

FLEET WATCH 2019



A REVIEW OF COMMERCIAL AIRCRAFT
ORDERS AND DELIVERIES FOR 2018

EXECUTIVE SUMMARY

Just over \$116 billion of airliners were delivered to commercial operators in 2018, data from Cirium's Fleets Analyzer shows, based on Ascend by Cirium 2018 Full-Life Base Values. In total, more than 1,800 aircraft were delivered during the year.





Airbus led the way with 807 commercial airliner deliveries, the data shows, 35 more than Boeing. These figures exclude military and corporate aircraft versions. When included, Boeing also delivered more than 800 aircraft.

The record deliveries were achieved through new highs in production rates at both manufacturers.

As of the end of 2018, Airbus had a backlog of over 7,500 aircraft, almost 1,700 more than Boeing. The total commercial aircraft backlog, including over 700 airliners from ATR, Bombardier and Embraer, stood at 15,207 at the end of 2018. That is virtually unchanged from the end of 2017.

Net orders for commercial airliners in 2018 reached 1,801 aircraft. That is just over 500 units less than the previous year.

Lessor Avolon and Republic Airways placed the largest single firm orders, covering 100 A320neo family aircraft and the same amount of Embraer 175s respectively. Indonesian carrier Lion Air had the largest backlog at the end of the year with 438 aircraft on order, while China Southern Airlines took the most new aircraft during the year in adding 72 units to its fleet.

AIRCRAFT MANUFACTURER	2018				2017	
	DELIVERIES	VALUES (\$bn)	NET ORDERS	BACKLOG*	DELIVERIES	NET ORDERS
 AIRBUS	807	53.9	773	7,546	730	1,116
 BOEING	772	57.1	851	5,856	739	864
 EMBRAER	90	2.5	23	368	101	92
 ATR	73	1.5	32	232	75	113
BOMBARDIER	34	0.8	56	109	56	61
OTHER**	43	0.9	66	1,096	42	61
TOTAL	1,819	116.7	1,801	15,207	1,743	2,307

Source: Cirium's Fleets Analyzer

Notes: Data excludes corporate and military versions. Delivery values are in 2018 dollars, based on Ascend by Cirium 2018 Full-Life Base Values. *at 31 December 2018. All order and delivery figures for the CSeries included in Airbus' figures.

**figures for commercial aircraft with manufacturers including Antonov, CAIC, Comac, Irkut, Sukhoi and Viking Air

AIRCRAFT ORDERS

A total of 2,200 gross orders were placed for commercial aircraft in 2018, while just under 400 cancellations were made, data from Cirium's Fleets Analyzer shows.

The net total of 1,801 represents a 22% decrease on the orders from 2017.

Almost 500 orders - accounting for more than a fifth of the total - are attributed to non-disclosed customers. That was particularly notable at last summer's Farnborough air show, where around 400 tentative deals were left unidentified - compared to just 30 at the same show in 2016. Government sensitivity over trade relationships, particularly in Asia, was cited as one of the factors for the high number of orders being attributed to undisclosed customers.

In December, Irish-based lessor Avolon ordered 100 Airbus A320neo-family jets, comprising 75 A320neos and 25 A321neos. Avolon says the agreement makes it the "largest

Largest aircraft orders of 2018

Customer	Country	Aircraft type	Orders
Avolon*	Ireland	A320neo family	100
Republic Airways	USA	Embraer 175	100
Boeing Capital	USA	737 Max	75
SMBC Aviation Capital	Ireland	A320neo family	71
JetBlue Airways	USA	A220	60
Moxy Airways	USA	A220	60
VietJet Air	Vietnam	A321neo	50
Southwest Airlines	USA	737 Max	40
Jeju Air	South Korea	737 Max	40
Air Lease	USA	737 Max 8	38

Note: *Avolon's order consists of 75 A320neos and 25 A321neos
Source: Cirium's Fleets Analyzer

aircraft lessor backlog customer" for Airbus.

In July, US regional carrier Republic Airways signed a letter intent for a firm order of 100 Embraer 175s and purchase rights on an additional 100. In announcing the deal during the Farnborough air show, Embraer chief commercial officer Arjan Meijer noted it had the ability to convert the aircraft to the E175-E2 if major US airlines attain scope clause relief in their pilot contracts. A firm contract was sealed in December.

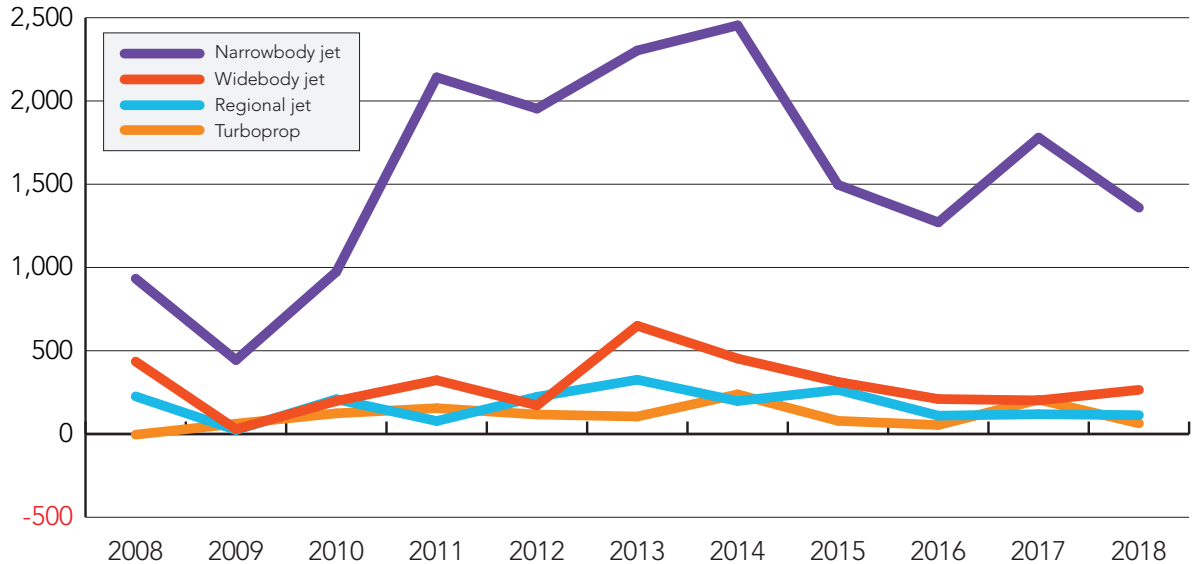
Elsewhere, Boeing Capital ordered 75 Boeing 737 Max aircraft that are likely expected to be leased to Jet Airways.

SMBC Aviation Capital ordered a total of 71 A320neo family aircraft during the year. The Dublin-based lessor, which



Republic Airways announced a commitment for 200 E175 E- Jets during the Farnborough Airshow in July 2018

Airline net orders: 2008-2018



Source: Cirium's Fleets Analyzer

Leading customers by backlog

Customer	Country	Backlog
Lion Air	Indonesia	438
IndiGo	India	400
AirAsia	Malaysia	374
Avolon	Ireland	335
GECAS	USA	318
Delta Air Lines	USA	315
Southwest Airlines	USA	264
Wizz Air	Hungary	263
Air Lease	USA	255
AerCap	Ireland	249

Note: data at 31 December 2018
Source: Cirium's Fleets Analyzer

focuses on latest technology single-aisle narrowbodies, has ordered a total of 277 A320-family aircraft from the European manufacturer.

JetBlue Airways and US start-up Moxy Airways both firmed their previous tentative commitments for 60 A220s towards the end of 2018. With these orders, the carriers – one originally founded by David Neeleman, the other now planned under development by him – will be the joint second-largest customers for the A220, behind Delta Air Lines.

In October, VietJet Air ordered 50 more A321neos, firming a memorandum of understanding signed at the Farnborough air show in July. The airline's chief executive Nguyen Thi Phuong Thao stated that the A321neo will "help us to expand the network significantly, especially on international routes".

In the first quarter of the year, Southwest Airlines firmed up an order for 40 737 Max aircraft.

In November, South Korean budget carrier Jeju Air placed a firm order for 40 Boeing 737 Max 8s plus 10 options. Jeju Air stated that the new aircraft will provide major savings in fuel

and maintenance costs compared to its fleet of 39 737-800s, while also allowing it to open up longer routes across Asia.

Air Lease ordered a total of 38 737 Max 8s plus three 787s during the year.

Backlog

The global commercial order backlog stood at 15,207 units on 31 December 2018. This figure is almost identical to where the backlog stood a year before.

Narrowbodies account for just over three-quarters of all commercial aircraft on order, while 14% of the backlog is for widebodies. Regional jets and turboprops account for 6% and 3% respectively.

The A320neo and 737 Max families represent 39% and 31% of

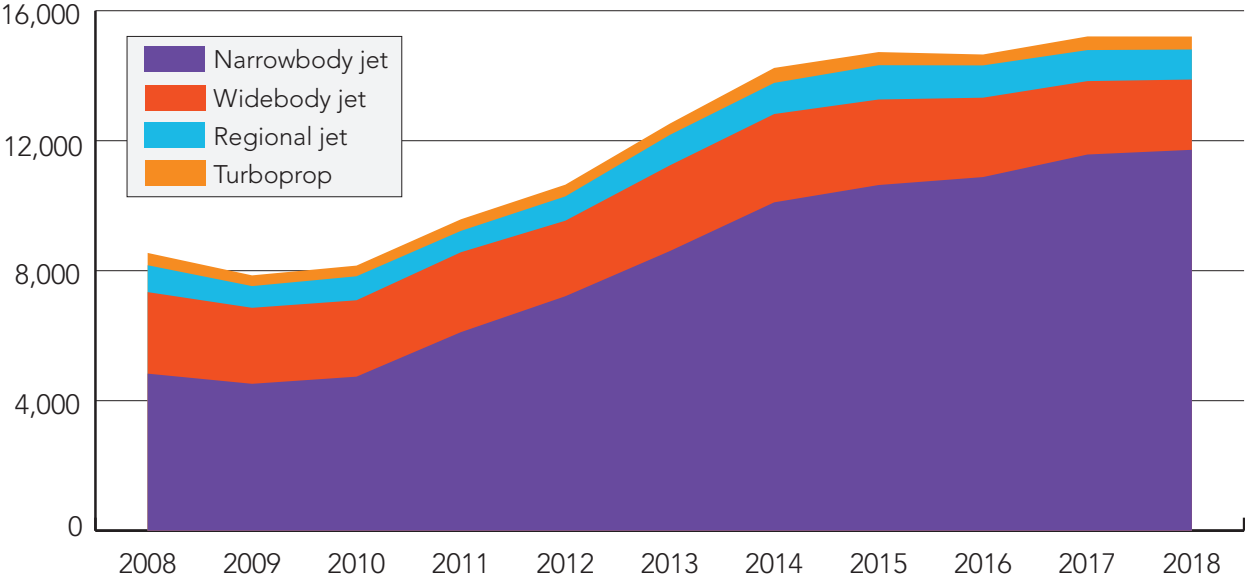
all types on order. Only a handful of current generation A320 and 737NG family aircraft remain on order.

The A350 and 787 are the two leading widebodies on order and both have 4% of the overall commercial share, with orders exceeding 600 units for both types.

There were 87 A380s on order at the end December, with Emirates as the largest customer with a backlog of 53. Airbus subsequently in February 2019 announced that production of the type would end after an agreement with Emirates to replace some of its A380 orders with A330 and A350 twinjets. Airbus is set to cease deliveries of the A380 in 2021.

Lion Air stood as the leading customer with 438 aircraft on order, followed by two more Asian low-cost carriers – India's IndiGo and AirAsia with 400 and 374 units on order respectively.

Airliner year-end order backlog: 2008-2018



Source: Cirium's Fleets Analyzer

AIRCRAFT DELIVERIES

Manufacturers delivered 1,819 commercial aircraft in 2018, just over 70 more than the previous year.

Airbus exceeded the 800-unit mark, achieving a new commercial aircraft delivery record, and accounting for a 44% share of all shipments. Boeing also enjoyed its busiest year for deliveries with 772 airliners shipped, although this reached over 800 when corporate and military versions are included.

OVER 1,800 DELIVERIES WERE MADE IN 2018

The Airbus total includes 33 A220s, the rebranded CSeries programme, which it formally took a controlling stake

in at the start of July 2018. The rebranded aircraft has since joined the Airbus product ranks. For consistency, we have included all 2018 CSeries/A220 deliveries, not just those after the acquisition.

Airbus' figures include the delivery of 625 A320 family aircraft, of which 386 were Neo variants. That is 67 more of the re-

engine narrowbody than in 2017. The manufacturer also shipped 93 A350s, 15 more than in the previous year. That includes 13 A350-1000s, the first of which was delivered to Qatar Airways in February of 2018.

Qatar Airways took delivery of the first A350-1000 variant, while 13 more units were shipped during the year.

Alongside 41 current generation A330s delivered during the year, Airbus also shipped its first three A330neos. The first of these was delivered to TAP Air Portugal in late November.

Airbus also delivered a dozen A380s during the year.

Boeing, meanwhile, shipped 559 new 737 airliners during the year, including 254 examples of the Max which was introduced in 2017. Overall, 48 more 737s were shipped than in 2017.

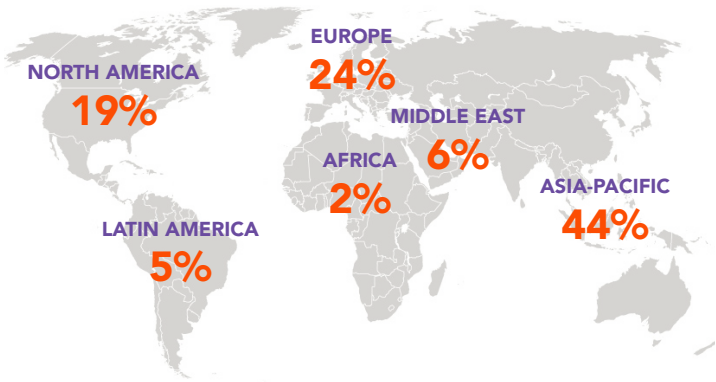
Widebody deliveries for Boeing included 144 787s, a record high for the type, as well as 46 777s, 17 767s and six 747s.

Airbus and Boeing's joint deliveries in excess of 1,200 narrowbodies is a record high for the sector.

China Southern Airlines took delivery of the most new aircraft in 2018. The Chinese carrier received 72 aircraft, half of which were Boeing narrowbodies.

In the USA, Delta Air Lines took delivery of 63 aircraft in total. That included four A220s, making it the first North American operator of the type.

Deliveries by region



Top operators for 2018 deliveries

Operator	Country	Aircraft delivered
China Southern Airlines	China	72
Delta Air Lines	USA	63
IndiGo	India	46
SkyWest Airlines	USA	44
Southwest Airlines	USA	44
Hainan Airlines	China	43
Aeroflot Russian Airlines	Russia	40
Ryanair	Ireland	39
China Eastern Airlines	China	37
EasyJet	UK	29

Source: Cirium's Fleets Analyzer



Boeing

China Southern Airlines received 72 new aircraft in 2018, including eight examples of 787 widebodies

IndiGo received 46 aircraft during the year, including India's first A321neo. SkyWest Airlines and Southwest Airlines both took 44 units in the year.

In the regional sector, Embraer delivered 90 aircraft in 2018. That is 11 less than in 2017. ATR shipped 73 turboprops, 66 of which were for ATR 72s.

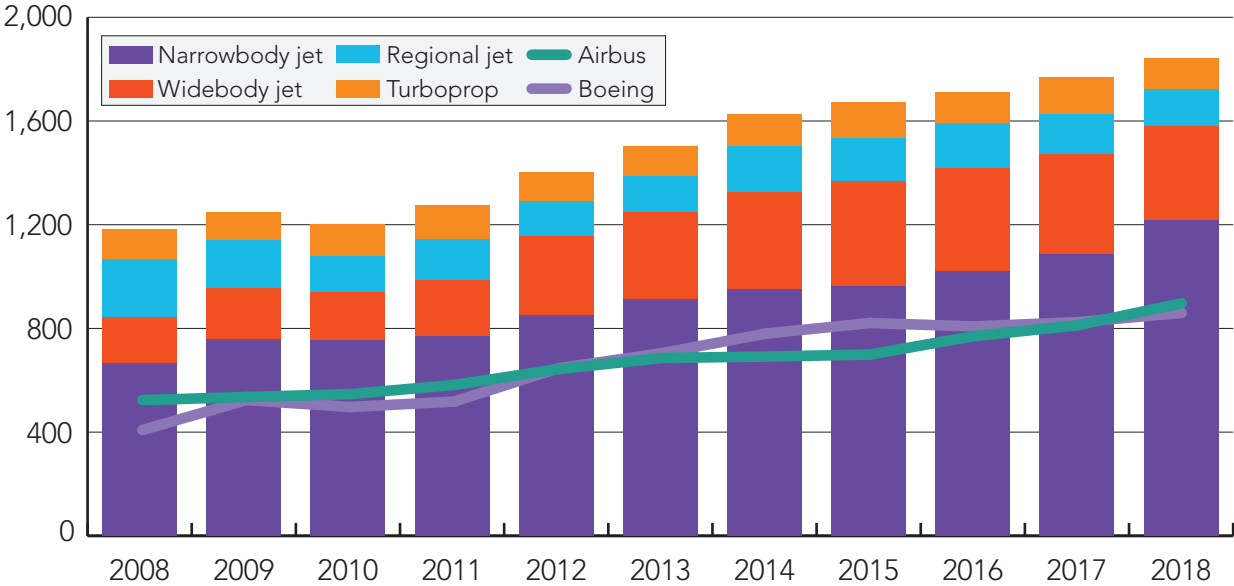
Bombardier delivered 34 aircraft, including 19 CRJs and 15 Q400 turboprops.

Meanwhile, Sukhoi shipped 28 examples of its Superjet 100 in 2018, four more units than in the previous year.



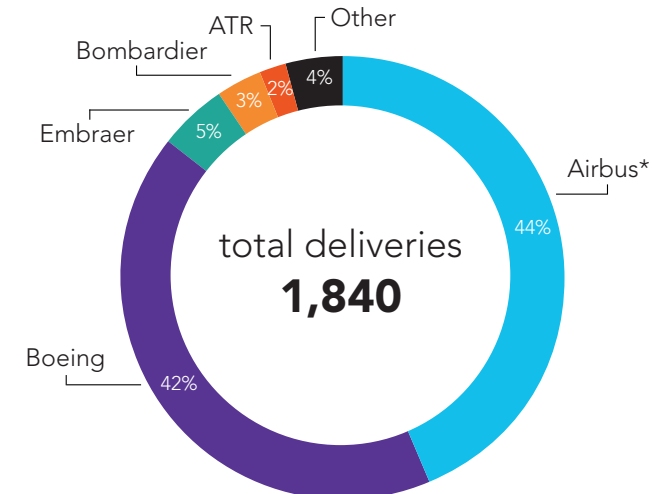
Delta Air Lines received the first Airbus A220 bound for a North American carrier in October 2018

Airliner deliveries: 2008-2018



Source: Cirium's Fleets Analyzer

Airliner 2018 deliveries by manufacturer



Source: Cirium's Fleets Analyzer
*Airbus includes all A220s delivered in 2018



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