

E-Jets fleet summary

The E-Jets family is divided into four main types, of which there are over 500 in operation. The fleet demographics are reviewed.

There are 540 E-Jets in airline operation. The business-jet version, the E-190 Lineage 1000, is not analysed here.

Due to the young age of the aircraft, most E-Jets are still flown by their original operators, or their subsidiaries. Only two aircraft are parked: an E-190LR with Aerorepublica; and an E-170LR with GECAS.

The E-Jets were all launched in June 1999. The first model, the E-170, was delivered to LOT Polish Airlines in March 2005. The launch customer was to be Crossair in Switzerland but, due to re-branding and its acquisition of the collapsed Swiss national airline, this did not happen. The E-175 entered service later in 2005 with Air Canada, and two months later the E-190 entered service with jetBlue Airways. Both airlines remain two of the largest E-Jet operators. The first E-195 was delivered to Flybe in December 2006.

According to the Aircraft Fleet & Analytical System (ACAS), the 540 aircraft in commercial service comprise: 158 E-170s, 119 E-175s, 225 E-190s and 38 E-195s. The E-190 is the most popular model, accounting for 42% of the E-Jets in operation. The E-170 and E-175 account for 29% and 22% respectively, while the E-195 is just 7% of the fleet.

The breakdown of all the E-Jet variants and their general global location (see table, page 10) shows that they are particularly popular in North America, which has 54% of the fleet, since they can be used as feeder aircraft to link all the major carriers' hubs. Many of the E-Jet operators are regional feeder and subsidiary airlines of US majors.

There are 46 operators, including: Republic Airlines (71 aircraft), Shuttle America (61), Air Canada (60), jetBlue (38), Compass Airlines (36), US Airways (25), Finnair (20), Virgin Blue Airlines

(19) and LOT Polish Airlines (16), COPA Airlines (15), Saudi Arabian Airlines (15), Flybe (14), Aerorepublica (12), Regional (12), EgyptAir Express (11), Azul Linhas Aereas (10) and Grand China Express Air (10). The remaining 29 operators all have fewer than 10 aircraft each.

Air Canada, Azul Linhas Aereas, Cirrus, Finnair, LOT Polish Airlines, nas air, Paramount Airways (India), Regional, Republic Airlines, Royal Jordanian, Shuttle America, TAME and Virgin Blue Airlines all operate more than one type of E-Jet. This allows them to swap aircraft within the schedule and route network, depending on passenger demand, and avoid the cost of maintaining more than one pilot pool.

Fleet forecast

In addition to the 540 aircraft in operation, there is an order backlog for 345 aircraft and options for 313. The majority of backlog aircraft will be delivered over the next three years, with 80 in 2009 and 110 in 2010.

Customers awaiting delivery of large numbers of aircraft are Aeromexico (with

a backlog of 7), the Air France Group for KLM Cityhopper and Regional (15), Azul Linhas Aereas (30), British Airways (BA) for BA CityFlyer (11), Air Europa (7), J-Air (8), jetBlue (63), LOT Polish Airlines (12), Baboo (5), nas air (10), Virgin Blue Airlines (5), and Virgin Nigeria (9).

New customers awaiting delivery of the E-Jets include Brazil Rodo Aereo (20), Star Aviation (7), Hainan Airlines (40), Jetscape (8), Lufthansa (25), TACA International Airlines (6), TRIP (5) and US Airways (17).

jetBlue has the largest number of options, with 99, (although this is currently up for discussion), followed by Lufthansa (50), Kunpeng Airlines (45), Azul Linhas Aereas (20) and Brazil Rodo Aereo (20).

Although the E-Jets will face future competition from other new-generation regional jets (RJs) they will remain the only aircraft to offer four different passenger sizes covering all areas of the regional market. They also benefit from flightdeck commonality and the fact that they are the only new-generation RJs already in operation and certified to operate at smaller airports with shorter runways, such as London City Airport. This is one of the main reasons why airlines such as BA (for its London City CityFlyer operation) have chosen the E-Jets over current RJs or are waiting for other new-generation RJs to be delivered. The fact that both backlog aircraft and order options are spread across the world suggests that worldwide demand for these aircraft will continue into the future.

E-170

There are currently 158 E-170s in operation, which equates to 29% of the



The E-Jets have global appeal, and are being used both in regional and mainline operations on all continents of the world.

E-JETS FLEET SUMMARY

Aircraft variant	Africa	Asia Pacific	Europe	Middle East	North America	South America	Variant Sub-Total	Model Sub-Total
E-170 LR	15	13	28	15	77	4	152	158
E-170 STD			4			2	6	
E-175						1	1	119
E-175 AR					36		36	
E-175 LR		3	7	2	70		82	
E-190						2	2	225
E-190 AR	1	24			109	27	161	
E-190 LR		10	26	4	1	21	62	
E-195						1	1	38
E-195 AR				7		5	12	
E-195 LR			24	1			25	
Total	16	50	89	29	293	63	540	540

fleet with 20 operators. Although Embraer markets three variants, there are only two in operation: the long-range variant (LR) and the standard (STD).

The only four E-170STDs in service are all with LOT Polish Airlines, which was the first to operate the E-170. LOT Polish Airlines has six more E170s, all of which are the LR variant. The average flight cycle (FC) over the past 12 months has been 32-160 minutes. Grand China Express Air achieves as much as 4.5 hours with one of its E-170s. The daily utilisation has been as high as 15 flight hours (FH) per day, but is usually 7-8 FH.

There are 152 E-170LRs currently in operation, with just over 50% in North America. Another 18% are in Europe, 3% in South America, and 9% each in Africa, Asia Pacific and the Middle East.

The largest operator of E-170s is Shuttle America (operating on behalf of Delta and United) with 45 E-170LRs. Republic Airlines is the second largest operator with 31 E-170LRs, followed by Saudi Arabian Airlines (15), EgyptAir Express (11), Finnair (10) and LOT Polish Airlines (10). The remaining airlines operate six or fewer aircraft, and many just have one or two. Shuttle America was bought by Republic Airlines in 2005, making the parent company a large operator, with more than double the number of E-Jets than any other airline.

Another variant, the short-runway version (SR), is planned for delivery to British Airways CityFlyer in September 2009 for use at London City Airport.

E-175

There are 119 E-175s in operation with 10 airlines, representing 22% of the global fleet. The E-175 is most popular in North America, where 106 aircraft are flown. This equates to nearly 90%.

The remaining 12 aircraft are operated in Asia Pacific (3), Europe (7) and the Middle East (2). The largest E-175 operator is Republic Airlines, with 38 aircraft, followed by Compass Airlines

with 36, Shuttle America with 16, and Air Canada with 15. The remaining five operators have six or fewer aircraft.

The FC time for the E-175 over the past year has averaged from 85 minutes (with Compass Airlines) to 150 (with Shuttle America). The daily utilisation has been as high as 15FH for some Shuttle America and Compass Airlines aircraft, but is generally just under 7FH.

There are two variants in operation: 36 E-175ARs, all with Compass Airlines (which flies on behalf of Northwest Airlines and Delta), which was the first airline to operate this variant and remains the only one; and the E-175LR, operated by Republic Airlines (which has the largest fleet), followed by Shuttle America (16), Air Canada (15), LOT Polish Airlines (6) and four other operators which each have three or fewer aircraft.

E-190

The global fleet of E-195s consists of 225 aircraft with 24 operators, representing 42% of the total E-jet fleet, and making it the most popular of all the E-Jets. Again, it is popular with North American carriers, which operate 110 E-190s, nearly half the global fleet. South America has 22%, Asia Pacific 15%, Europe 12% and the Middle East 2%.

Air Canada is the largest operator of the E-190 with 45, while jetBlue, the launch customer, has only 38. However, it has an additional backlog of over 60 E-190s, which would make it the largest operator of this model.

The next largest operator is US Airways (25 E-190s), followed by COPA Airlines (15), Virgin Blue Airlines (13) and Aerorepublica (12). The other 18 carriers have fleets of 10 or fewer. The average FC over the past year has been 85 minutes, with Air Canada even getting 135 minutes from one of its E-190s. The daily utilisation has been as high as 15FH with some US Airways and Virgin Blue Airlines aircraft, and 10.5FH with Regional. The fleet average is just under

7FH per day.

There are two variants in commercial operation, the LR and AR, plus two aircraft operated by Embraer in a non-standard configuration.

There are 62 LR variants operated by 13 airlines. The largest operator is Aerorepublica (12 aircraft), followed by Finnair (10), Grand China Express Air (10), Regional (8) and Aeromexico Connect (6). The remaining eight airlines operate four or fewer of this variant in their fleets. The LR is most popular in Europe, which has 26, followed by South America and the Asia Pacific.

There are 161 AR variants of the E-190, making it the most popular variant of all E-Jets. The -190AR represents 30% of all E-Jets and over 70% of E-190s. North America again takes the lion's share of 109 AR aircraft, or 68% of E-190s. South America and Asia Pacific take 15% each of the AR fleet. The largest operators are Air Canada (45 aircraft), jetBlue (38), US Airways (25), COPA Airlines (15) and Virgin Blue (13).

E-195

The E-195 is the newest of the E-Jets, with 38 in operation, accounting for just 7% of the global E-Jet fleet. All are LR or AR variants, and most are in Europe. The average FC time over the past year has been 85 minutes, and the daily utilisation nearly 7FH. Many of Royal Jordanian's E-195s are doing more than 7FH.

There are just 12 LR variants, in the Middle East and South America. Azul Linhas Aereas and Royal Jordanian have five aircraft each, and nas air two. The AR variant has 25 aircraft, of which one is in the Middle East and the rest are in Europe. The launch customer, Flybe, is the largest operator with 14 aircraft. Air Dolomiti has five and Air Europa four. 

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