircraft will be leased for

Mitsubishi Aircraft reported that Hong Kong-based **ANI Group** cancelled its Memorandum of Understanding (MoU) for five **MRJ** regional jets. **ANI Group** is a subsidiary of **Aero Nusantara Indonesia**, a maintenance, repair and overhaul firm based in Jakarta, Indonesia. It signed the MoU for five MRJs in June 2011. **Mitsubishi** has firm orders for 165 MRJs and options for another 160. The first MRJ will be delivered to **All Nippon Airways** in 2015. The first flight is scheduled for the fourth quarter 2013.

twelve years, and are scheduled for delivery in May and June 2015. **KLM-Royal Dutch Airlines** will long-term lease one new 777-300ER from **ALC** in March 2015. Additionally, **ALC** and **KLM** agreed to the extensions of leases for three 737-800s and one 777-200ER. **Korean Air** contracted to long-term lease two new 777-300ERs from **ALC**. They will be delivered in November 2014 and May 2015. **Korean Air** already leases two new 737-800s.

A321 Leases. **Air Macau** will long-term lease two new A321-200s from **ALC**. They are scheduled for delivery in October 2014 and March 2015. **ALC** will long-term lease one new A321-200/W with Sharklets, to **Etihad Airways**. It will be delivered in April 2015. **Etihad** intends to deploy the A321 on short to medium-haul routes to the Middle East and India.

Avolon Announces First Quarter Highlights.

The lessor purchased and leased out four new aircraft comprising of one 777-300ER and three 737-800NGs. They were valued at more than \$300 million. It ordered 20 **Airbus A320neo** aircraft, adding to a previous purchase of eight standard A320s. The lessor sold five aircraft on long-term leases to several international investors. **Avolon** has a fleet of 93 newly delivered aircraft and another 74 previously owned aircraft. The company formed a joint-venture with **Wells Fargo** called **Avolon Capital Partners (ACP)**, and was building a \$500 million aircraft portfolio. **Avolon** expanded its customer base to 35 airlines and its lending group to 24 leading financial institutions. It has retained a strong balance sheet and has raised its total capital to an excess of \$5.1 billion.

International Lease Finance Corporation

(**ILFC**) announced it completed 60 lease transactions during the first quarter of 2013. These transactions included placements of new aircraft, extensions of existing leases and the leases of used aircraft from **ILFC's** portfolio. **ILFC** owns and manages narrowbody and widebody aircraft and has committed to purchase 244 new fuel-efficient aircraft. The lessor is the largest customer in the **Boeing 787** program and the largest lessor customer of the **Airbus A320neo** family aircraft.

CIT Aerospace delivered nine new and used aircraft and signed 28 lease agreements in the first quarter of 2013. The agreements included lease extensions of its existing fleet, and current and future leases of commercial aircraft. The company added two new customers to its client base during the quarter. **CIT Aerospace** serves approximately 100 customers in 50 countries and owns or finances a fleet of approximately 350 commercial aircraft, it said.

AWAS leased three new A320s to **Vietjet**. The Vietnamese low-cost carrier is a new customer to **AWAS**, and is expanding its all-A320 services from the country's three major economic and tourist hubs - Ho Chi Minh City, Da Nang and Hanoi. It was the first private airline in Vietnam to be licensed to operate domestic and international flights. It currently operates six A320s. It will use the three new Sharklet-equipped A320s to expand into Southeast and North Asian cities, including Busan, Bangkok, Kuala Lumpur, Seoul, Singapore and Taipei.

Aircastle reported total first quarter 2013 revenues of \$176.2 million, up 7 percent (\$11.3 million) from the previous year. The company's lease rental and finance lease revenues increased \$8.2 million. Its maintenance revenues associated with unscheduled lease terminations rose by \$4.2 million, and revenues from interest on debt investments and additional revenue in connection with early lease terminations grew by \$4.3 million. Net income for the first quarter dropped 29 percent (\$9.5 million) to \$23.1 million. The \$11.3 million higher total revenues and \$1.0 million from aircraft sale profits were

offset by \$10.2 million higher interest, net of higher depreciation of \$5.4 million and non-cash aircraft impairment charges of \$6.2 million. These increases were offset by non-cash impairment charges of \$6.2 million, higher depreciation of \$5.4 million and higher adjusted interest expense, maintenance and other costs of \$5.6 million.

Willis Lease Finance Corporation (WLFC) saw its earnings drop to \$1.6 million in the first quarter, from \$2.5 million in the same quarter a year ago. The reduction in earnings was primarily due to lower profits from the sale of leased equipment. In the fourth quarter of 2012, **Willis Lease** lost \$0.8 million due to a \$2.8 million charge related to preferred share issuance costs. Its lease portfolio expanded 4.6 percent to \$1.02 billion, largely due to the purchase-leaseback transaction with **Scandinavian Airlines** that was completed late in the quarter. Total revenues fell slightly to \$35.3 million from \$35.7 million a year ago. Lease rent revenues increased 1.7 percent to \$24.5 million compared to \$24.1 million a year ago. Maintenance reserve revenues increased 7.6 percent to \$9.2 million, compared to \$8.6 million a year ago.

Airline News

International Air Transport Association (IATA) said global air travel markets continue to perform strongly. In March, revenue passenger kilometers (RPK) were up 5.9 percent compared to a year ago, almost two points better than February's growth of 4 percent. There has been acceleration in the growth trend since the fourth quarter of 2012, which was consistent with the improvement in global business confidence. RPKs have been

International Air Transport Association March International Traffic Growth.

Mar 2013 vs. Mar 2012	RPK Growth	ASK Growth	Pax Load Factor	FTK Growth	AFTK Growth	Freight Load Factor
Africa	8.2%	5.7%	67.8%	4.2%	10.2%	25.4%
Asia/Pacific	5.4%	3.4%	79.0%	-4.0%	-3.5%	62.1%
Europe	3.7%	0.4%	81.2%	-4.0%	-0.3%	50.0%
Latin America	11.8%	13.3%	76.9%	-2.2%	2.0%	40.8%
Middle East	15.6%	14.2%	79.7%	10.5%	9.3%	48.1%
North America	2.4%	-0.9%	83.0%	-4.4%	-3.0%	43.8%
Industry	6.0%	3.5%	79.9%	-2.1%	-0.3%	43.8%

Year to Date 2013 vs. 2012	RPK Growth	ASK Growth	Load Factor	FTK Growth	AFTK Growth	Freight Load Factor
Africa	8.1%	4.9%	67.0%	4.4%	10.8%	23.6%
Asia/Pacific	3.4%	1.8%	78.2%	-4.6%	-4.9%	58.7%
Europe	2.2%	-0.4%	78.4%	-2.9%	-0.8%	47.5%
Latin America	10.2%	12.0%	77.7%	-0.5%	6.2%	37.3%
Middle East	13.9%	12.9%	78.8%	12.4%	9.5%	46.2%
North America	1.5%	-2.0%	79.6%	-3.0%	-3.9%	41.3%
Industry	4.5%	2.4%	78.0%	-1.5%	-0.8%	48.7%

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 2013 to 2012, **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

FLF: Freight Load Factor is the percent of **FTKs** used. In comparison of 2013 to 2012, **FLF** indicates point differential between the periods compared

growing at an 8 percent annual rate from October to March, a marked increase over the first three quarters of 2012 expansion rate of 3.5 percent. All regions saw an improvement in international traffic in March, led by a 15.6 percent increase for Middle East airlines. Latin America airlines recorded the second fastest increase of 11.8 percent, reflecting the better performance of regional economies.

Air Freight Markets weakened in March, which wiped out the improvement made at the end of 2012. Global freight ton kilometers (FTK) were down 2.3 percent in March compared to a year ago. This is slightly better than February's 7.2 percent swoon. The trend clearly shows the improvement in growth has stalled and cargo traffic has not followed the increases in passenger traffic.

Ironically, Asia Pacific airlines felt the brunt of the weakness in the global cargo market. Africa and the Middle East regions saw improvements in air freight volumes. Airlines halted further declines in air freight load factors in March by contracting capacity faster than the drop in cargo traffic. Capacity contracted 0.4 percent month-to-month and load factors were nudged up by 0.1 percent, but seasonally adjusted load factors remain at the lowest levels since the post-crisis recovery.

Republic Airways plans to shed its **Frontier Airlines** unit by June or July. It bought **Frontier** out of bankruptcy in 2009 and has offered it for sale since late 2011. Two investment firms, **Indigo Partners** and **Anchorage Capital Group** are competing to buy **Frontier**, but negotiations are at an early stage and could fall apart. **Republic Airways** CEO **Bryan Bedford** said the sale by summer was contingent on reaching "an agreement that's satisfactory to the parties." **Republic** is also the parent of two regionals, **Republic Airlines** and **Chautauqua Airlines**.

Etihad Airways agreed to purchase 27,263,372 new shares in **Jet Airways** at a price of 754.74 rupees per share, for a total value of \$379 million. **Etihad** will hold 24 percent of **Jet Airways'** expanded share capital. The UAE national carrier will inject \$220 million to create and strengthen a wide-ranging partnership between the two carriers, it said. As part of the deal, **Etihad** paid \$70 million to purchase three pairs of **Heathrow Airport** slots from **Jet Airways** through a sale and lease-back agreement. **Jet** still operates flights to London using the slots. **Etihad** will invest \$150 million in **Jet's Jet Privilege** frequent flyer program. The strategic partnership is subject to full regulatory and shareholder approval, due within six months. The airlines will introduce new routes between India and Abu Dhabi, and combine their network of 140 destinations. **Jet Airways** will establish its Gulf gateway in Abu Dhabi and use **Etihad** to expand its global reach. **Etihad** will gain access to a fast growing travel market of 1.3 billion people.

Etihad Airways signed a route-sharing alliance with **South African Airways (SAA)**. State-owned **SAA** will code-share on 12 **Etihad** routes and the Abu Dhabi flag airline will gain access 10 new African cities. The Gulf carrier wants to tap the African passenger market, which it will expand at 6.8 percent a year until 2016. It is one of the fastest growing regions in the world. So far, **Etihad** has little penetration

IATA Posts April Jet Fuel Prices. The association updates the world's average jet fuel price each week. On April 26, the average price of fuel was \$2.710 per gallon. The fuel price was \$2.888 per gallon on April 5. The late April price was 8.5 percent lower than in the previous month, and was 16.7 percent less than in April 2012. The price of fuel is affected by location. It was only \$2.626 in the Middle East region and was as high as \$2.826 per gallon in Latin America. **IATA** forecast that the global airline industry's fuel bill will total \$127.8 billion in 2013. This was an increase of \$2 billion over 2012. Fuel cost only 87 cents per gallon in 2000.

in the African market, so code-sharing is a key part of its strategy. **SAA** is trying to return to profitability through cost cutting and the addition of more fuel efficient aircraft. The airline lost 1.36 billion rand (\$151.8 million) in the year ending March 2012. **SAA** saved about 1.3 billion rand the next year ending March 2013. The airline will replace its older A319s and 737 NGs with four leased A320s this year and 16 more by 2017.

Vueling Airlines Bought by International Airlines Group (IAG). The Spanish low-cost carrier's shareholders accepted **IAG's** cash tender offer of ú9.25 (\$12.10) per share, following the board's recommendation. **IAG** owned 45.85 percent of **Vueling** and bought another 44.66 percent for ú123.5 million, for a total holding of 90.51 percent of the stock. **Vueling** will be a stand-alone company within **IAG** with its chief executive **Alex Cruz** reporting to **IAG** CEO, **Willie Walsh**. **Vueling** intends to order new aircraft to update its fleet of 67 A320 Family aircraft. The airline is looking at proposals from **Airbus**, **Boeing** and **Bombardier**. The new planes will replace the oldest A320s in its fleet.

Emirates boosted full-year profit 34 percent to 3.1 billion dirhams (\$845 million) by adding routes and aircraft in the fiscal year. The airline took delivery of 24 twin-engined widebodies and 10 A380s during the year ending March 31. In the previous year, it reported a net-income of 2.3 billion dirhams and saw its revenue rise 17 percent to 77.5 billion dirhams. **Emirates** intends to make Dubai a hub for inter-continental traffic, by poaching business from established European rivals. At year end, its passenger totals reached 39.4 million, a gain of 5.4 million. The airline added 10 new cities last year, including Adelaide, Barcelona, and Washington. It plans to serve four new routes in 2013. **Emirates** is the largest operator of the A380, with 33 in its fleet and 57 more on order. It is also the largest operator of the **Boeing** 777-300ER with 75 in service and 64 on order. The airline is expected to place the launch order for the 777X later this year.

Virgin Australia Approved to Buy Shares of Tiger Airways. Australia's second-largest carrier gained antitrust approval to buy 60 percent stake in **Tiger Airways Australia**. **Australian Competition and Consumer Commission (ACCC)** Chairman **Rod Sims** said, the deal "is unlikely to lead to a substantial lessening of competition" and gave the green light. **Tiger** was founded in 2007, operates 11 leased A320s and has yet to make a profit in Australia. **Virgin** quashed an **ACCC** requirement to increase **Tiger's** fleet numbers to a specified level, by threatening to drop its purchase and watch **Tiger** cease operations. At this time, rival **Qantas** controls 65 percent of the domestic market and operates 57 737-800NGs and seven 737-400s. To fund the deal, **Tiger's** largest shareholder, **Singapore Airlines**, bought 10 percent of **Virgin** for A\$105 million (\$108 million).

Lineas Aereas Cuencanas (LAC), an Ecuadorian start-up airline, launched commercial operations on May 13. It flies from Cuenca to Guayaquil, Quito and Loja with a single **Bombardier** CRJ700. **LAC** won its air operator's certificate in April, a year after it filed its application and acquired the CRJ700. It plans to add a 50-seater **Embraer** ERJ-145 for less dense routes. **LAC** will compete with state-owned **Tame**, **LAN Ecuador** and **Aerogal**.

SAS Sells Widerøe. The parent airline, **SAS** will use the proceeds from the sale to pay down its debt. **Widerøe** will continue its close commercial cooperation with **SAS** after the transaction. **SAS** will sell seven Dash Q400s to **Widerøe** that are currently leased by the regional subsidiary. The regional will assume the loans on those Dash 8s. **Widerøe** will also lease three aircraft that **SAS** is selling to a leasing company. **SAS** anticipates receiving up to SEK 2.3 billion in total proceeds from the sale in the case of a

full divestment in 2016, and it will have to write off SEK 300 million. The total proceeds will reduce net debt by the same amount.

Hawaiian Airlines will codeshare with Taiwan's **China Airlines** to expand its partner network in Asia. It begins three-time weekly Honolulu-Taipei service with an A330-200 in July. **China Airlines** will resume its twice-weekly service between Taipei and Honolulu with an A330-300 on June 2. The codeshare will include flights between Taipei and Manila, because **Hawaiian** will cancel its nonstop service between Honolulu and Manila on August 1. **Hawaiian** started codeshares with **Air China** and **All Nippon Airways** in 2012.

Qantas Airways and China Eastern Airlines Joint Venture. The two airlines will invest \$99 million each over the next three years to set up **Jetstar Hong Kong**. The new airline should win regulatory approval by the end of this year, and will operate 18 A320s by 2016. The city is currently underserved by budget airlines. **Hong Kong Airport** is the base of **Cathay Pacific Airways** and **Hong Kong Airlines**, the latter's subsidiary, **Hong Kong Express**, said it will convert to a low-cost model, but for now the city is wide open for the **Qantas/China Eastern JV**. The **Jetstar** franchise accounts for 20 percent of **Qantas'** revenues and 31 percent of its operating income. It is Asia's largest budget airline, flying one half more revenue passenger kilometers than its largest rival, **AirAsia**. **Qantas** launched **Jetstar Japan** in 2012, and it will double its fleet to 24 A320s in the next 18 months. **Qantas** and **Japan Airlines** each own 33 percent of **Jetstar Japan**, with **Mitsubishi Corp.** and **Century Tokyo Leasing** sharing the remaining 34 percent. **Westbrook Investments Pte.**, Singapore, owns 51 percent of **Jetstar Asia**, and **Jetstar Pacific**, Vietnam, is 70 percent owned by **Vietnam Airlines**. **Jetstar** is a wholly-owned **Qantas** subsidiary and it flies domestic services in Australia and to New Zealand. It flies 53 A320s, six A321s and 11 A330-200s. The domestic airline has 18 787 Dreamliners on order.

Air India told the **Indian Parliament** that it would sell its eight Boeing 777-200LR (long range) aircraft. The airline took delivery of the planes between 2007 and 2010 and used them for ultra-long-range, non-stop services between India and the U.S. Unfortunately, the global recession, the steep increase in fuel prices and poor yields on non-stop routes made the aircraft unprofitable to operate on their intended routes. **Air India** resumed commercial Dreamliner flights on May 15, with two aircraft. They initially operated domestic routes between Delhi, Bangalore and Kolkata. International flights started in late May. All six 787s were retrofitted with the new battery systems by June 1. **Air India** will take delivery of eight more 787s by December 31. The airline will start Dreamliner flights to Birmingham, U.K., Sydney and Melbourne, Australia, in August, and to Rome and Milan, Italy, in October. Flights to Moscow will be launched in early 2014.

Technical

787s Return to Passenger Service. **Ethiopian Airlines** performed battery modification on its four 787 Dreamliners at its base in Addis Ababa. The carrier also modified **LOT Polish Airlines'** two 787s. The **LOT** airplanes were flown from Chicago and Warsaw in May. They will be put into service from Warsaw to Chicago and Toronto on June 5. **Ethiopian Airlines** put its first 787 into service on April 27. **Boeing** vice-president of marketing **Randy Tinseth** was a passenger on **Ethiopian's** first revenue 787 flight since the mid-January grounding. He commented that the flight departed on time, arrived early, and was "truly perfect". Many of the passengers on Flight ET801 "had no idea they'd be flying on the 787 until the bus dropped them off at the air stairs." **Qatar Airlines** restarted 787 services on May 1.

Cargo Pallet

Aeronautical Engineers (AEI) was contracted by **Allied Air**, Nigeria, to provide two 737-400SF 11 Pallet Configuration conversions, and the airline took an option for one additional conversion. The first aircraft, a high gross weight 737-400 (SN 26081), was built in 1993 and will undergo freighter modification in June of 2013 at **AEI's** authorized conversion center, **Flightstar Aircraft Services** in Jacksonville, Florida.

Kahala Aviation, Ireland, contracted for **AEI** to convert two 737-400s into 11 pallet Special Freighters. The leasing company optioned two additional conversions. The first aircraft, a 1991-model 737-400 (SN 25052), will be converted at one of **AEI's** North American conversion facilities, starting in May. Both 737-400SF conversions are currently available for lease. **Kahala Aviation** is a global aviation company focusing on leasing and trading of used commercial aircraft and structured finance solutions for its clients. The company has offices in Europe, USA and Asia, and its core management team has worked together for 10 years, acquiring nearly 60 aircraft of various types, the lessor said. **Kahala Aviation's** management has been involved in the 737 Classic freighter market since 2008 when it completed and leased its first successful freighter conversion.

Atlas Air Worldwide Holdings placed its eighth Boeing 747-8 Freighter into ACMI service with **Etihad Cargo**, the cargo arm of **Etihad Airways**, United Arab Emirates. The multi-year aircraft, crew, maintenance and insurance agreement started in May 2013. The contract was announced as a Letter of Intent on April 1, 2013, and complements an existing **Boeing** 747-400F ACMI arrangement between **Atlas** and **Etihad**. The aircraft will be operated in full **Etihad Cargo** livery.



Military Market

Embraer Defense & Security expects to sell its first KC-390 airlifter/tanker in the first quarter of 2014. "We will fly this aircraft at the end of next year, which is like saying, tomorrow," the company's KC-390 program director, **Paulo Gastão Silva**, said. The manufacturer will build two KC-390 prototypes for the flight test program. It released engineering drawings for suppliers to start building the first components in March 2013, after clearing the critical design review with the **Brazilian Air Force**. So far, six countries have signed commitments to buy 60 more of the twinjets: Argentina, Brazil, Chile, Colombia, the Czech Republic and Portugal. **Embraer** is keeping its estimates for the KC-390's price secret, but building the prototypes will help the company to refine its cost models enough to establish the baseline price for the aircraft. **Embraer** forecast a potential demand for 728 aircraft in the KC-390 class, and valued them at more than \$50 billion,

The **Royal Air Force's** fourth of seven A330 Voyager tanker/transport (registered ZZ332) touched down at the **Brize Norton** air base in April. It was the first of two planes to have been converted into a tanker by **Cobham Aviation Services** in the U.K. The Voyager is powered by **Rolls-Royce** Trent 772B-60 engines. It is configured as a three-point tanker, which includes under-wing hose and drogue refueling pods and a fuselage refueling unit. The rest of the 14 Voyagers will be converted by **Airbus Military** in Getafe, Spain. The **RAF's** first tankers will soon be released for service approval by the **Ministry of Defense** to begin performing air-to-air refueling training activities. The type is operated by the **RAF's** 10 Squadron, and also by civilian sponsored reservist crews in the air transport role.

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which works out to approximately \$69 million per aircraft. The company said the market assessment was not an indication of the cost of the new aircraft. **Embraer** is committed to beating the price of the US-built Lockheed Martin C-130J airlifter, which is sold on the international market within the range of \$90-120 million each.

The Royal Air Force of Oman's first of eight C295 medium transport and MPA maritime patrol aircraft entered flight testing at the **Airbus Military** San Pablo site near Seville, Spain, in May. **Oman** ordered five transports and three MPAs in May 2012. The new C295 MPAs will undertake reconnaissance and anti-piracy missions around the Gulf of Hormuz and other coastal regions. It will conduct anti-pollution and exclusive economic zone patrols, as well. The planes will replace **Oman's** five 1960s-era **Shorts** Skyvans. The county bought 16 Skyvans in the the late 1960s, but the fleet was reduced by attrition to five aircraft by 2009. Three of the surviving planes were modified locally to perform maritime patrol and reconnaissance duties.

Airbus Military launched the C295W, the winglet equipped variant of the C295 medium transport and surveillance aircraft. The first C295W (W for winglets) is flying and offers a 4 percent reduction in fuel consumption and it can fly 2,000 feet higher. Like the original C295, the C295W is powered by **Pratt & Whitney Canada** PW127 engines. The C295W will be **Airbus Military's** standard variant by the fourth quarter of 2014. It will be certified six month prior to then. To date, no one has ordered the new aircraft.

India's First Boeing P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft was delivered on schedule to **India Naval Station Rajali**. The P-8I (737-8FV, SN 40611) is one of eight aircraft **Boeing** is building for India as part of a contract awarded in 2009. The manufacturer is on track to deliver the next two P-8I aircraft later this year, **Boeing** said. The P-8I is based on the Next-Generation 737 commercial airliner and is a variant of the P-8A Poseidon that **Boeing** developed for the **U.S. Navy**. The P-8I incorporates India-unique design features, and Indian-built subsystems that are tailored to the country's maritime patrol requirements.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A319. **Airbus** delivered only two A319s in April. **Germanwings** acquired one -132 (SN 5569) and has two more on order. In China, **Tibet Airlines** accepted **Tianjin FAL**-built -115 (SN 5451). **AWAS** leased -112 (SN 1886) to **Helvetic Airways**, Switzerland. The airplane was previously leased by **NAS Air**, Saudi Arabia. **Helvetic** was founded in 2003, and was Switzerland's first regional carrier. It offers scheduled, charter and ACMI service with six Fokker 100s, to a number of destinations in Europe and North Africa.

Airbus A320. **Airbus** delivered 32 A320s in April, of which three -214s went to **GECAS**. The lessor leased two -214s (SN 5560 & 5571) to **Citilink Garuda Indonesia**, and one -214 (SN 5540) to **Peach Aviation**. **AWAS** leased three -214s (SN 5565, 5578 & 5585) to **Aeroflot**. The sixth one will be delivered in 2014. **Aeroflot** leased one -214 (SN 5572) from **SMBC Aviation Capital**. **Air Lease Corp. (ALC)**, leased one -214 (SN 5559) to **Siberia Airlines** (formerly **S7 Airline**). **China Southern**

Airlines leased one -232 (5602) from **ALC**, and one **Tianjin FAL**-built -232 (SN 5484) from **ICBC Financial Leasing**. **Vueling** leased two -214/Ws (SN 5533 & 5587) from **Aviation Capital Group**. **BOC** accepted -232/W (SN 5566) with Sharklets, and leased it to **Jetstar**. **Jetstar Japan** leased -232/W (SN 5598) from **Qantas Airways**. **Monarch Airlines** leased Sharklet-fitted -214/W (SN 5581) from **CIT Leasing Corp.** In Asia, **Airbus** delivered one -233 (SN 5531) to **Silkair**, one -232/W (SN 5537) to **IndiGo**, and one -214/W (SN 5552) to **Go Air**. **AirAsia** leased one -216/W (SN 5593) to **Thai AirAsia**, and **Tiger Airways** received -232 (SN 5596). **China Southern Airlines** took delivery of **Tianjin FAL**-built -232 (SN 5480) and **Hainan Airlines** leased -214 (SN 5471) to **Capital Airlines**, also from the Tianjin assembly line. In the Middle East, **AirArabia** accepted -214/W (SN 5576), and in North Africa, **Tunisair** acquired -214 (SN 5610).

Two related Latin American airlines, **TAM** and **LAN Airlines**, took delivery of their first Sharklet wingtip-equipped A320s, receiving one -214/W (SN 5591) and two -214/Ws (SN 5548 & 5554), respectively. All three of the -214/Ws were leased from **Gaviota Leasing**. The two airlines combined have ordered 380 aircraft and have more than 240 aircraft in operation. In Europe, **Wizz Air** took delivery of its first two Sharklet-fitted -232/Ws (SN 5604 & 5608). The airline has ordered 112 A320 Family aircraft. **Lufthansa** bought -214/W (SN 5557), and it has 18 more on order for delivery by 2015. **Iberia** accepted its 69th -216 (SN 5570), and **easyJet** acquired -214 (SN 5542).

China Eastern Airlines took delivery of its first A320-232/W equipped with Sharklet winglets and became China's first carrier to do so. The aircraft was the first Sharklet equipped A320 to be assembled and delivered in Tianjin. The **IAE V2500**-engined A320 features a 158-seat two-class cabin, with eight seats in business class and 150 in economy. The A320/W entered commercial service from Shanghai to Dalian on May 18. **China Eastern** is one of the largest airlines in China. It now operates more than 230 **Airbus** aircraft, including A300s, A319s, A320s, A321s, A330s and A340s, after having taken delivery of its first A300 in 1985. **Airbus Tianjin Delivery Center** has delivered 126 aircraft since June 2009 and it plans to deliver 46 aircraft in total in 2013.

Air Astana, Kazakhstan's flag carrier, received its first A320 aircraft equipped with Sharklet wing tip devices in May. The -232/W (SN 5613) is powered by **IAE V2500** engines, and features a two-class cabin which seats 148 passengers, with 16 in business class and 132 in economy.

GE Capital Aviation Services (GECAS) bought two A320s from **Jetstar Japan** and leased them back. The airline launched low-fare domestic service in 2012, and it currently operates nine A320s to five destinations. **GECAS** leased a new A320 to **Tiger Airways**, Singapore. This was the first of five A320s scheduled for delivery in 2013, and is part of a multiple aircraft purchase-and-leaseback transaction with **Tiger Airways Holdings**.

AWAS leased an A320-200 to **TAME**, in May. The national airline of Ecuador is a new customer for **AWAS**. Also in May, **AWAS** leased a second A320 to **Air Via**, based in Varna, Bulgaria. The aircraft are from the lessor's existing portfolio.

Airbus A321. **Airbus** delivered eleven A321s in April, and more than half of them went to Chinese airlines. **China Eastern Airlines** received three -231s (SN 5519, 5558 & 5575), and **China Southern Airlines** accepted -231 (SN 5534). **Air China** bought -213 (SN 5573) and **Sichuan Airlines** acquired -231 (SN 5543). **Saudi Arabian Airlines** accepted its 15th and final -211 (SN 5549) and **Turkish**

Airlines bought its 36th -231 (SN 5546). **Vietnam Aircraft Leasing** leased its 10th and final -231 (SN 5555) to **Vietnam Airlines**. **Swiss International Air Lines** received its second of three ordered -212s (SN 5567). **Comlux Malta** took delivery of ACJ321-211 (SN 5538) and flew it to Indianapolis, Indiana for interior fitting.

Airbus A330. **Airbus** delivered six -200s, one -200F, and six -300s in April. **Qatar Airways** leased its third -243F (SN 1406) from **BOC Aviation**. **Hawaiian Airlines** acquired two -243s (SN 1399 & 1404) for a total of 12 in its fleet. **Air Lease Corp.** leased -203 (SN 925) to **KLM Royal Dutch Airlines**. The airplane first flew in April 2008 as a -202, and it was recently modified into a GE CF6-80E1A3-engined -203 model. **CIT Leasing Corp.** leased -243 (SN 1407) to **Virgin Australia Airlines**. **China Eastern Airlines** acquired -243 (SN 1402), and **Garuda Indonesia Airways** accepted -243 (SN 1410). **Swiss International Air Lines** accepted its 15th of 16 ordered -343Es (SN 1403), and **Iberia** received its third -302 (SN 1405). **Meridian Aviation Partners** leased -343E (SN 1401) to **Singapore Airlines (SIA)**, for a total of 21 A330-300s in **SIA**' fleet. Elsewhere in Asia, **Thai Airways International** took delivery of -343E (SN 1408) and **Cathay Pacific** received -343E (SN 1409). **AirAsia X** bought -343e (SN 1411) and sold it to **International Lease Finance Corporation (ILFC)** for lease back. The long-haul, low-cost affiliate of **AirAsia**, Malaysia, will take delivery of three more -343s by the end of 2013, and another two will be delivered in 2014. The five A330s will all be sold/leased-back with **ILFC** after delivery.

AJW Capital Partners Limited purchased the last two new A340-541s (SN 886 & 894) from **Airbus** in November 2012. These A340s were re-delivered to **Azerbaijan Airlines** after extensive repainting and the installation of an airline interior. The airplanes arrived in Baku in April and May respectively. **AJW Capital Partners** purchased a VVIP ACJ340-642 (SN 779) from **Saad Air**, Bahrain. The VVIP aircraft will enter service for an undisclosed Head of State, **AJW** said. The press reported that the plane would go to **Azerbaijan Airlines**.

Airbus A380. There were no A380 deliveries in April, but **Emirates** accepted two -861s (SN 113 & 116) in early May. **Airbus** will display **British Airways**' first -841 (SN 095) at **Paris Air Show** in June and it will be delivered in July.

Boeing

Boeing 737 NG. **Boeing** delivered 37 737s in April. Seven companies received two airplanes each. **American Airlines** acquired two -823/Ws (SN 29574 & 31167), and sold them to the **Wells Fargo Bank Northwest**, trustee, for lease back. **United Air Lines** bought two -924ER/Ws (SN 31653 & 37102). **TUI Travel PLC** leased two new -8K5/Ws (SN 37256 & 37257) to **Thomson Airways**. **Avolon** leased two -8K5/Ws (SN 40943 & 40944) to **TUI Travel** for operation by its subsidiary, **Jetairfly**, Belgium. **Lion Air** received two -9GPER/Ws (SN 38688 & 38730), and leased them to **Batik Air**. **China Southern Airlines** accepted two -81B/Ws (SN 38943 & 38944), and **Turkish Airlines (THY)** bought two -8F2/W (SN 40991 & 42001). **Qantas Airways** accepted two -838/Ws (SN 39369 & 39370). Elsewhere in the Asia-Pacific region, **Air China** received -89L/W (SN 40038), and **China Eastern Airlines** acquired -79P/W (SN 39725). **Hainan Airlines** accepted -74P/W (SN 39198), **Shandong Airlines** received -85N/W (SN 39110), and **Xiamen Airlines** purchased -85C/W (SN 38400). **Boeing** delivered -881/W (SN 33915) to **All Nippon Airways**, the 29th -8KN/W (SN 40258) to **flydubai**, and the 18th -8H6/W (SN 40146) to **Malaysia Airlines**. In the Americas, **COPA Airlines** took delivery of -8V3/W (SN 40788), and **GOL Airlines** received its 75th -8EH/Ws (SN 39616). It has another 67 on order. **Southwest Airlines** accepted one -8H4/Ws (SN 36908), and the **U.S. Navy**

accepted its eighth production -8FV/Wi P-8A Poseidon (SN 40819). Three European airlines added 737s: **airberlin** received its 69th -86J/W (SN 37778), and it was sold to **Celestial Aviation Trading** for lease to **Transavia France**; **Air Europa** accepted its 23rd of 34 ordered -85P/Ws (SN 36592) and **KLM (Royal Dutch Airlines)** acquired its 21st -8K2/W (SN 42148). It is operated by **Transavia**. The following six lessors took one 737 each. **Air Lease Corp.** leased -81B/W (SN 41302) to **China Southern Airlines**. **China Airlines** leased -8Q8/W (SN 41786) from **International Lease Finance Corporation**. **AWAS** leased -81D/W (SN 39429) to **Spring Airlines Japan**. It is a subsidiary of **Spring Airlines**, a leading Chinese low-cost carrier. **BBAM—Babcock & Brown Asset Management** leased -85C/W (SN 39331) to **Hebei Airlines**, and **BOC Aviation** leased -8AL/W (SN 39057) to **Jet Airways**. **Spicejet** leased one new -86N/W (SN 41259) from **GECAS** in April and leased the fifth of five -8GJ/Ws (SN 39430) from **AWAS** in May.

International Lease Finance Corporation purchased the first of three new 737-800s from **Virgin Australia** for lease-back. All three are scheduled to be delivered to **Virgin Australia** this year. The airline and lessor did two sale/lease-back transactions in 2012.

Used 737 Sales. Macquarie AirFinance purchased three 737-800/Ws from **Tyrolean Airways**. One each was leased to **AeroMexico** (SN 34262), **EL AL Israeli Airlines** (SN 33834), and Czech Republic-based operator **Travel Service** (SN 33833). **Tyrolean Airways** is consolidating its fleet around the A320 Family aircraft. The 737s were built in 2005 and 2006 and were handed over to lessors between January and April. **EL AL** is a new customer for **Macquarie AirFinance**. **FLY Leasing** purchased a 2013-model -800/W and leased it to a leading Asian low-cost carrier for 12 years. The deal was funded with a combination of FLY's unrestricted cash and the \$250m aircraft acquisition facility that was closed in November 2012.

Airstream International Group arranged the sale of five -500s by **Royal Air Maroc (RAM)** to **Vx Capital Partners**. The -500s (SN 25317, 26525, 26527, 27679 & 27680) were the last five in the **RAM** fleet. The airline phased out its 737 Classics, and replaced them with Next Generation 737s. **Airstream** has concluded the sale of nine aircraft since the start of this year.

Boeing 747. Boeing did not deliver any 747-8s in April. It delivered the 50th 747-8 on May 29 to the seventh 747-8I to **Deutsche Lufthansa**.

Boeing 767. **LAN Airlines** received the only 767 to be delivered in April to its 32nd of 34 ordered -316ERs (SN 41995). The airline had **Aviation Partners Boeing** blended winglets installed. In May, **MIAT Mongolian Airlines** took delivery of its first new airplane to be purchased directly from **Boeing**, -34GER (SN 41519). The Mongolia's flag carrier ordered the plane in 2011. Prior to then, the airline leased western aircraft or bought Russian aircraft. The 767 will be used to expand services to Mongolia, a country with a booming mining industry.

Boeing 777. Boeing delivered six 777-300ERs in April. **American Airlines** accepted its sixth -323ER (SN 315467). **Aeroflot** received its fourth of 16 -3M0ERs (41686), and **Air China** bought -39LER (SN 38677). **BOC Aviation** leased a second -3ALER (SN 41523) to **Thai Airways International**. **Qatar Airways** bought -3DZER (SN 41781), and **Philippine Airlines** received -3F6ER (SN 38718).

Boeing 787. Boeing did not deliver any 787-8s in April, but it saw most of the 50 delivered 787s return to the air in May. The FAA said it cost \$465,000 to replace the battery in each 787, and the fix adds about 150 pounds to each 787.

Japan Airlines (JAL) completed modifications of its fleet of seven Dreamliners on May 13, and intends to resume 787 operations on June 1. **All Nippon Airways (ANA)** took a little longer to modify its 17 787s. Its pilots are performing familiarization flights on the aircraft type and had one flight glitch. There was a failure in one of the replacement electrical panels that was attributed to a nut that needed to be tightened. ANA plans to start flying passengers in its 787s on June 1. It will fly from Tokyo to Beijing, Frankfurt and San Jose. JAL will fly 787s from Tokyo to Beijing, Boston, San Diego and Singapore.

First 787 Deliveries. Thomson Airways, a U.K. holiday carrier, received its first of 13 787-8s at Manchester on May 31. The airline intends to put it into service on July 8. The plane will be the first 787 to be operated by a U.K. airline. **British Airways** and **Virgin Atlantic** have also ordered the 787. **China Southern Airlines** celebrated the delivery of its first of 10 787-8s on the last day of May. **China Southern** is the first Chinese airline to receive the Dreamliner. It will be operated on domestic flights before flying on long-haul international service. **China Southern** is the tenth customer to take delivery of the 787 Dreamliner.

Air India started test flying two modified 787s on May 9 and expects all six of its Dreamliners to return to commercial service by the end of May. During that period, the flag carrier will re-qualify its pilots on the type. **Air India** used its Dreamliners on services from Delhi to Dubai, Frankfurt and Paris.

Ethiopian Airlines performed its first passenger 787 flight on April 27 and **Qatar Airways** resumed its 787 services in early May. **LATAM Airlines** expects to fly its 787 Dreamliners in June. **LOT Polish Airlines** expects to restart Boeing 787 flights to Chicago and Toronto on June 5.

United will phase in scheduled service with its six 787s between Houston and several domestic cities on May 20. The planes were modified by **Boeing** engineers at Kelly Field in San Antonio.

Regional Jet

Bombardier delivered CRJ1000 NextGen (SN 19032) to **Garuda Indonesia** in April. Four **Iraqi Airways** CRJ900ERs (SN 1528, 15281, 15283 & 15284) are stored at Montreal. The airline ordered 10 CRJ900ERs and optioned 10 in 2008. Four were delivered by December 2009, and another two were handed over in July 2011. In April 2012, **Iraqi Airways** announced it would take delivery of the remaining four CRJ900ERs, but that delivery was postponed until further notice. One year later, the jets still sit at **Bombardier's** manufacturing facilities with the registrations taped over.

Embraer delivered one EMBRAER 170-100ER (E170) (SN 17000357) to **Airnorth Regional**, Australia, in April. **Azul Linhas Aereas** took delivery of EMBRAER 190-200 IGW (E195) (SN 19000609), and **China Southern Airlines** accepted E190 (SN 19000613). **JetBlue** received two E195s (SN 19000617 & 19000618), and **CIT Aerospace** leased one new E190 (SN 19000616) to **Flynonstop**, Kristiansand, Norway. The airplane will be used to launch nonstop routes between Kristiansand and key cities in Southern and Central Europe.

Aeromexico Connect is adding three EMBRAER 175s from an unannounced source. Two of the 86-seat E175s will enter service in June. The planes will replace Embraer ERJ-145s with 50 seats. They will link Mexico City with Acapulco, Veracruz, Oaxaca, Guadalajara, Tampico, Zihuatanejo, Minatitlan, San Luis Potosi and Aguascalientes. **Aeromexico Connect** operates three E170s, 19 E190LRs and 35 ERJ-145s.

Turboprop Aircraft

ATR. **Virgin Australia** took delivery ATR 72-600 (SN 1073), and **Uni Airways** received -600 (SN 1078), in April. **GECAS** leased -600 (SN 1082) to **Azul Linhas Aéreas**. **Wings Abadi Airlines'** -600 (SN 1081) was rolled out of the factory in late April, and will be delivered to **Maliindo Air**, Malaysia. **Aer Arann**, the regional carrier of **Aer Lingus**, took delivery of its first ATR 72-600 (SN 1083) in May. The airline is replacing its existing fleet of 72-200s, with eight new 72-600s scheduled to be delivered by 2014. The eight ATR 72s will be leased from **Avinco**. The new planes will also open up two new routes. **Aer Arann** is adding Manchester and Birmingham to its Dublin-based flight schedule.

328 Support Services GmbH (328SSG), Germany, handed over the third and final Dornier 328JEY conversion (SN 3141) to Nigerian charter company **SkyBird Air** in early April. The latest delivery completes a \$14 million contract, which saw **328 Support** refurbish three Dornier 328 aircraft into two 32-seat passenger airliners and a VIP configured 328DBJ last year. **SkyBird Air** now operates three Dornier Jets (SN 3120, 3141 & 3151). **328 Support** contracted in April, to deliver a **Dornier** conversion to **SpringChild Investments**, a Lagos-based privately owned business. The Dornier 328JET (SN 3200) will be configured with four forward facing business class seats at the front of the aircraft, complemented by a further 23 seats in an economy format in the aft cabin. The interior conversion and modifications will be completed by **328SSG** at its Oberpfaffenhofen headquarters. The aircraft is due for completion in late May and delivery in early June, 2013.

Bombardier delivered Dash 8Q-402 NextGen (SN 4438) to **Nordic Aviation Capital**. It was leased to **Air Baltic**, in April.

Antiques and Other Junque

U.S. Bank National Association, Owner Trustee, sold ex-**United Air Lines**-leased 757-222 (SN 24622) to **Aeroturbine**. **SkyWorks Leasing** assisted **U.S Bank** with the lease return and arranged the sale of the aircraft. **Jet Midwest Group** bought ex-**American Airlines**-leased -223 (SN 24587) from **U.S. Bank National Association**, Trustee, through **Bristol Associates**. **Jet Midwest** is offering three 767s, 10 MD-80s and 12 Fokker F.100s for sale or lease.

Accidents and Safety

From Aviation Safety Foundation

National Air Cargo/National Airlines lost **Boeing** 747-428BCF (N949CA, SN 25630) when it crashed on takeoff from **Bagram Air Base**, Afghanistan, on April 29. The airplane was observed in a very steep

May 2013

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nose-up attitude immediately after takeoff; it stalled and struck the ground off the end of the runway. The 747 burned and all seven crew members were killed. The airplane arrived from **Châteauroux Airport**, France, the previous day and was in route to Dubai when it crashed. The **Afghan Taliban** claimed to have shot the airplane down, but this claim was quickly discredited. The **National Transportation Safety Board (NTSB)** will investigate the accident. **National Airlines** started operating two DC-8-63CFs and one DC-8-71F on scheduled and charter flights to **Bagram Air Base** in April 2009 and switched to using three former **Air France** 747-400BCFs in September 2011.

Nusantara Air Charter's British Aerospace BAe-146-200QT freighter (PK-JKC, SN E2113) burned on the ramp at **Wamena Airport**, Indonesia, on May 8. One person was injured after an oil barrel fell while being off-loaded, a fire erupted and quickly engulfed the airplane in flames.

Deraya Air Taxi's British Aerospace ATP freighter (PK-DGI, SN 2027) ran off the left side of the runway at **Wamena Airport**, Indonesia, and was substantially damaged on May 31, 2013. The main wheels dug in the soft ground and the nose gear collapsed.

US Airways Express's de Havilland Canada DHC-8-102 (N934HA, SN 139) landed on its belly at **Newark-Liberty International Airport**, on May 18. None of the 31 people on board were injured. The flight crew was not able to extend the landing gear on approach to Newark, after a short flight from Philadelphia.

Myanma Airways's Xian MA60 (XY-AIQ, 0808) was damaged when the left hand main landing gear collapsed after the plane left the runway at **Mong Hsat Airport**, Myanmar, on May 16. There were 55 persons on board and two of them were injured.

Nepal Airlines's DHC-6-300 Twin Otter (9N-ABO, 638) was substantially damaged in a landing accident at **Jomsom Airport**, Nepal, on May 16. The airplane skidded off the runway, and went down a slope by the Kaligandaki River. Three crew members and three passengers were seriously injured.

China Flying Dragon Aviation's Harbin Yunshuji Y-12-II (B-3801, 0006) was destroyed in an accident shortly after takeoff from **Shenyang-Taoxian International Airport**, China, on May 16. All three crew members survived.

AVMARK CAPABILITIES

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

ASSET MANAGEMENT PROGRAMS

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

AIRLINE IMPROVEMENT PROGRAMS

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

ECONOMIC & TECHNICAL ANALYSES PROGRAMS

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

PUBLICATIONS

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

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

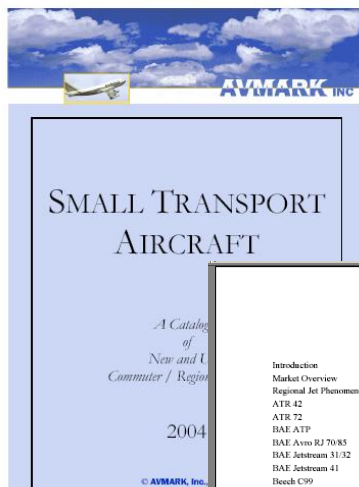
AVMARK's Historic Jet and Turboprop Values; summary of the then current fair market values as published in the AVMARK Newsletter for all jets and turboprops in service.

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

Sample of Avmark Publications

SMALL TRANSPORT AIRCRAFT CATALOG

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



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

Most dynamic and fastest growing segment in the world, using old generation propeller aircraft to serve 100 million passengers using state of the art technology.

Airline Association (RAA):

ATC:

DOT:

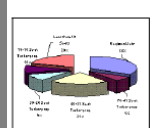


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de Havilland DHC-7	90
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de Havilland DHC-8 300	100
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Embraer 170	121
Metrol	124
Fokker 50	128
Fokker 70	132
Let L410/420	136
Saab 340	140
Saab 2000	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
Hartzell Propellers	4 blades
Performance	
74.8 ft in	
80 ft 7 in	
74.8 ft in	
48 ft 3 in	
8 ft 5 in	
6 ft 3 in	
170 / 170 / 53 cu ft	
36,815 lb	
36,155 lb	
33,510 lb	
22,875 lb	
10,325 lb	
9,920 lb	
60.83 lb / sq ft	
10.22 ft/lb thrust	

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

Optional Equipment: KLN 90N GPS/W, FMS, Area Navigation (RNAV), Microwave Landing System, VLF Omeg Long Range Navigation System, Dual Forewing 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 Altitude and Heading Reference Systems (AHRS), Dual Engine Computers (ADC), 1 DFZ 600 Automatic Flight Director, Dual King Gold Crown VHF Nav, Radios, DME, Radio Altimeter, Honeywell P-600 Weather Radar.

Price List	
Years Built	Base (\$ mil)
ATR 42-300	85-95 3.0

Direct Operating Costs (\$ per block hour)	
Utilization (Block Hours / Year)	2
Average Stage Length (nm)	100 300
Flying Operations	
Flight Crew, Salaries / Expenses	\$108 \$108
Fuel, Oil, Taxes	\$173 \$162
Other	\$3 \$3
Aircraft Costs	
Insurance	\$3 \$3
Maintenance	\$476 \$475
Depreciation	\$62 \$62
Rentals	\$316 \$316
Total Direct Operating Costs	\$905 \$833
Cost per Available Seat Mile - \$	12.33 9.65
Cost per Airplane Mile	\$5.67 \$4.44
Cost per Seat Block Hour	\$18.67 \$15.1

Note: Data from DOT airline filings.

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 Hispanavia de 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 PW127 engines and Hamilton six-bladed propellers. Thus increasing the payload to 12,515 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 "Idle 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.

ATR 42-300

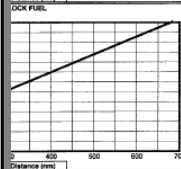
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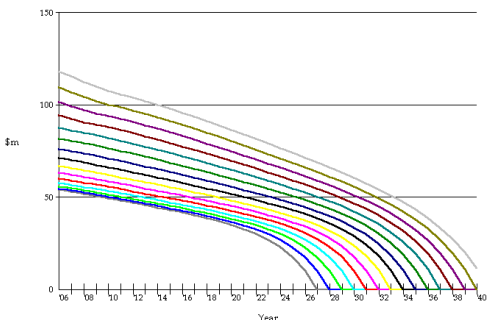
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CAVAS Graph



Profit & Loss Report

Aircraft Type	Airbus A340-300				
Period	1	2	3	4	5
REVENUES (US\$'s)					
Passengers	49,328,754	49,270,739	49,212,559	49,154,213	49,095,701
Freight & Mail	8,879,176	8,868,733	8,858,261	8,847,758	8,837,226
Other Revenue	986,575	985,415	984,251	983,084	981,914
TOTAL OPERATING REVENUE	59,194,505	59,124,887	59,095,071	59,065,055	59,034,841
VARIABLE EXPENSES					
Fuel	6,918,975	6,912,747	6,906,572	6,900,437	6,894,345
Landing Fees	3,021,823				
Enroute Charges	392,440				
Pax Commissions	7,399,313				
Freight Commissions	1,331,876				
Food & Supplies	3,999,194				
Passenger Liability Insurance	379,590				
TOTAL VARIABLE COST	23,443,212				
SEMI-VARIABLE EXPENSES					
Crew Salaries & Expenses	5,177,760				
Maintenance & Engineering	587,650				

Profit & Loss Report

Aircraft Type	Airbus A340-300				
Period	1	2	3	4	5
FIXED EXPENSES					
Station Overhead	346,597	345,923	345,249	344,575	343,901
Maintenance Burden	176,295	351,824	526,586	700,581	873,810
Other Overhead	0	0	0	0	0
TOTAL FIXED COST	522,892	697,747	871,835	1,045,156	1,217,711
TOTAL OPERATING COST	31,464,497	32,185,749	32,903,601	33,618,052	34,329,104
General and Admin. Allocation	1,573,225	1,609,287	1,645,180	1,680,903	1,716,456
TOTAL COST	33,037,722	33,795,036	34,548,781	35,298,955	36,045,559
OPERATING PROFIT OR LOSS	26,156,782	25,329,851	24,506,290	23,686,100	22,869,282
D-CHECK ADJUSTMENT					
Cumulative Hours	4,830	9,650	14,459	19,257	24,045
Cumulative Dollars	315,000	0	0	0	0
ADJUSTED CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282
AIRCRAFT LIFE ADJ. CASH FLOW	25,841,782	25,329,851	24,506,290	23,686,100	22,869,282

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

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CAVAS Figures

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2006	54.00	54.61	55.83	57.66	60.10	63.14	66.80	71.07	75.94	81.43	87.52	94.23	101.54	109.47	118.00
2007	52.85	53.49	54.73	56.56	58.98	62.01	65.63	69.85	74.66	79.87	84.88	90.67	104.20	112.39	120.98
2008	51.68	52.36	53.61	55.43	57.85	60.84	64.43	68.69	73.65	78.18	83.28	89.22	95.11	101.94	109.74
2009	50.51	51.19	52.44	54.26	56.68	59.67	63.26	67.52	72.48	77.01	82.12	87.81	93.60	100.00	106.40
2010	49.34	50.02	51.27	53.09	55.51	58.50	62.09	66.35	71.31	75.84	80.95	86.64	92.43	98.73	105.00
2011	48.17	48.85	50.10	51.92	54.34	57.33	60.92	65.18	70.14	74.67	79.78	85.47	91.26	97.55	103.84
2012	47.00	47.68	48.93	50.75	53.17	56.16	59.75	64.01	68.97	73.50	78.61	84.20	90.00	96.29	102.48
2013	45.83	46.51	47.76	49.58	51.99	54.98	58.57	62.83	67.79	72.32	77.43	83.02	88.81	95.10	101.39
2014	44.66	45.34	46.59	48.41	50.82	53.81	57.40	61.66	66.62	71.15	76.26	81.85	87.64	93.93	100.22
2015	43.49	44.17	45.42	47.24	49.65	52.64	56.23	60.49	65.45	70.00	75.11	80.70	86.49	92.88	99.27
2016	42.32	43.00	44.25	46.07	48.48	51.47	55.06	59.32	64.28	68.81	73.92	79.51	85.30	91.69	98.08
2017	41.15	41.83	43.08	44.90	47.31	50.30	53.89	58.15	63.11	67.64	72.75	78.34	84.13	90.52	96.91
2018	40.00	40.68	41.93	43.75	46.16	49.15	52.74	56.99	61.95	66.48	71.59	77.18	83.00	89.39	95.78
2019	38.83	39.51	40.76	42.58	44.99	47.98	51.57	55.82	60.78	65.31	70.42	76.01	81.83	88.22	94.61
2020	37.66	38.34	39.59	41.41	43.82	46.81	50.40	54.65	59.61	64.14	69.25	74.84	80.66	87.05	93.44
2021	36.50	37.18	38.43	40.25	42.66	45.65	49.24	53.49	58.45	62.98	68.09	73.68	79.50	85.91	92.32
2022	35.33	36.01	37.26	39.08	41.49	44.48	48.07	52.32	57.28	61.81	66.92	72.51	78.33	84.74	91.15
2023	34.16	34.84	36.09	37.91	40.32	43.31	46.90	51.15	56.11	60.64	65.75	71.34	77.16	83.57	89.98
2024	33.00	33.68	34.93	36.75	39.16	42.15	45.74	50.00	54.96	59.49	64.60	70.19	76.01	82.42	88.83
2025	31.83	32.51	33.76	35.58	37.99	40.98	44.57	48.82	53.78	58.31	63.42	69.01	74.83	81.24	87.65
2026	30.66	31.34	32.59	34.41	36.82	39.81	43.40	47.65	52.61	57.14	62.25	67.84	73.66	79.87	86.08
2027	29.50	30.18	31.43	33.25	35.66	38.65	42.24	46.49	51.45	55.98	61.09	66.68	72.50	78.91	85.32
2028	28.33	29.01	30.26	32.08	34.49	37.48	41.07	45.32	50.28	54.81	59.92	65.51	71.33	77.74	84.15
2029	27.16	27.84	29.09	30.91	33.32	36.31	39.90	44.15	49.11	53.64	58.75	64.34	70.16	76.57	82.98
2030	26.00	26.68	27.93	29.75	32.16	35.15	38.74	42.99	47.95	52.48	57.59	63.18	69.00	75.41	81.82
2031	24.83	25.51	26.76	28.58	30.99	33.98	37.57	41.82	46.78	51.31	56.42	62.01	67.83	74.24	80.65
2032	23.66	24.34	25.59	27.41	29.82	32.81	36.40	40.65	45.61	50.14	55.25	60.84	66.66	73.07	79.48
2033	22.50	23.18	24.43	26.25	28.66	31.65	35.24	39.49	44.45	48.98	54.09	59.68	65.50	71.91	78.32
2034	21.33	22.01	23.26	25.08	27.49	30.48	34.07	38.32	43.28	47.81	52.92	58.51	64.33	70.74	77.15
2035	20.16	20.84	22.09	23.91	26.32	29.31	32.90	37.15	42.11	46.64	51.75	57.34	63.16	69.57	75.98
2036	19.00	19.68	20.93	22.75	25.16	28.15	31.74	35.99	40.95	45.48	50.59	56.18	61.90	68.31	74.72
2037	17.83	18.51	19.76	21.58	23.99	26.98	30.57	34.82	39.78	44.31	49.42	54.91	60.73	67.14	73.55
2038	16.66	17.34	18.59	20.41	22.82	25.81	29.40	33.65	38.61	43.14	48.25	53.74	59.56	65.97	72.38
2039	15.50	16.18	17.43	19.25	21.66	24.65	28.24	32.49	37.45	41.98	47.09	52.58	58.40	64.81	71.22
2040	14.33	15.01	16.26	18.08	20.49	23.48	27.07	31.34	36.30	40.83	45.94	51.43	57.25	63.66	70.03
2041	13.16	13.84	15.09	16.91	19.32	22.31	25.90	29.95	34.91	39.44	44.55	49.94	55.76	62.17	68.58
2042	12.00	12.68	13.93	15.75	18.16	21.15	24.74	28.79	33.75	38.28	43.39	48.78	54.50	60.71	67.02
2043	10.83	11.51	12.76	14.58	16.99	20.00	23.59	27.64	32.40	36.93	42.04	47.43	53.15	59.36	65.57
2044	9.66	10.34	11.59	13.41	15.82	18.83	22.42	26.47	31.26	35.79	40.90	46.29	51.91	57.92	64.13
2045	8.50	9.18	10.43	12.25	14.66	17.67	21.26	25.31	30.11	34.64	39.75	45.14	50.76	56.77	63.00
2046	7.33	8.01	9.26	11.07	13.49	16.50	19.99	23.94	28.70	33.23	38.34	43.73	49.35	55.36	61.59
2047	6.16	6.84	8.09	9.91	12.32	15.33	18.78	22.77	27.53	31.96	36.97	42.36	48.08	54.09	60.32
2048	5.00	5.68	6.93	8.75	11.16	14.16	17.51	21.30	25.96	30.39	35.40	40.79	46.51	52.52	58.75
2049	3.83	4.51	5.76	7.58	9.99	12.99	16.24	19.93	24.39	28.72	33.63	39.02	44.84	51.07	57.50
2050	2.66	3.34	4.59	6.41	8.82	11.83	15.08	18.77	23.16	27.49	32.30	37.51	43.13	49.14	55.37
2051	1.50	2.18	3.43	5.25	7.66	10.67	13.92	17.61	21.86	26.19	30.90	36.01	41.53	47.54	53.77
2052	0.33	1.01	2.26	4.08	6.49	9.50	12.75	16.44	20.69	25.02	29.73	34.84	40.36	46.37	52.60
2053	0.16	0.84	2.09	3.91	6.32	9.33	12.58	16.27	20.52	24.85	29.56	34.67	40.19	46.20	52.23
2054	0.00	0.68	1.93	3.75	6.16	9.17	12.40	16.09	20.34	24.67	29.38	34.49	40.01	46.02	52.05
2055	0.00	0.51	1.76	3.58	5.98	8.99	12.22	15.91	20.16	24.49	29.20	34.31	40.03	46.04	52.06
2056	0.00	0.34	1.59	3.40	5.79	8.80	12.04	15.73	19.98	24.31	28.92	34.03	40.05	46.05	52.07

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