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# Narrowbodies remain on top

Narrowbody aircraft continue to be investors' preferred assets when it comes to investing in the sector. However, the overall ratings of some aircraft have dropped. **Olivier Bonnassies** reports.

There is a sentiment of optimism for widebody assets as the market is tipped to return by 2024. Some leasing platforms and investors have recently approached the market looking to sell widebody exposure.

A growing capacity demand expected from next year onwards has translated into an improving outlook, mainly for new-technology widebodies.

This was recently emphasised by public lessors in their third-quarter earnings calls.

The focus has been on new-technology assets in the widebody market, with the Airbus A350-900 and the Boeing 787-9 models well ahead of their peers in *Airfinance Journal's* investor poll's four

criteria: residual value, value for money, operational success and remarketing potential.

Both models again came top but lost ground versus last year's poll.

The A350-900 has been hit by some airline bankruptcies and restructurings, unlike the 787 models. SAS is still talking to its leasing community about some aircraft, and should they be released, a new home, especially in Europe, is probable.

One leasing source says A350-900 appetite is here with four out of five airlines recently sounded out in need of additional capacity, albeit at some aggressive rents. In the meantime, those aircraft may involve reconfiguration costs for their owners.

"Finnair and SAS are making it more challenging to place in addition to the overhand in Qatar Airways, too," says another source, adding: "I believe future residual values are understated."

The A350-1000 came fifth, behind the 767-300ER and the 787-10, in the investor poll. There is a consensus that the type needs more airline customers but the A350-1000 has also progressed in terms of financing acceptability and has a long-term potential.

The A330-900neo and the 787-8 had different fortunes: one marginally improving while the other marginally dropping.

One pollster observes that demand for the 787-8 has dwindled at the expense of

## Twin-aisles (Rating for each category: 1 is worst, 5 is best)

Aircraft type	Residual value	Value for money	Operational success	Remarketing potential	Overall score	Last year's score	Difference
<b>A350-900</b>	3.77	3.98	4.36	3.64	<b>3.94</b>	<b>4.16</b>	-0.22
<b>787-9</b>	3.77	3.86	4.2	3.7	<b>3.89</b>	<b>4.06</b>	-0.17
<b>767-300ER</b>	3.08	3.29	3.84	3.13	<b>3.34</b>	<b>3.49</b>	-0.15
<b>787-10</b>	3.22	3.39	3.47	3.22	<b>3.33</b>	<b>3.51</b>	-0.18
<b>A350-1000</b>	3	3.29	3.71	2.97	<b>3.24</b>	<b>3.25</b>	-0.01
<b>787-8</b>	2.88	3.28	3.43	2.98	<b>3.14</b>	<b>3.16</b>	-0.02
<b>777-300ER</b>	2.48	3.41	4.09	2.45	<b>3.11</b>	<b>3.31</b>	-0.2
<b>A330-300</b>	2.48	3.6	3.76	2.52	<b>3.09</b>	<b>3.08</b>	0.01
<b>A330-900neo</b>	2.93	3.13	2.98	2.6	<b>2.91</b>	<b>2.89</b>	0.02
<b>A330-200</b>	2.15	3.2	3.53	2.15	<b>2.76</b>	<b>2.7</b>	0.06
<b>777-9</b>	2.69	2.81	2.59	2.42	<b>2.63</b>	<b>2.87</b>	-0.24
<b>A330-800neo</b>	2.35	2.53	2.13	2.03	<b>2.26</b>	<b>2.2</b>	0.06
<b>777-200ER</b>	1.74	2.63	3.24	1.37	<b>2.24</b>	<b>2.44</b>	-0.2
<b>777-200LR</b>	2.05	2.25	2.45	1.75	<b>2.13</b>	<b>2.23</b>	-0.11
<b>777-8</b>	2	2.23	2.05	1.65	<b>1.98</b>	<b>2.33</b>	-0.35
<b>A350-800</b>	1.81	2.12	2.13	1.65	<b>1.93</b>	<b>N/A</b>	<b>N/A</b>
<b>747-8 pax</b>	1.78	2.18	2.28	1.45	<b>1.92</b>	<b>2.1</b>	-0.18
<b>A380</b>	1.29	1.95	2.21	1.1	<b>1.64</b>	<b>1.68</b>	-0.04



Appetite for widebodies could grow with United Airlines ordering an additional 100 787s along with 100 options

its larger stablemates, which offer a better blend of passenger capacity, payload and range. There are some aircraft on offer in the marketplace and one respondent highlights the “strong tier-one operator base”.

A lessor source expects a large portion of the 787 fleet to remain with current operators because there is very little prospect of a replacement widebody aircraft and production will be low for some time.

The 787-10 is perceived as “niche” by one respondent but the type has “room for improvement and it is coming”, says another pollster.

Appetite for widebodies could grow over the coming years, with Boeing selling more than 215 in 2022 after the United Airlines order for an additional 100 787s along with 100 options.

The United order is noteworthy for the leasing community. Its sheer size and the

funding it will require could develop a sale and leaseback financing potential for those lessors willing to take widebody exposure as the market for that part of the sector gradually recovers.

The majority of widebodies are scoring less than in last year’s poll with the exception of the A330-200. The type is viewed as a “very cheap” asset for airlines needing capacity. “It is still a work horse at the right price and I am bullish on the outlook for cheap widebodies,” says a pollster.

The 787-9 is clearly Boeing’s favourite asset in the widebody production line and is an attractive asset when offered for trading.

On the other side of the spectrum, the A330-800, A350-800, 777-8 and 777-9 products have yet to convince pollsters.

Despite the gradual return to service of some A380s, the type has limited appeal

for investment. Likewise, the prospects of the 747-8 passenger version are non-existent for investors. The operator’s base is limited to Air China, Korean Air and Lufthansa, and secondary market opportunities are likely to be slim.

“There is some salvation in the value of engines however, which are common with the popular Boeing 747-8F cargo model,” points out one pollster.

The 777-300ER has lost ground because of remarketing cost and risk, but has benefitted from the 777X delays, with airlines extending their fleets. The model also benefits from a passenger-to-freighter programme. Trading opportunities are on the increase, according to one respondent, because the model is perceived as the sole exception to old-generation widebodies due to outstanding operational capacity (dense cabin seating and belly space).



The 777-300ER has lost ground because of remarketing cost and risk, but has benefitted from the 777X delays

## Single-aisles (Rating for each category: 1 is worst, 5 is best)

Aircraft type	Residual value	Value for money	Operational success	Remarketing potential	Overall score	Last year's score	Difference
<b>A321neo</b>	4.71	4.38	4.71	4.88	<b>4.67</b>	<b>4.7</b>	-0.03
<b>A320neo</b>	4.54	4.15	4.42	4.69	<b>4.45</b>	<b>4.53</b>	-0.08
<b>737-800</b>	3.88	4.08	4.62	4.12	<b>4.18</b>	<b>4.33</b>	-0.16
<b>737 Max 8</b>	4.2	4.08	3.78	4.44	<b>4.13</b>	<b>4.08</b>	0.04
<b>A321</b>	3.79	4.08	4.54	4.04	<b>4.11</b>	<b>4.14</b>	-0.03
<b>A320</b>	3.46	3.92	4.45	3.75	<b>3.89</b>	<b>3.93</b>	-0.04
<b>A220-300</b>	3.75	3.7	3.7	3.61	<b>3.69</b>	<b>4.04</b>	-0.35
<b>737 Max 10</b>	3.16	3.18	2.91	3.26	<b>3.13</b>	<b>3.33</b>	-0.2
<b>737-900ER</b>	2.85	3.41	3.11	2.8	<b>3.04</b>	<b>2.99</b>	0.05
<b>737 Max 9</b>	2.92	3.07	2.9	3.14	<b>3.01</b>	<b>3.01</b>	0.00
<b>737-700</b>	2.52	3.09	3.04	2.43	<b>2.77</b>	<b>2.81</b>	-0.04
<b>A319</b>	2.33	2.88	3.29	2.38	<b>2.72</b>	<b>2.66</b>	0.06
<b>737 Max 7</b>	2.31	2.64	2.22	2.11	<b>2.32</b>	<b>2.46</b>	-0.14
<b>A319neo</b>	2.29	2.52	2.21	2.1	<b>2.28</b>	<b>2.47</b>	-0.19

"When international travel returns, this will be the best bang for the buck," says one pollster.

### Narrowbodies

Overall scores on many narrowbody assets were lower than the previous year.

And in the context of trading or financing models, current macro conditions are having an affect. There is a realisation that high interest rates and the escalation of prices are hitting investment sentiment.

"This will be a factor I would say, and it will become even more so as access to previous cheaper capital dries up. This is one of the variables impacting on-lease assets for sale too, as you're basing your deal off higher returns to negate the impact of inflation on maintenance rates and also interest rates," says one pollster.

The Boeing Max families have made the headlines all year on certification for new products. The prospect of having the Max 7 and Max 10 certified were still in the balance as *Airfinance Journal* went to press.

The US House of Representatives was holding final votes on passing legislation to certify the models on 15 December before recessing until January. In early December, Congress declined to add an extension to the exemption deadline as part of an annual defence bill.

Boeing has said it is still working with Congress on passing legislation to certify the 737 Max 7 and Max 10, but indicated that this may be delayed to 2023.

"We're still working obviously and hope something happens this year," Boeing's chief executive officer, Stan Deal, was quoted as saying by *Reuters*. He added that the US manufacturer has "got another shot" in 2023.

"We're going to hope Congress does their part," says Deal.

The exemption deadline was due on 27 December, which will require all newly built aircraft to have modern cockpit alerting systems, requiring US FAA certification. Without an extension to the deadline, the 737 Max 7 and Max 10 will likely face further delivery delays.

Airlines appear sanguine about the chances of flying the Max 7 and Max 10 before the end of 2023.

Bob Jordan, the Southwest Airlines chief executive officer, says while he believes Boeing will likely get the extension, it will take them sometime into 2023 to get the certification. "So we're likely to not fly a 7 until late 2023 or into 2024," he noted during a recent earnings call.

United, which added 100 737 Max aircraft to its orderbook in December, indicated that Congress would not work on the extension until 2023.

"We're assuming it gets approved sometime next year," United's chief executive officer, Scott Kirby, was quoted as saying by *Reuters*.

Norwegian Air Shuttle has an order for 50 737 Max 8s but told *Airfinance Journal* it could look to switch some Max 8 orders to the Max 10, although Boeing recertification headaches in the USA have to be resolved first.

"This is dependent on several factors: commercially how the larger aircraft would



Norwegian Air Shuttle will look to finance about one-third of its 50 737 Max 8 order through sale and leasebacks

fit into our network, unit costs and, of course, the ongoing certification process,” Norwegian’s chief financial officer, Hans-Jorgen Wibstad, said in an interview.

The Max 10 version has more appeal to the financing and trading community than the smaller version. *Airfinance Journal’s* Fleet Tracker also shows more than 1,000 orders in total with a 75% to 25% ratio for the higher capacity variant.

The A321neo is again the top rated aircraft in the poll.

“The Airbus A321neo has proven popular with operators, investors and owners. The A320neo-family production is moving in favour of the A321neo, which is likely to be the narrowbody aircraft with the most deliveries in 2022, despite production rates being much lower than pre-pandemic,” says one respondent.

Second was the A320neo, also with lower marks in all four categories versus 2021.

The 737-800 came third, once again, but lost ground on the top two Airbuses. A continuing very low 737 Max production and a healthy passenger-to-freighter conversion demand supports its remarkatability in the near term at least, points one pollster.

One respondent says the market for freighter conversions is between 500 to 1,000 units. The buoyant conversion market supplement placements for used aircraft. Part of the SAS fleet has found a new home at Jet2, for instance.

One pollster points out a strong market for next-generation and current engine option (ceo) narrowbody aircraft.

“If we look at some narrowbodies’ naked assets, values have been strong – A320 family and 737NG family. The A321ceo is

strong, too. If you want a passenger model, you just cannot get one. The same can be said for the -900ER,” he says.

The Max 8 recovered ground last year, and scored marginally higher in three of the four criteria. Activity on the financing side, especially through purchase and leasebacks, significantly increased.

“For the Max, there is an argument for it clawing some share back linked to available slots versus the competition. Perhaps programme delays or challenges getting certain variants out to market are a factor in people’s thoughts,” says one pollster.

Current market conditions for new narrowbody aircraft favour 737 Max types, sources told *Airfinance Journal* in the final quarter of 2022.

“We are seeing a compression of the delta between the Airbus A320neo family and the Max family,” says a lessor.

The source confirms the recovery in the Max products is because of higher production rates than a year ago, as well as more market acceptance.

Another source agrees, adding that the Max 8 now “looks less expensive to acquire” from Boeing because some delivery slots have been renegotiated or traded.

“There are different dynamics between the two families: the Neo family has more availability but production rates are higher. The Max 8 has now started to redeliver for more than a year and Boeing’s sales performance since 2021 reflects appetite for the product.”

The year 2021 was one of resurgence for the 737 Max family. As the Max’s return to service gained speed, so did orders, with Boeing recording 749 gross new orders

across the 737 Max family. Consequently, pricing, in terms of sale and leaseback deals, began to converge. “Lease rates between A320neo family and 737 Max family have compressed. The Max 8 has come back and now looks more like a finance asset,” says one banking source.

The leasing community has always had a high confidence in the Max 8 model and airlines continue to issue requests for proposals (RFPs) for financing new deliveries.

In the *Airfinance Journal* poll, the type still suffers from its operational success, scoring much lower than the A320neo-family products.

“This will be a good aircraft, but not much of a family anymore, as Airbus has won that race,” says one respondent.

The year 2022 has seen a resurgence of RFPs, mainly on narrowbody aircraft, hitting the markets for assets with leases attached. Some have sold but other deals are taking time to materialise especially as trading conditions have changed throughout the year.

The Max 9 is one of the few aircraft, along with the Max 8 model, that has not lost ground compared with the year 2021. However, it is described as “consigned to be a ‘tweener aircraft’ since the Max 10 came along”.

The A220-300 has a long way to make it to the top, although the model is enjoying growing demand from the investor community as the in-service fleet and operator base are becoming more established.

The A220-100 is becoming “somewhat marginalised”, says one respondent, adding that the anchor operators are, however, of good credit quality. ▲

# The numbers

The following pages include key data for current production commercial aircraft. Aircraft that have not yet entered service are not included, because the information available has not been confirmed by in-service experience.

## Technical characteristics

The maximum take-off weight (MTOW) shows the maximum option available for the type in question. There may be lower-weight versions available. The operating empty weight (OEW) is based on the manufacturers' figures. Airline weights are likely to be higher than those quoted.

## Fuels and times

The figures shown for fuels and times are *Airfinance Journal's* estimates based on a variety of sources. They are intended to reflect 60% passenger load factors, international standard atmosphere (ISA) conditions en-route, zero winds and optimum flight levels.

## Indicative maintenance costs

The maintenance figures are intended as a guide to the order of magnitude of reserves associated with the various

aircraft types. The figures are intended to reflect mature costs with no account taken of warranty effects and other reductions associated with new aircraft.

The C-check and heavy-check reserves are based on typical check costs and intervals. No allowance is made for cabin refurbishment. The cost quoted for component overhaul excludes inventory support.

Unless stated, the engine costs refer to the most common engine type for the aircraft model in question.

The information used to estimate the indicative maintenance reserves has been collected from a wide variety of sources. While *Airfinance Journal* has made every effort to normalise the data, direct comparisons between aircraft types may be misleading.

It should also be noted that maintenance costs of a particular type are highly dependent on the route structure, operating environment and maintenance philosophy of the airline with which the aircraft is in service. As such our estimates are difficult to reconcile with the numbers provided by manufacturers.

## Seating/range

The numbers quoted for seating capacity are based on the manufacturers' selling standards. Large variations are possible, particularly for widebody aircraft. The operational ranges shown are for still-air conditions, optimum flight levels and are based on the typical seating figure and the operating empty weight quoted by the manufacturer. Ranges in airline operation are likely to be significantly less than the figures quoted.

## Fleet data

The data is based on *Airfinance Journal's* Fleet Tracker as of 1 December, 2022. The fleet information reflects the situation arising from the Covid-19 situation, in particular the high number of parked/stored aircraft. In acknowledgement of this situation, operator numbers and average age are based on the combined in-service and parked fleets.

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# Aircraft data

## Airbus A220-100



SEATING/RANGE	
Max seating	133
Typical seating	100-120
Maximum range	3,500nm (6,350km)
TECHNICAL CHARACTERISTICS	
MTOW	63.1 tonnes (option 60.8)
OEW	35.2 tonnes
MZFW	52.2 tonnes
Fuel capacity	21,510 litres
Engines	PW1521G/1524G/1525G
Thrust	21,000lbs to 23,3000lbs
FUELS AND TIMES	
Block fuel 200nm	1,330kg
Block fuel 500nm	2,450kg
Block fuel 1,000nm	4,380kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2016
In service	56
Operators (current and planned)	12
In storage	7
On order	40
Build peak year (2019)	25
Estimated production 2023	15
Average age (years)	3.5
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$60-65 per flight hour
Higher checks reserve	\$55-60 per flight hour
Engine overhaul	\$100-110 per engine flight hour
Engine LLP	\$130-140 per engine cycle
Landing gear refurbishment	\$40-50 per cycle
Wheels brakes and tyres	\$130-140 per cycle
APU	\$80-90 per APU hour
Component overhaul	\$220-230 per flight hour

## Airbus A220-300



SEATING/RANGE	
Max seating	160
Typical seating	120-150
Maximum range	3,400nm (6,300km)
TECHNICAL CHARACTERISTICS	
MTOW	69.9 tonnes
OEW	37.1 tonnes
MZFW	57.6 tonnes
Fuel capacity	21,510 litres
Engines	PW1521G/1524G/1525G
Thrust	21,000lbs to 23,3000lbs
FUELS AND TIMES	
Block fuel 200nm	1,370kg
Block fuel 500nm	2,510kg
Block fuel 1,000nm	4,490kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2016
In service	182
Operators (current and planned)	29
In storage	11
On order	516
Build peak year (2018)	30
Estimated production 2023	60
Average age (years)	2.7
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$60-65 per flight hour
Higher checks reserve	\$55-60 per flight hour
Engine overhaul	\$110-120 per engine flight hour
Engine LLP	\$130-140 per engine cycle
Landing gear refurbishment	\$40-45 per cycle
Wheels brakes and tyres	\$130-140 per cycle
APU	\$80-85 per APU hour
Component overhaul	\$220-230 per flight hour

## Airbus A319neo



SEATING/RANGE	
Max seating	156
Typical seating	120-150
Typical range	3,400nm (6,300km)
TECHNICAL CHARACTERISTICS	
MTOW	75.5 tonnes
OEW	43 tonnes
MZFW	60.3 tonnes
Fuel capacity	26,730 litres
Engines	LEAP-1A/PW1100G
Thrust	24,100lbs (107kN)
FUELS AND TIMES	
Block fuel 200nm	1,450kg
Block fuel 500nm	2,670kg
Block fuel 1,000nm	4,780kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET (INCLUDING CORPORATE JET VERSIONS)	
Entry into service (nominal)	2020
In service	9
Operators (current and planned)	5
In storage	3
On order	72
Built peak year	Not applicable
Estimated production 2023	Unknown
Average age (years)	0.5
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$67-75 per flight hour
Higher checks reserve	\$60-70 per flight hour
Engine overhaul	\$110-120 per engine flight hour
Engine LLP	\$140-150 per engine cycle
Landing gear refurbishment	\$40-50 per cycle
Wheels brakes and tyres	\$130-140 per cycle
APU	\$80-90 per APU hour
Component overhaul	\$220-230 per flight hour

## Airbus A320neo



SEATING/RANGE	
Max seating	194
Typical seating	150-180
Typical range	3,400nm (6,300km)
TECHNICAL CHARACTERISTICS	
MTOW	79 tonnes
OEW	44.5 tonnes
MZFW	64.3 tonnes
Fuel capacity	26,730 litres
Engines	LEAP-1A/PW1100G
Thrust	27,000lbs (120kN)
FUELS AND TIMES	
Block fuel 200nm	1,570kg
Block fuel 500nm	2,880kg
Block fuel 1,000nm	5,170kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2016
In service	1,539
Operators (current and planned)	131
In storage	67
On order	2,383
Built peak year (2019)	295
Estimated production 2023	250
Average age (years)	3.1
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$65-70 per flight hour
Higher checks reserve	\$60-65 per flight hour
Engine overhaul	\$110-115 per engine flight hour
Engine LLP	\$125-130 per engine cycle
Landing gear refurbishment	\$40-45 per cycle
Wheels brakes and tyres	\$130-140 per cycle
APU	\$80-85 per APU hour
Component overhaul	\$220-230 per flight hour

## Airbus A321neo



SEATING/RANGE	
Max seating	244
Typical seating	180-220
Maximum range	3,995nm (7,400km)
TECHNICAL CHARACTERISTICS	
MTOW	97 tonnes
OEW	50.1 tonnes
MZFW	75.6 tonnes
Fuel capacity	30,030 litres
Engines	LEAP-1A/PW1100G
Thrust	32,000lbs (143kN)
FUELS AND TIMES	
Block fuel 200nm	1,960kg
Block fuel 500nm	3,600kg
Block fuel 1,000nm	6,450kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2017
In service	862
Operators (current and planned)	120
In storage	16
On order	3,618
Built peak year (2022)	251
Estimated production 2023	250
Average age (years)	2.3
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$65-70 per flight hour
Higher checks reserve	\$60-65 per flight hour
Engine overhaul	\$125-130 per engine flight hour
Engine LLP	\$130-135 per engine cycle
Landing gear refurbishment	\$40-45 per cycle
Wheels brakes and tyres	\$130-140 per cycle
APU	\$80-85 per APU hour
Component overhaul	\$220-230 per flight hour

## Airbus A330-800neo



SEATING/RANGE	
Max seating	406
Typical seating	220-260
Typical range	8,150nm (15,090km)
TECHNICAL CHARACTERISTICS	
MTOW	251 tonnes
OEW	110 tonnes
MZFW	176 tonnes
Fuel capacity	139,090 litres
Engines	Trent 7000
Thrust	68,000lbs (303kN)
FUELS AND TIMES	
Block fuel 1,000nm	10,940kg
Block fuel 2,000nm	20,390kg
Block fuel 4,000nm	39,290kg
Block time 1,000nm	184 minutes
Block time 2,000nm	299 minutes
Block time 4,000nm	529 minutes
FLEET	
Entry into service	2020
In service	6
Operators (current and planned)	4
In storage	none
On order	5
Built peak year (2022)	2
Estimated production 2023	2
Average age	0.5
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$110-120 per flight hour
Higher checks reserve	\$100-110 per flight hour
Engine overhaul	\$270-280 per engine flight hour
Engine LLP	\$250-260 per engine cycle
Landing gear refurbishment	\$155-165 per cycle
Wheels, brakes and tyres	\$380-390 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$430-440 per flight hour

Maintenance reserves are based on A330-300 model pending confirmation of manufacturer's claimed reductions for new engine model.

## Airbus A330-900neo



SEATING/RANGE	
Max seating	440
Typical seating	260-300
Maximum range	7,200nm (13,330km)
TECHNICAL CHARACTERISTICS	
MTOW	251 tonnes
OEW	115 tonnes
MZFW	181 tonnes
Fuel capacity	139,090 litres
Engines	Trent 7000
Thrust	68,000lbs (303kN)
FUELS AND TIMES	
Block fuel 1,000nm	11,280 kg
Block fuel 2,000nm	21,040 kg
Block fuel 4,000nm	40,520 kg
Block time 1,000nm	184 minutes
Block time 2,000nm	299 minutes
Block time 4,000nm	529 minutes
FLEET	
Entry into service	2018
In service	79
Operators (current and planned)	32
In storage	6
On order	183
Build peak year (2019)	32
Estimated production 2023	24
Average age (years)	2.9
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$110-120 per flight hour
Higher checks reserve	\$100-110 per flight hour
Engine overhaul	\$270-280 per engine flight hour
Engine LLP	\$250-260 per engine cycle
Landing gear refurbishment	\$155-165 per cycle
Wheels brakes and tyres	\$380-390 per cycle
APU	\$120-130 per APU hour
Component overhaul	\$430-440 per flight hour

Maintenance reserves are based on A330-300 model pending confirmation of manufacturer's claimed reductions for new engine model.

## Airbus A350-900



SEATING/RANGE	
Max seating	440
Typical seating	300-350
Maximum range	8,100nm (15,000km)
TECHNICAL CHARACTERISTICS	
MTOW	280 tonnes
OEW	140 tonnes
MZFW	195 tonnes
Fuel capacity	141,000 litres
Engines	Trent XWB
Thrust	84,000lbs (374kN)
FUELS AND TIMES	
Block fuel 1,000nm	11,810kg
Block fuel 2,000nm	22,010kg
Block fuel 4,000nm	42,410kg
Block time 1,000nm	179 minutes
Block time 2,000nm	291 minutes
Block time 4,000nm	512 minutes
FLEET	
Entry into service	2014
In service	397
Operators (current and planned)	51
In storage	51
On order	303
Build peak year (2019)	80
Estimated production 2023	48
Average age (years)	4.1
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$110-120 per flight hour
Higher checks reserve	\$100-110 per flight hour
Engine overhaul	\$300-310 per engine flight hour
Engine LLP	\$275-285 per engine cycle
Landing gear refurbishment	\$155-165 per cycle
Wheels brakes and tyres	\$380-390 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$425-430 per flight hour

## Airbus A350-1000



SEATING/RANGE	
Max seating	440
Typical seating	350-410
Maximum range	8,700nm (16,100km)
TECHNICAL CHARACTERISTICS	
MTOW	316 tonnes
OEW	150 tonnes
MZFW	223 tonnes
Fuel capacity	159,000 litres
Engines	Trent XWB
Thrust	97,000lbs (432kN)
FUELS AND TIMES	
Block fuel 1,000nm	13,860kg
Block fuel 2,000nm	25,840kg
Block fuel 4,000nm	49,770kg
Block time 1,000nm	179 minutes
Block time 2,000nm	291 minutes
Block time 4,000nm	512 minutes
FLEET	
Entry into service	2018
In service	62
Operators (current and planned)	15
In storage	6
On order	83
Build peak year (2019)	23
Estimated production 2023	24
Average age (years)	3.4
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$110-120 per flight hour
Higher checks reserve	\$100-110 per flight hour
Engine overhaul	\$320-330 per engine flight hour
Engine LLP	\$295-305 per engine cycle
Landing gear refurbishment	\$155-165 per cycle
Wheels brakes and tyres	\$380-390 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$430-440 per flight hour

Maintenance reserves are based on A350-900 model pending confirmation of manufacturer's claimed reductions for new engine model.

## ATR42-600



SEATING/RANGE	
Max seating	50
Typical seating	48
Maximum range	720nm (1,330km)
TECHNICAL CHARACTERISTICS	
MTOW	18.6 tonnes
OEW	11.7 tonnes
MZFW	17 tonnes
Fuel capacity	5,700 litres
Engines	PW127M/PW127XT
Thrust	2,160 shp
FUELS AND TIMES	
Block fuel 100nm	340kg
Block fuel 200nm	560kg
Block fuel 500nm	1,210kg
Block time 100nm	33 minutes
Block time 200nm	55 minutes
Block time 500nm	122 minutes
FLEET	
Entry into service	2012
In service	58
Operators (current and planned)	27
In storage	5
On order	24
Build peak year (2019)	10
Estimated production 2023	6
Average age (years)	6.1
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$40-50 per flight hour
Higher checks reserve	\$30-40 per flight hour
Engine overhaul	\$105-110 per engine flight hour
Engine LLP	\$35-40 per engine cycle
Landing gear refurbishment	\$25-30 per cycle
Wheels brakes and tyres	\$40-45 per cycle
Propeller	\$20-25 per propeller hour
Component overhaul	\$120-130 per flight hour

## ATR72-600



SEATING/RANGE	
Max seating	78
Typical seating	72
Maximum range	825nm (1,526km)
TECHNICAL CHARACTERISTICS	
MTOW	23 tonnes
OEW	14 tonnes
MZFW	21 tonnes
Fuel capacity	6,370 litres
Engines	PW127M/PW127XT
Thrust	2,475 shp
FUELS AND TIMES	
Block fuel 100nm	370kg
Block fuel 200nm	610kg
Block fuel 500nm	1,310kg
Block time 100nm	36 minutes
Block time 200nm	58 minutes
Block time 500nm	125 minutes
FLEET	
Entry into service	2011
In service	490
Operators (current and planned)	105
In storage	92
On order	120
Build peak year (2015)	79
Estimated production 2023	24
Average age (years)	6.6
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$40-50 per flight hour
Higher checks reserve	\$30-40 per flight hour
Engine overhaul	\$105-115 per engine flight hour
Engine LLP	\$35-40 per engine cycle
Landing gear refurbishment	\$25-30 per cycle
Wheels brakes and tyres	\$40-45 per cycle
Propeller	\$20-25 per propeller hour
Component overhaul	\$130-140 per flight hour

## ATR72-600F



PAYLOAD/RANGE	
Max payload	102 tonnes
Maximum range	1,030 nm (1,905 km)
TECHNICAL CHARACTERISTICS	
MTOW	23 tonnes
OEW	11.8 tonnes
MZFW	21 tonnes
Fuel capacity	6,370 litres
Engines	PW127M/PW127XT
Thrust	2,475 shp
FUELS AND TIMES	
Block fuel 100nm	370kg
Block fuel 200nm	610kg
Block fuel 500nm	1,310kg
Block time 100nm	36 minutes
Block time 200nm	58 minutes
Block time 500m	125 minutes
FLEET	
Entry into service	2021
In Service:	10
Operators (current and planed)	2
In Storage	none
On order	20
Built peak year	Not applicable
Estimated production 2023	12
Average age	0.8 years
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$40-45 per flight hour
Higher checks reserve	\$30-35 per flight hour
Engine overhaul	\$105-110 per engine flight hour
Engine LLP	\$35-40 per engine cycle
Landing gear refurbishment	\$20-25 per cycle
Wheels brakes and tyres	\$40-45 per cycle
Propeller	\$20-25 per propeller hour
Component overhaul	\$130-140 per flight hour

## Boeing 737 Max 8



SEATING/RANGE	
Max seating	200
Typical seating	162-172
Maximum range	3,515nm (6,510km)
TECHNICAL CHARACTERISTICS	
MTOW	82.2 tonnes
OEW	45.1 tonnes
MZFW	65.9 tonnes
Fuel capacity	25,810 litres
Engines	LEAP-1B
Thrust	26,780lbs (119kN)
FUELS AND TIMES	
Block fuel 200nm	1,720kg
Block fuel 500nm	3,040kg
Block fuel 1,000nm	5,320kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2017
In service	630
Operators (current and planned)	112
In storage	30
On order	2,871
Build peak year (2018)	194
Estimated production 2023	340
Average age (years)	3.6
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$70-80 per flight hour
Higher checks reserve	\$55-65 per flight hour
Engine overhaul	\$125-135 per engine flight hour
Engine LLP	\$130-140 per engine cycle
Landing gear refurbishment	\$50-60 per cycle
Wheels brakes and tyres	\$75-85 per cycle
APU	\$85-95 per APU hour
Component overhaul	\$220-230 per flight hour

Maintenance reserves are estimates based on 737-800 model pending in-service feedback and confirmation of claimed savings.

## Boeing 737 Max 9



SEATING/RANGE	
Max seating	220
Typical seating	178-193
Maximum range	3,215nm (5,960km)
TECHNICAL CHARACTERISTICS	
MTOW	88.3 tonnes
OEW	45.1 tonnes
MZFW	71 tonnes
Fuel capacity	25,810 litres
Engines	LEAP-1B
Thrust	27,300 (121kN)
FUELS AND TIMES	
Block fuel 200nm	1,790kg
Block fuel 500nm	3,150kg
Block fuel 1,000nm	5,520kg
Block time 200nm	54 minutes
Block time 500nm	94 minutes
Block time 1,000nm	160 minutes
FLEET	
Entry into service	2018
In service	122
Operators (current and planned)	15
In storage	4
On order	196
Build peak year (2021)	60
Estimated production 2023	60
Average age (years)	3.6
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$75-80 per flight hour
Higher checks reserve	\$55-60 per flight hour
Engine overhaul	\$125-135 per engine flight hour
Engine LLP	\$130-140 per engine cycle
Landing gear refurbishment	\$50-60 per cycle
Wheels brakes and tyres	\$75-85 per cycle
APU	\$85-90 per APU hour
Component overhaul	\$220-230 per flight hour

Maintenance reserves are estimates based on 737-900 model pending in-service feedback and confirmation of claimed savings.

## Boeing 767F



SEATING/RANGE	
Max Payload	52 tonnes
Maximum range	3,250nm (6,020km)
TECHNICAL CHARACTERISTICS	
MTOW	187 tonnes
OEW	81 tonnes
MZFW	133 tonnes
Fuel capacity	91,380 litres
Engines	CF6-80C
Thrust	63,300lbs (276kN)
FUELS AND TIMES	
Block fuel 1,000Nm	10,560kg
Block fuel 2,000nm	19,760kg
Block fuel 4,000 Nm	37,910kg
Block time 1,000Nm	184 minutes
Block time 2,000Nm	301 minutes
Block time 4,000Nm	536 minutes
FLEET	
Entry into service	1995
In Service	224
Operators (current and planned)	19
In Storage	2
On order	57
Built peak year (2019)	18
Estimated production 2023	12
Average age	9.6 years
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$105-110 per flight hour
Higher checks reserve	\$80-90 per flight hour
Engine overhaul	\$170-180 per engine flight hour
Engine LLP	\$260-270 per engine cycle
Landing gear refurbishment	\$70-75 per cycle
Wheels brakes and tyres	\$75-80 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$260-270 per flight hour

## Boeing 777F



SEATING/RANGE	
Max Payload	102 tonnes
Maximum range	4,970nm (9,200km)
TECHNICAL CHARACTERISTICS	
MTOW	348 tonnes
OEW	144 tonnes
MZFW	248 tonnes
Fuel capacity	181,280 litres
Engines	GE90-110/115
Thrust	110,000lbs (489 kN)
FUELS AND TIMES	
Block fuel 1,000Nm	14,140 kg
Block fuel 2,000nm	26,350 kg
Block fuel 4,000 Nm	50,780 kg
Block time 1,000Nm	152 minutes
Block time 2,000Nm	277 minutes
Block time 4,000Nm	525 minutes
FLEET	
Entry into service	2009
In Service	23
Operators (current and planned)	36
In Storage	2
On order	86
Built peak year (2019)	25
Estimated production 2023	18
Average age (years)	7.4
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$130-140 per flight hour
Higher checks reserve	\$95-100 per flight hour
Engine overhaul	\$295-305 per engine flight hour
Engine LLP	\$460-470 per engine cycle
Landing gear refurbishment	\$165-175 per cycle
Wheels brakes and tyres	\$485-490 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$410-420 per flight hour

## Boeing 777-300ER



SEATING/RANGE	
Max seating	550
Typical seating	365 (three-class)
Maximum range	7,370nm (13,650km)
TECHNICAL CHARACTERISTICS	
MTOW	351.5 tonnes
OEW	168 tonnes
MZFW	238 tonnes
Fuel capacity	181,280 litres
Engines	GE90-115BL
Thrust	115,300lbs (504kN)
FUELS AND TIMES	
Block fuel 1,000nm	15,610kg
Block fuel 2,000nm	29,840kg
Block fuel 4,000nm	60,900kg
Block time 1,000nm	152 minutes
Block time 2,000nm	277 minutes
Block time 4,000nm	525 minutes
FLEET	
Entry into service	2003
In service	731
Operators (current and planned)	61
In storage	86
On order	6
Build peak year (2016)	89
Estimated production 2023	12
Average age (years)	9.9
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$130-140 per flight hour
Higher checks reserve	\$95-100 per flight hour
Engine overhaul	\$300-310 per engine flight hour
Engine LLP	\$460-470 per engine cycle
Landing gear refurbishment	\$160-170 per cycle
Wheels brakes and tyres	\$480-490 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$420-430 per flight hour

## Boeing 787-8



SEATING/RANGE	
Max seating	359
Typical seating	248
Maximum range	7,300nm (13,530km)
TECHNICAL CHARACTERISTICS	
MTOW	227.9 tonnes
OEW	120 tonnes
MZFW	172 tonnes
Fuel capacity	126,920 litres
Engines	GEhx/Trent 1000
Thrust	64,000lbs (280kN)
FUELS AND TIMES	
Block fuel 1,000nm	10,170kg
Block fuel 2,000nm	18,970kg
Block fuel 4,000nm	36,540kg
Block time 1,000nm	178 minutes
Block time 2,000nm	265 minutes
Block time 4,000nm	510 minutes
FLEET	
Entry into service	2011
In service	366
Operators (current and planned)	54
In storage	18
On order	38
Build peak year (2014)	104
Estimated production 2023	12
Average age (years)	7.0
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$110-120 per flight hour
Higher checks reserve	\$90-100 per flight hour
Engine overhaul	\$310-320 per engine flight hour
Engine LLP	\$310-320 per engine cycle
Landing gear refurbishment	\$80-90 per cycle
Wheels brakes and tyres	\$110-120 per cycle
APU	\$110-120 per APU hour
Component overhaul	\$320-330 per flight hour

## Boeing 787-9



SEATING/RANGE	
Max seating	406
Typical seating	296 (two-class)
Maximum range	7,530nm (13,950km)
TECHNICAL CHARACTERISTICS	
MTOW	252.7 tonnes
OEW	120 tonnes
MZFW	181 tonnes
Fuel capacity	138,700 litres
Engines	GEnx1B/Trent 1000
Thrust	71,000lbs (320kN)
FUELS AND TIMES	
Block fuel 1,000nm	10,480kg
Block fuel 2,000nm	19,500kg
Block fuel 4,000nm	37,630kg
Block time 1,000nm	178 minutes
Block time 2,000nm	265 minutes
Block time 4,000nm	510 minutes
FLEET	
Entry into service	2014
In service	552
Operators (current and planned)	73
In storage	22
On order	332
Build peak year (2018)	120
Estimated production 2023	12
Average age (years)	5.5
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$115-125 per flight hour
Higher checks reserve	\$90-100 per flight hour
Engine overhaul	\$315-325 per engine flight hour
Engine LLP	\$325-335 per engine cycle
Landing gear refurbishment	\$80-90 per cycle
Wheels brakes and tyres	\$100-110 per cycle
APU	\$130-140 per APU hour
Component overhaul	\$325-335 per flight hour

## Boeing 787-10



SEATING/RANGE	
Max seating	440
Typical seating	336
Maximum range	6,345nm (11,750km)
TECHNICAL CHARACTERISTICS	
MTOW	254 tonnes
OEW	135 tonnes
MZFW	192.7 tonnes
Fuel capacity	126,370 litres
Engines	GEnx-1B/Trent 1000
Thrust	76,000 (340kN)
FUELS AND TIMES	
Block fuel 1,000nm	11,310kg
Block fuel 2,000nm	21,080kg
Block fuel 4,000nm	40,620kg
Block time 1,000nm	146 minutes
Block time 2,000nm	265 minutes
Block time 4,000nm	501 minutes
FLEET	
Entry into service	2018
In service	66
Operators (current and planned)	14
In storage	1
On order	116
Build peak year (2019)	29
Estimated production 2023	12
Average age (years)	2.9
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$120-130 per flight hour
Higher checks reserve	\$90-100 per flight hour
Engine overhaul	\$320-330 per engine flight hour
Engine LLP	\$335-340 per engine cycle
Landing gear refurbishment	\$80-90 per cycle
Wheels brakes and tyres	\$110-120 per cycle
APU	\$130-140 per APU hour
Component overhaul	\$340-350 per flight hour

## Embraer E175



SEATING/RANGE	
Max seating	88
Typical seating	78
Maximum range	2,200nm (4,070km)
TECHNICAL CHARACTERISTICS	
MTOW	40.4 tonnes
OEW	22 tonnes
MZFW	32 tonnes
Fuel capacity	11,630 litres
Engines	CF34-8E
Thrust	13,800lbs (60kN)
FUELS AND TIMES	
Block fuel 200nm	1,180kg
Block fuel 500nm	2,390kg
Block time 200nm	51 minutes
Block time 500nm	89 minutes
FLEET	
Entry into service	2005
In service	674
Operators (current and planned)	32
In storage	44
On order	123
Build peak year (2016)	88
Estimated production 2023	24
Average age (years)	7.6
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$50-60 per flight hour
Higher checks reserve	\$40-50 per flight hour
Engine overhaul	\$80-90 per engine flight hour
Engine LLP	\$110-120 per engine cycle
Landing gear refurbishment	\$30-40 per cycle
Wheels brakes and tyres	\$50-60 per cycle
APU	\$60-70 per APU hour
Component overhaul	\$160-170 per flight hour

## Embraer E190



SEATING/RANGE	
Max seating	114
Typical seating	98
Typical range	2,400nm (4,448km)
TECHNICAL CHARACTERISTICS	
MTOW	47.8 tonnes
OEW	27.7 tonnes
MZFW	40.8 tonnes
Fuel capacity	16,210litres
Engines	CF34-10E
Thrust	18,500 lbs (85 kN)
FUELS AND TIMES	
Block fuel 200Nm	1,340 kg
Block fuel 500 Nm	2,710 kg
Block time 200Nm	46 minutes
Block time 500Nm	83 minutes
FLEET	
Entry into service (planned)	2005
In Service:	465
Operators (current and planed)	112
In Storage	112
On order	3
Built peak year (2011)	71
Estimated production 2023	unknown
Average age (years)	9.1
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$45-50 per flight hour
Higher checks reserve	\$35-40 per flight hour
Engine overhaul	\$70-75 per engine flight hour
Engine LLP	\$90-95 per engine cycle
Landing gear refurbishment	\$35-40 per cycle
Wheels brakes and tyres	\$55-60 per cycle
APU	\$70-75 per APU hour
Component overhaul	\$180-185 per flight hour

## Embraer E190-E2



SEATING/RANGE	
Max seating	114
Typical seating	106
Maximum range	2,850nm (5,280km)
TECHNICAL CHARACTERISTICS	
MTOW	56.4 tonnes
OEW	33 tonnes
MZFW	46.7 tonnes
Fuel capacity	17,110 litres
Engines	PW1919
Thrust	19,000lbs (85kN)
FUELS AND TIMES	
Block fuel 200nm	1,140kg
Block fuel 500nm	2,300kg
Block time 200nm	51 minutes
Block time 500nm	89 minutes
FLEET	
Entry into service	2018
In service	16
Operators (current and planned)	7
In storage	6
On order	13
Built peak year (2019)	7
Estimated production 2023	6
Average age (years)	3.5
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$50-60 per flight hour
Higher checks reserve	\$40-50 per flight hour
Engine overhaul	No data
Engine LLP	No data
Landing gear refurbishment	\$40-50 per cycle
Wheels brakes and tyres	\$60-70 per cycle
APU	\$80-90 per APU hour
Component overhaul	\$180-190 per flight hour

Maintenance reserves are estimates based on E190 model pending in-service feedback and confirmation of claimed savings.

## Embraer E195-E2



SEATING/RANGE	
Max seating	146
Typical seating	132
Typical range	2,600nm (4,800km)
TECHNICAL CHARACTERISTICS	
MTOW	61.5 tonnes
OEW	35.7 tonnes
MZFW	51.8 tonnes
Estimated fuel capacity	17,110 litres
Engines	Pratt & Whitney PW1919
Thrust	19,000lbs (85kN)
FUELS AND TIMES	
Block fuel 200nm	1,260kg
Block fuel 500nm	2,440kg
Block time 200nm	51 minutes
Block time 500nm	89 minutes
FLEET	
Entry into service	2019
In service	38
Operators (current and planned)	14
In storage	5
On order	185
Built peak year (2021)	18
Estimated production 2023	30
Average age (years)	2.6
INDICATIVE MAINTENANCE RESERVES	
C-check reserve	\$45-50 per flight hour
Higher checks reserve	\$35-40 per flight hour
Engine overhaul	No data
Engine LLP	No data
Landing gear refurbishment	\$40-50 per cycle
Wheels, brakes and tyres	\$60-70 per cycle
APU	\$80-90 per APU hour
Component overhaul	\$180-185 per flight hour

Maintenance reserves are estimates based on E195 model pending in-service feedback and confirmation of claimed savings.



## New aircraft market values (\$ million)

Model	Avitas view	CV view	IBA view	ICF view	MBA view	Oriel view	Average
<b>Airbus</b>							
A220-100	33.8	34.7	32.8	34.5	32.0	34.2	<b>33.7</b>
A220-300	37.4	39.4	37.4	38.2	36.9	39.2	<b>38.1</b>
A319neo	39.4	40.0	39.0	39.5	33.2	44.9	<b>39.3</b>
A320neo	52.4	54.1	49.6	50.8	48.9	53.1	<b>51.5</b>
A321neo	59.4	62.3	57.4	58.8	56.8	62.7	<b>59.6</b>
A330-800 (neo)	90.0	95.0	91.6	88.9	85.2	89.0	<b>89.9</b>
A330-900 (neo)	104.5	107.9	101.6	103.1	100.8	105.0	<b>103.8</b>
A350-900	153.0	154.8	146.0	155.1	138.7	140.0	<b>147.9</b>
A350-1000	157.9	174.1	160.6	166.6	159.5	153.0	<b>161.9</b>
<b>ATR</b>							
ATR42-600	15.8	N/A	15.6	16.1	14.5	15.2	<b>15.4</b>
ATR72-600	19.0	N/A	21.2	19.1	18.0	19.0	<b>19.3</b>
<b>Boeing</b>							
737 Max 8	51.4	52.5	50.6	48.7	48.6	51.0	<b>50.5</b>
737 Max 9	52.5	53	53.1	50.4	48.6	54.0	<b>51.9</b>
767F	81.2	90	77.4	77.3	77.2	81.0	<b>80.7</b>
777-300ER	N/A	125	124.5	136.6	100.1	N/A	<b>121.6</b>
777F	168.9	181	160.0	164.1	157.9	168.0	<b>166.7</b>
787-8	116.1	114	95.5	102.9	108.8	95.0	<b>105.4</b>
787-9	146.1	151	140.3	143.7	131.9	138.0	<b>141.8</b>
787-10	150.3	161	156.5	153.2	146.6	147.0	<b>152.4</b>
<b>Embraer</b>							
E175	27.3	25	26.8	27.7	28.4	23.8	<b>26.5</b>
E190-E2	33.8	30	32.0	33.9	28.2	31.6	<b>31.6</b>
E195-E2	36.3	38	35.1	36.8	32.7	33.6	<b>35.4</b>

## New aircraft lease rates (\$'000s per month)

Model	Avitas view	CV view	IBA view	ICF view	MBA view	Oriel view	Average
<b>Airbus</b>							
<b>A220-100</b>	210-245	240	224	231	214-230	245	<b>210-245</b>
<b>A220-300</b>	235-270	280	240	270	245-263	290	<b>235-290</b>
<b>A319neo</b>	225-270	280	290	277	222-239	315	<b>222-315</b>
<b>A320neo</b>	285-340	350	324	350	311-334	375	<b>285-375</b>
<b>A321neo</b>	335-395	400	375	385	361-388	420	<b>335-420</b>
<b>A330-800</b>	620-700	750	651	644	557-598	690	<b>557-750</b>
<b>A330-900</b>	655-740	875	720	724	659-707	750	<b>655-875</b>
<b>A350-900</b>	925-1,045	1,100	953	1,054	897-963	905	<b>897-1,100</b>
<b>A350-1000</b>	960-1,170	1,125	1,130	1,126	1,086-1,166	950	<b>950-1,170</b>
<b>ATR</b>							
<b>ATR42-600</b>	105-120	N/A	132	135	114-123	130	<b>105-135</b>
<b>ATR72-600</b>	125-150	N/A	166	165	150-161	160	<b>125-166</b>
<b>Boeing</b>							
<b>737 Max 8</b>	280-325	350	317	328	306-328	340	<b>280-350</b>
<b>737 Max 9</b>	285-340	355	329	348	306-329	370	<b>285-370</b>
<b>767F</b>	450-555	750	579	490	564-606	645	<b>450-750</b>
<b>777-300ER</b>	N/A	800	949	861	N/A	N/A	<b>800-949</b>
<b>777F</b>	1,135-1,255	1,400	1,300	970	1,155-1,240	1,120	<b>970-1,400</b>
<b>787-8</b>	630-710	750	658	734	704-755	680	<b>630-755</b>
<b>787-9</b>	865-975	1,050	885	966	880-945	885	<b>865-1,050</b>
<b>787-10</b>	895-1,110	1,000	1,018	1,034	999-1,072	975	<b>895-1,110</b>
<b>Embraer</b>							
<b>E175</b>	170-195	225	170	171	213-229	185	<b>170-229</b>
<b>E190-E2</b>	190-225	225	231	226	189-202	235	<b>189-235</b>
<b>E195-E2</b>	220-260	270	251	248	219-235	240	<b>219-270</b>



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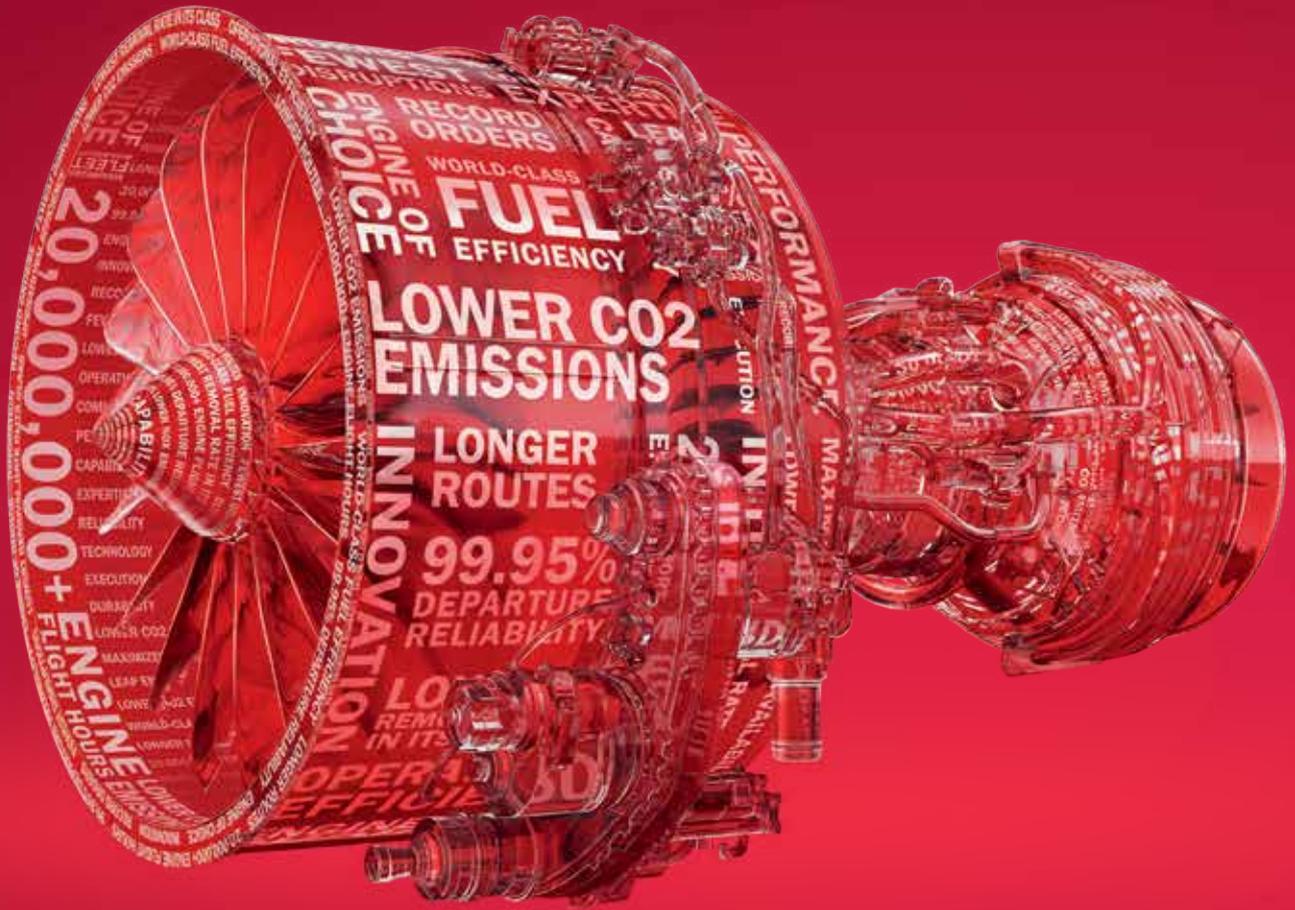
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