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Regional aircraft 2019

CRJ 'important' to Bombardier

Regional aircraft lessor, TrueNoord's chief executive officer Anne-Bart Tieleman, speaks to **Jack Dutton** about the CRJ programme and why Embraer is still selling loads of E1s.

Coming to market with a new aircraft, the CRJ550, at the start of February was a smart move from Bombardier, according to the chief executive officer of regional aircraft lessor TrueNoord.

In an interview with *Airfinance Journal*, Anne-Bart Tieleman says: "It's clearly a very niche product facilitating the US market, but I think from Bombardier's perspective, it's quite smart. They've created a new product on an existing platform so it won't be a high capital cost investment for them and they still have a new product to offer."

The Canadian manufacturer launched the product, which will have 50 seats in three classes, with US carrier United Airlines, committing to 50 units.

Tieleman says Bombardier may get more appetite from other US airlines because it is "very scope clause-minded".

He adds that TrueNoord would consider the aircraft in the future, but will not until there is more technical information available, such as costs and the secondary market footprint for the aircraft.

"It works in the US, but does it work somewhere else? I don't know. That is something for Bombardier to explain," he adds.

Bombardier says there is a market for the CRJ550 of more than 700 aircraft, and Tieleman thinks this is a realistic forecast.

"You'd be surprised if you see how many CRJ200s and Embraer ERJ135s and ERJ145s still fly, especially in the US. It sounds like a lot of aircraft but I guess they've done their homework, so it doesn't surprise me." He adds this is also the case with the Airbus A319, of which many are flying in the US.

"Look how many A319s fly in the US and these will be candidates to be replaced with A220s. I think there's something like 1,400 or 1,500 A319s with US airlines. The 700 figure doesn't sound very exaggerated."

Importance of CRJ

Tieleman is a champion of the CRJ family, but he does not think that Bombardier's recent sales of the Q400 programme to Longview Aviation and the CSeries programme to Airbus will breathe a new lease of life into the CRJ. He has already been impressed with the Canadian manufacturer's efforts at selling the Q400s and CRJs since it sold the CSeries.

"I think the Q400s are out but from Bombardier's perspective, the CRJ product is quite important. It's built in the same factory that creates the business aircraft. Getting rid of that will only jeopardise production of airframes in this facility where in the end also the business jets are being built. Strategically, it would surprise me if Bombardier sells the CRJ. I don't think they will do that; they'll keep it and milk it until the product is really old."

Some of Bombardier's larger business jets have very similar airframes to the CRJ, meaning that the original equipment manufacturer can produce the CRJ on the cheap.

E1 versus E2

When it comes to the CRJ900's main competitor, some of the smaller aircraft in the Embraer E2, Tieleman is slightly sceptical, because E1 orders still show strong momentum. Despite this, Tieleman is interested in acquiring the aircraft to help grow TrueNoord's portfolio. The lessor has 20 E1s out of 31 aircraft in its fleet, according to *Airfinance Journal*'s Fleet Tracker.

"It wouldn't surprise if we see more E1 orders this year," he says. "In that respect, you could almost argue that the E2 has come too early to market because there's still a strong demand for E1 products, old as well as new. Of course, that's not something Embraer would like to hear, and they try to push the E2, but they will have a more difficult time than they initially imagined, because their biggest competitor is themselves with the E1."

The current economic environment and the relatively low price of fuel could be factors as to why the E2 is not gaining as much transaction as originally expected. Scope clauses also play a role, because the E175-E2, the family's medium-sized model, has not been certified. Issues with the geared turbofan that powers the E2s may also cause hesitance, though the engines on the E2s are not showing the same difficulties as the ones on the A320s.

"I think the Q400s are out but from Bombardier's perspective, the CRJ product is quite important. It's built in the same factory that creates the business jets."

Anne-Bart Tieleman, chief executive officer, TrueNoord

"You might see airlines stick with what they know and what they have, like BA for example flying the E1s from London-City airport. They might even increase their fleets so that they are continuing growing their business, not with new stuff but existing stuff that they know performs."

ATR: Important year ahead

The coming year is set to be key for ATR, says chief executive officer Stefano Bortoli.

With Bombardier pursuing a sale of its Q Series programme to Longview Aviation Capital, turboprop market leader ATR could end up with a quasimonopoly of the 50- to 80-seat market within a couple of years.

However, the Franco-Italian manufacturer's chief executive officer, Stefano Bortoli, prefers to focus on the short term and ATR's plan to add versatility to the -600 series.

The turboprop manufacturer made inroads in the freighter market in 2017, when FedEx Express launched ATR's factory-build freighter programme with an order for 30 new ATR72-600Fs plus 20 options. In 2018, though, ATR sold none of the type.

"We are engaged in a number of discussions with some customers. It will be a game-changer aircraft for the freighter market," Bortoli tells *Airfinance Journal*.

The FedEx Express aircraft will be the first ATR built specifically for cargo service, rather than converted from passenger aircraft. Deliveries will begin in 2020. Between now and then, the original equipment manufacturer (OEM) will aim to secure more customers.

Sporting a windowless fuselage, the new freighter will feature a forward large cargo door, a rear upper-hinged cargo door and reinforced floor panels. It will support both bulk cargo and unit load device (ULD) configurations, with a bulk capacity of 74.6m3, or space for up to seven LD3 containers in ULD mode.

Bortoli says the ATR72-600F model represents more than 10% of ATR's backlog.

"The FedEx contract comes with a large cargo door and this is driven by the new distribution model in cargo, which is feeding big aircraft with smaller aircraft to reach out to isolated places," he says.

In 2018, ATR recorded 52 firm orders. This was down from 113 sales the previous year but up from 2016 when it sold 36 aircraft.

Interestingly, the Toulouse-based manufacturer sold 23 ATR42-600s last year, whereas in 2017 it booked just one order for the ATR42-600. The previous year, ATR sold two ATR42-600s.

Looking ahead, Bortoli believes ATR will sell more aircraft in that size range compared with the past five years.

"We may not sell 20 aircraft a year, but more likely 12 to 14 aircraft a year, going forward," he says.

According to ATR's 2018-2037 forecast, 20% of future turboprop deliveries (or 630 aircraft) will come from the 40- to 60-seat market. That segment will feed off the upsizing in the 30-seat market, and the replacement of 50-seat regional aircraft.

To push for more sales, the manufacturer is expected to launch a short-take-off-and-landing (STOL) variant of the ATR42-600 for small island and fjord applications.

"There are a number of places with short airfield runways, because of limited land and space. Our intention is to have an aircraft that can take off and land within 800 metres," he says.

ATR aims to launch the STOL version this year. "We have a number of customers both from the airline and the leasing industry side. There is appetite for that aircraft," he adds.

At the 2017 Paris air show the manufacturer signed two memorandum of understanding contracts with two customers in China. They will be firmed up when the ATR42-600 is certified in China.

"Our goal is to certify the ATR42-600 in China in 2019 but there is an uncontrollable factor," he says. "The issue is political."

He adds: "We have toured the aircraft in China and there is appetite in the Chinese market. There are 3,000 aircraft in operation and less than 100 regional aircraft. There is a project by the China government to develop regional airports to unlock traffic and we have a number of prospects in China."

In ATR's latest forecast, the largest demand for turboprops is expected to emerge from Asia (43%), followed by Europe, Africa and the Middle East (31%) and the Americas (26%) over the next 20 years.

ATR estimates a market for 3,020 turboprop deliveries with nearly 80% (or 2,390 aircraft) of the total demand expected to come from the 61- to 80-seat category.

It thinks 60% of demand will be to fuel growth and 40% for replacement as aircraft retire.

The manufacturer argues that traffic growth in regional connectivity will come from traditional markets where less connected locations are being connected with direct regional new routes, and from emerging markets where the most viable solution for connecting people and transporting goods is turboprop transport.

This year could see a first return to the US passenger market for the manufacturer since 1995, when it won orders to American Express.

Florida-based Silver Air selected the ATR42/72-600 models for growth. The regional carrier operates a Saab 340B fleet and will lease the new ATR models from lessor Nordic Aviation Capital.

"Silver Air should start phase four of its certification procedure," says Bortoli.

This year ATR will also deliver the first ATR72-600 equipped with the Clearvision enhanced vision system, an upgrade for low-visibility conditions. The OEM has secured two customers: the UK-based Aurigny Air Services and French regional carrier Air Saint-Pierre.

Bortoli says ATR and Aurigny worked on a study which concluded that 50% of disrupted landings in Guernsey, where operations are regularly affected by fog in the English Channel, would have been avoided had the carrier been equipped with the Clearvision system.

ATR

ATR (Avions de Transport Régional) is a joint-venture partnership which was established in November 1981 between Aerospatiale (now Airbus) and the Italian company Aeritalia (now Leonardo). Production is based in Toulouse alongside Airbus's commercial aircraft facilities.

The company's fortunes have been closely linked to those of turboprops in general, even though the 50-seat regional jet mania of the 1990s caused a decline in demand for that type of aircraft.

But there has been a significant revival since 2006, not least because the economic advantages of fuel-efficient turboprops increase as fuel prices rise. The resurgence of commercial turboprop sales has been remarkable for a type of aircraft that many commentators and industry insiders thought had been made obsolete by the advent of the regional jet. ATR has been the principle beneficiary of this resurgence.

The Franco-Italian joint venture has sold more than 1,750 aircraft, of which about 1,550 have been delivered.

The leasing community has also shown an appetite for ATR aircraft. The manufacturer has attracted orders from GECAS, Air Lease, DAE Capital and Avation, as well as Nordic Aviation Capital, the largest regional aircraft lessor. ATR produces two models: the ATR72 and the ATR42.

The aircraft benefits from the inherent advantages of the turboprop design in terms of fuel efficiency, and relatively low emissions and cost efficiencies, particularly on shorter sectors.

The original ATR42 entered service at the end of 1985. The first commercial operations of the ATR72 followed four years later in 1989. Both aircraft types have been the subject of several major upgrades and current-production aircraft are designated as -600 models.

ATR introduced the high-capacity ATR72-600 version a couple of years ago. The model seats 78 passengers.

There has been much speculation since the beginning of the decade that ATR was planning to produce a larger model to take advantage of the return to favour of the turboprop, but the plans have not materialised.

Instead, ATR continued to sell the ATR72-600 models. The company has envisaged sufficient demand for a production rate of 100 aircraft deliveries a year, but its highest level of deliveries reached was 88 aircraft in 2015.

However, some recent evidence suggests the market has peaked and sales are becoming harder to come by. The problem is exacerbated by the increased participation of lessors, with leasing companies accounting for significant percentages of the manufacturer's order backlog. Nonetheless, in January, ATR issued briefings saying it had consolidated historical levels of turnover and deliveries, despite a challenging market environment.

Production stabilised at about 80 aircraft a year, compared with 51 aircraft in 2010.

In 2018, ATR booked firm orders for 52 aircraft: 23 ATR42-600s and 29 ATR72-600s. This compares with 113 aircraft in 2017 and 36 in 2016.

ATR recorded two leasing firm orders last year, totalling 23 aircraft. The leasing community's orders represented about 45% of the turboprop manufacturer's intake for the year.

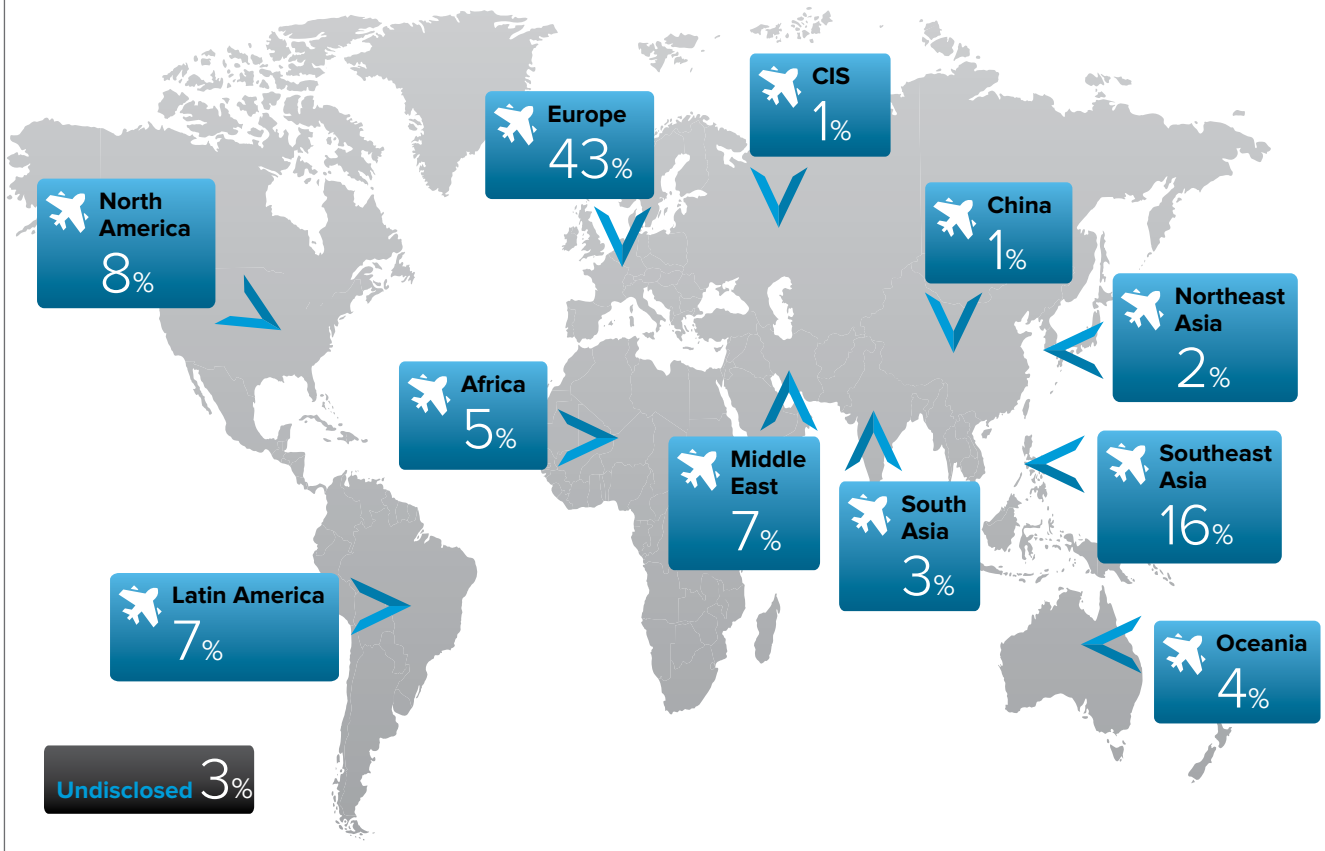
The manufacturer is looking at boosting sales further in the 50-seat market through the launch this year of the short-take-off-and-landing variant of the ATR42-600 for airlines operating at small airports.

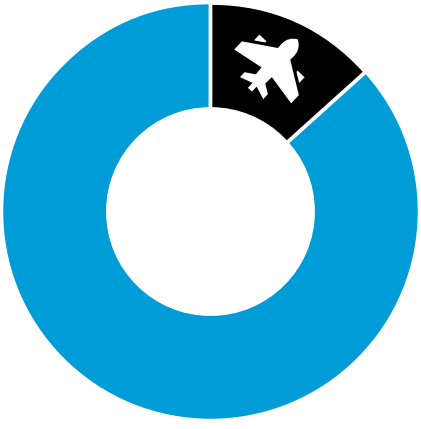
The coming year is also set to be key for ATR's new-build freighter. FedEx Express launched the manufacturer's factory-build freighter programme in 2017 with an order for 30 new ATR 72-600Fs plus 20 options.

Stefano Bortoli, ATR's chief executive officer, says demand for the large cargo door variant is driven by the new distribution model in cargo, "which is feeding big aircraft with smaller aircraft to reach out to isolated places".

ATR secured a solid backlog representing three years of production. *Airfinance Journal* estimates that the aircraft backlog stood at 206 units, at the end of last year.

ATR: Market share of current fleet by region





13.4% of global regional aircraft fleet

1,276 ATR aircraft in the current fleet

Source: Airfinance Journal's Fleet Tracker

Bombardier

After purchasing the civil and military manufacturer Canadair from the Canadian government in 1986 and restoring it to profitability, Bombardier acquired the near-bankrupt Short Brothers aircraft manufacturing company in Belfast, Northern Ireland, in 1989.

This was followed in 1992 by the acquisition of the money-losing Boeing subsidiary de Havilland Aircraft of Canada based in Toronto, Ontario.

The manufacturer's origins date back from the 1940s when engineer Joseph-Armand Bombardier created L'Auto-Neige Bombardier Limitée. The company, which specialised in snowmobiles, was renamed Bombardier Limited in 1969.

Bombardier's most popular aircraft include its Q Series turboprops, its CRJ100/200s and CRJ700/900/1000 regional aircraft. As of 31 December 2018, Bombardier had sold 1,309 Q Series turboprops and had 52 units on backlog. The CRJ programme had sold 1,908 units and 45 aircraft were on backlog.

In 2004, Bombardier launched a feasibility study for a five-seat-abreast CSeries as the manufacturer targeted ageing DC9s, MD80s, Fokker 100s and BAe 146/Avro RJ models for replacement. The smaller version would carry 110 to 115 passengers and the larger 130 to 135 passengers over 3,200 nautical miles.

Bombardier's board of directors authorised marketing the models in March 2005, but a year later shelved the project citing market conditions not justifying the launch of the programme.

In February 2008, the board of directors authorised Bombardier to offer formal sales proposals to airline customers in the 100- to 149-seat market segment and subsequently launched the CSeries programme in July of that year.

Bombardier handed over the first CS100 aircraft to Swiss International Air Lines in June 2016. AirBaltic, the launch customer for the CS300 variant, received the first unit in December that year.

In October 2017, Airbus and Bombardier announced an agreement in which the European manufacturer will acquire a majority stake in the Bombardier CSeries programme.

Under the agreement, Airbus provides procurement, sales and marketing and customer support expertise to the C Series Aircraft Limited Partnership (CSALP), the entity that manufactures and sells the CSeries. At closing, Airbus acquired a 50.01% interest in CSALP. Bombardier and Investissement Québec owned about 31% and 19%, respectively.

The transaction was finalised on 1 July 2018, and Airbus renamed the CS300 as the A220-300 and the CS100 as the A220-100.

Last year was also important on the turboprop side. Bombardier entered into a definitive agreement to sell its Downsview property, the site of global business aircraft and Q400 regional turboprop production, to the Public Sector Pension Investment Board.

The manufacturer will continue to operate from Downsview for a period of up to three years after closing, with two optional one-year extension periods.

Last November, Bombardier announced the sale of the Q Series aircraft programme and de Havilland trademark to a wholly owned subsidiary of Longview Aviation Capital. The transaction is expected to close by the second half of 2019.

This leaves the Canadian manufacturer with an interest in the A220 series and the CRJ programme.

"The CRJ programme is close to our DNA," says Bombardier sales director Pierre Gagnon. "We are still bullish about it."

He adds: "Our CEO talks about looking at all the options, and it would have to be a good offer to do a deal. Perhaps more of a partnership, not an outright sale like the Q Series programme."

In November, Bombardier's president and chief executive officer, Alain Bellemare, said he wanted to keep producing CRJs to build up a backlog, but would reassess later on.

Bombardier is working on selling more CRJs. In February, it unveiled the CRJ550 aircraft, a new type certificate based on the CRJ700 model.

United is the launch customer of the triple-class, 50-seat regional aircraft and entry into service is scheduled for the second half of this year. United's CRJ550s will have 10 first-class seats, 20 extra-legroom economy seats and 20 economy seats.

The US major executed a letter of agreement with GoJet Airlines to operate these aircraft for 10 years. The current target is to have 25 in service by year-end and all 50 aircraft in service by the summer of 2020. The move is important because it addresses, for the first time, the 50-seat aircraft replacement market.

The Canadian manufacturer argues that there are about 700 ageing 50-seat aircraft in the North American market alone and that the new CRJ550 model is the only solution.

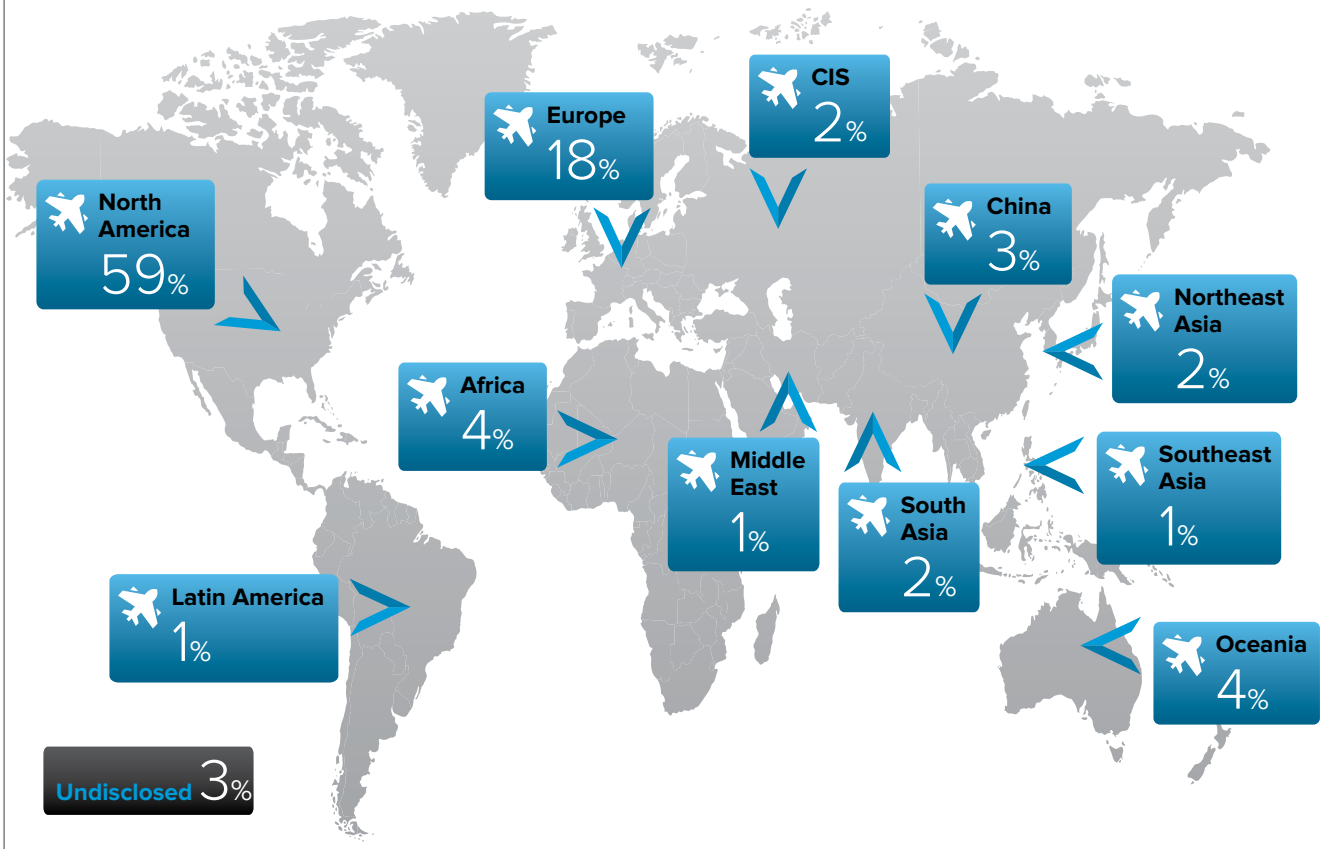
"Considering the fact that we are not expecting scope clauses to change anytime soon, we are confident that there is more than sufficient demand on the market for this new aircraft," the manufacturer tells *Airfinance Journal*.

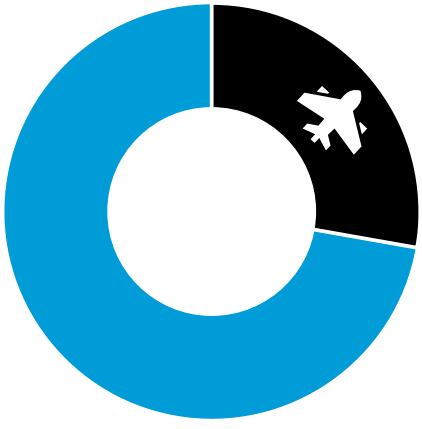
Airfinance Journal Fleet Tracker shows there are 254 CRJ700s in active service with the big three US carriers.

Demand for the CRJ550 variant is expected to come from the used market first. According to Fleet Tracker, there are 690 CRJ200s and Embraer ERJ145s in active service in the US that need replacement.

This should open the door for new sales.

Bombardier: Market share of current fleet by region





28.7% of global regional aircraft fleet

2,724 Bombardier aircraft in the current fleet

Source: Airfinance Journal's Fleet Tracker

Embraer

Embraer handed over 90 commercial aircraft last year, down from 101 deliveries in 2017. Even so, the original equipment manufacturer (OEM) met its 2018 guidance of 85 to 95 commercial aircraft deliveries.

The OEM's 2018 deliveries comprised 67 Embraer 175s, 13 E190s, five E195s, one E170 and four E190-E2 aircraft, including a first delivery to Air Astana via AerCap in December.

The Kazakh flag carrier has signed operating leases for five E190-E2 aircraft with the Irish lessor. The lease terms are six years.

Leasing companies dominate the E2 backlog. After the release of the year-end deliveries, Avianca announced plans to phase out its entire E190 fleet this year. The Bogota-based airline will remove 10 E190 aircraft.

At the same time, Mongolian carrier Hunnu Air agreed to add four E190s from CDB Aviation. The first unit will arrive in May, followed by further deliveries in 2020 and 2021.

Meanwhile, Brazil-based Azul, the launch customer for the E195-E2, converted a letter of intent (LOI) for 21 E195-E2s to a firm order. The LOI was signed at the Farnborough air show last July.

These new E-Jets are in addition to the 30 E195-E2s Azul ordered in 2015. When all units are delivered, the airline will operate the largest fleet of E195-E2s in the world with 51 aircraft.

Azul's first E2 arrives this year. A revised fleet plan released by the carrier on 6 February calls for it to acquire six E195-E2s while retiring 15 E195s in 2019.

In addition, Skywest Airlines has placed a firm order for nine E175s. It will operate the aircraft under contract for Delta Air Lines. Embraer will deliver five aircraft in the first half of 2019, with the remaining four in 2020.

Approval

Embraer's E-Jets E2 sales could benefit from the launch of a proposed joint venture with Boeing.

Embraer's shareholders' approved the strategic partnership on 26 February. Embraer shareholders also agreed to a joint venture to promote and develop new markets for the multi-mission medium airlift KC-390. Under the terms of this proposed partnership, Embraer will own a 51% stake in the joint venture, with Boeing owning the remaining 49%.

The Brazilian government had already approved the deal.

The two firms first unveiled their planned partnership in July 2018, at the time Airbus took control of the Bombardier CSeries programme, (now called the Airbus A220).

Boeing and Embraer are hoping to secure anti-trust approvals from regulators and to close the deal by year-end.

The new company would be based in Brazil with a president and chief executive officer, but Boeing will have management and operational control.

The partnership between the two manufacturers is due to produce $200 million in annual cost synergies, with $150 million for commercial aviation and $50 million for executive aircraft and defence.

Embraer will retain a 20% share in the commercial aviation joint venture with Boeing. It will hold a put option to sell the stake at the deal price adjusted for US inflation over 10 years. After that time, the stake may be sold at fair market value.

Boeing is paying $4.2 billion for the 80% stake in Embraer's commercial aviation business, the total value of which was increased to $5.26 billion in December.

In February, Pratt & Whitney delivered the first PW1900G production engines for Embraer's in-development E195-E2. The largest variant of Embraer's re-winged and re-engined E-Jets E2 family is scheduled to gain type certification by June.

The first aircraft will be delivered to launch operator Azul during the second half of the year. "We are excited to receive the GTF production engines for the initial serial production of the E195-E2, as we know first hand the advantages that these engines provide to our customers and the environment," says Fernando Antonio Oliveira, Embraer's E2 programme director.

"Delivering the first production engines for the E195-E2 is an important milestone for the programme," says Graham Webb, vice-president of commercial engine programmes at Pratt & Whitney.

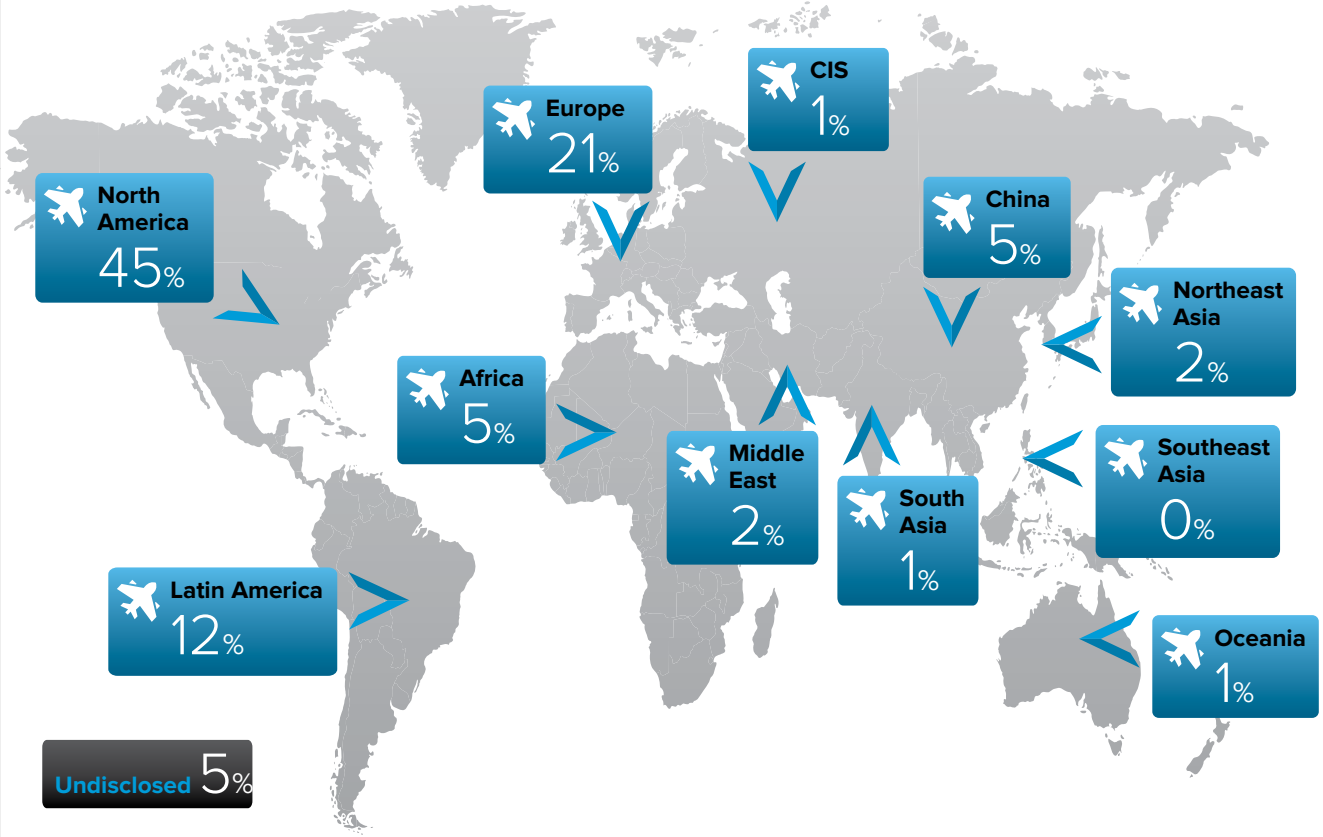
The E195-E2 aircraft has more than 24% reduction in fuel burn per seat than the previous-generation E195, with NOx emissions 50% below the ICAO CAEP/6 regulation and 19dB to 20dB of ICAO Chapter 4 cumulative noise margin, says Embraer.

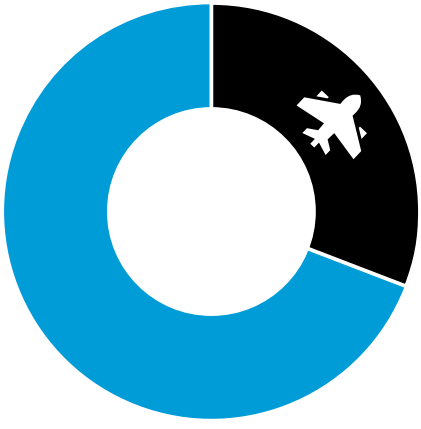
Embraer's E190-E2 aircraft, which is also powered by the Pratt & Whitney PW1900G engine, entered service in April 2018 with Widerøe, followed by Air Astana in December 2018.

The Brazilian manufacturer anticipates missing its targeted revenue range of $5.4 billion to $5.9 billion for 2018. Instead, it expects net revenues of $5.1 billion across its business segments when it releases its full-year financial results in early March.

Full-year operating profit is expected to hit $200 million, down from the forecast $270 million to $355 million. Embraer anticipates a full-year operating margin of 4%, shy of the 5% to 6% range it had previously forecasted.

Embraer: Market share of current fleet by region





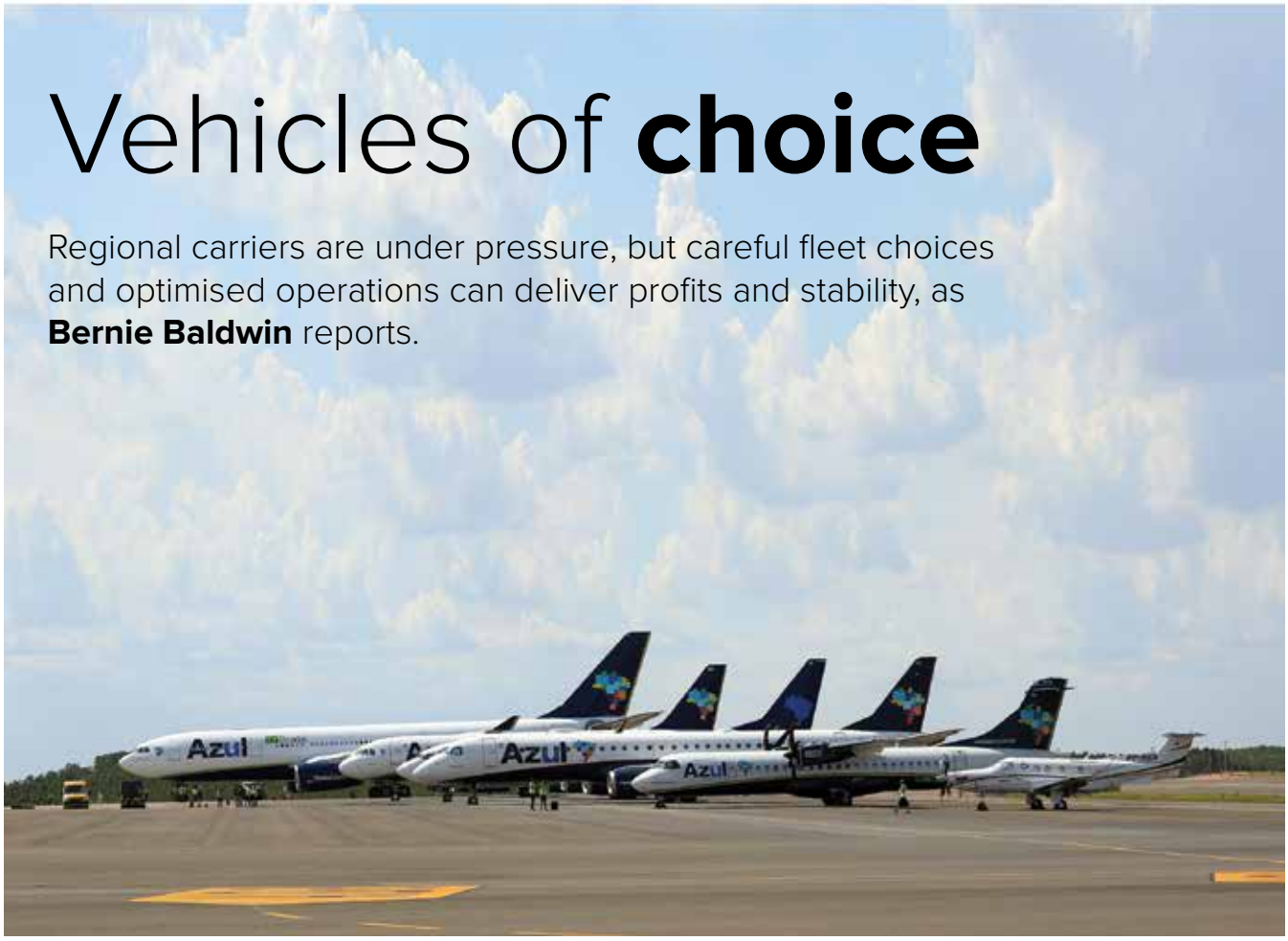
31.2% of global regional aircraft fleet

2,968 Embraer aircraft in the current fleet

Source: Airfinance Journal's Fleet Tracker

Vehicles of **choice**

Regional carriers are under pressure, but careful fleet choices and optimised operations can deliver profits and stability, as **Bernie Baldwin** reports.



It is a tough challenge being a regional airline. When these carriers began, fares appropriate to the cost of the service were mostly accepted. As low-fare airlines have increased their market share, however, a larger percentage of the travelling population has expected – at times demanded – a low-price ticket from the regionals.

The irony in this is that regional airlines were early initiators of the low-cost business model, costs of course being what they spent rather than the price of a ticket. With smaller aircraft and their accompanying higher seat-mile costs, these carriers had to be nimble in all other aspects of the business model to ensure the eventual fare was acceptable to the market.

Aircraft for this sector still have higher seat-mile costs than the industry stalwarts, the Airbus A320 and Boeing 737 families. Therefore, it is vital to make the right fleet choice to maximise aircraft utilisation.

South African regional airline Airlink is undergoing a fleet transition as it phases out its Avro RJ85s and replaces them with Embraer 170s and 190s. Additionally, the carrier operates BAe Jetstream 41s, Embraer ERJ135s and ERJ140s.

> *"We recognised that many destinations entailed Etops [extended-range twin-engine operations] or Edto [extended diversion time operation] capability due to limitations as regards en-route diversions."*
>
> **Rodger Foster**, managing director and chief executive officer, Airlink

Rodger Foster, Airlink's managing director and chief executive officer, explains the strategy behind the choice of aircraft for the fleet. "The primary objective was the succession of the Avro RJ85 whilst also exploring ways in which Airlink's horizons could be less limited, especially as regards our intra-Africa reach," he begins. "We recognised that many destinations entailed Etops [extended-range twin-engine operations] or Edto [extended diversion time operation] capability due to limitations as regards en-route diversions. We wanted to continue operating regional aircraft and not get into the size of aircraft that our franchisor operates (namely narrowbody types such as the 737 or A320).

"We also required the aircraft to operate at some difficult airports with short and/or narrow runways, often in extremely hot conditions and sometimes when the runway is wet. The E-Jet family provided us with practicable solutions to extending our horizons, affording us Etops/Edto capability, whilst offering the best available performance at our most challenging airports," he confirms.

The next challenge is to get the right mix in the use of each aircraft type. "We try to size the aircraft gauge to market. We have two gauges within the E-Jet family (the E190 with 98 seats and the E170 with 74 seats) and we have two gauges within the ERJ family (the ERJ135 with 37 seats and the ERJ140 with 44 seats). This gives Airlink useful flexibility," says Foster.

In Europe, Spain's Air Nostrum is a much-garlanded carrier which has a

renewable franchise agreement with Iberia to operate under the Iberia Regional brand. For its fleet, the company has always had a mix of jets and turboprops. "Many years ago the main differentiating factor was the economy, using turboprop aircraft on short routes and jets on the remainder. Nowadays our turboprop fleet is much smaller and limited to airports with restricted runways," explains Vicente Soler Pérez, director of financial planning and analysis.

"When choosing the turboprops and given the operation, we opted finally for a full ATR72-600 fleet for the limitations on the operation and economic advantage on short routes. Previously we had a combination of ATRs and Bombardier Q300 aircraft, the latter actually being our main turboprop," he adds.

"Regarding the jets, we have been using Bombardier aircraft since 1999. It has always been our aircraft of choice for performance, economy and the commonality of the CRJ family, which we deem is the most efficient given our network," adds Soler Pérez. When it comes to the usage of types, the turboprops take care of destinations which have runway restrictions, while the CRJs handle all other routes.

Since its creation, Azul has arguably changed the face of air transport in Brazil. Although it has grown to a point where it operates long-haul widebodies, its chief financial officer, Alex Malfitani, recalls the airline's establishment and the strategy behind what is still its core fleet selection.

"When we created Azul in 2008, two carriers were responsible for over 90% of the market share in Brazil. They had both built their fleets around large narrowbody aircraft, with 150 to 200 seats. But two out of every three flights in the country had less than 120 passengers on board. In other words, the incumbents were flying aircraft that were too large for the demand of most markets," says Malfitani. "Consequently, load factors in the industry were low – in the mid-60s – and only a few, high-density markets were served.

> *"The ATR makes even more sense in Brazil, where fuel prices are extremely high and where the low fuel burn of the turboprop provides a significant cost advantage."*
>
> **Alex Malfitani**, chief financial officer, Azul

"We realised that by having smaller aircraft, with lower trip costs, we would be able to serve medium- and low-density markets more efficiently than the competition. That led to the choice of the E195 for medium-density routes and the ATR72 for smaller markets," he adds. "The ATR makes even more sense in Brazil, where fuel prices are extremely high and where the low fuel burn of the turboprop provides a significant cost advantage. This strategy allowed us to build what is today the largest network in the country, with over 100 destinations served while competitors continue flying to only around half that number."

Azul's use of its aircraft per route sticks to a simple mantra. "Our strategy is having the right aircraft for the right market – as they say, horses for courses," says Malfitani. "Larger aircraft have smaller costs per seat but higher costs per trip. So you need to find the right balance between seat cost and trip cost. Therefore, we fly the E-Jets in high-frequency markets, medium-stage markets; we fly the ATRs in smaller, short-haul markets. And now that we have built a vast network, the A320neo became the solution to fly our higher-density, longer-stage markets.

"Incidentally, we could not be happier with the performance of the A320neo, and we are in the middle of a multi-year effort to transform our fleet by replacing all our old-generation Embraer E1s with A320neos and Embraer E2s. The fuel efficiency in these new aircraft will give us a reduction in unit cost between 25% and 30% compared to our current models, thus increasing our competitive advantage," he emphasises.

Obtaining maximum utilisation

With different types taking prominence on appropriate routes, clever scheduling will ensure that the number of hours flown each day by each aircraft is also optimised. According to Soler Pérez, the utilisation rates at Air Nostrum see the turboprops operating about 230 block hours a month, while the jets operate about 250 block hours a month.

The big question for an airline is whether it believes each aircraft is being used to its maximum. If not, it needs to consider the solutions required to bring about optimised utilisation.

Soler Pérez believes that with a fairly well established fleet, Air Nostrum is well placed in this area. "We feel we are close to maximum utilisations," he states. "Nevertheless, solutions to soften strong seasonality would be key in order to further improve utilisation."

At Airlink, the utilisation for each aircraft type is only settled on its smaller regional jets. "Our ERJs give us about 175 block hours per aircraft monthly across the fleet. The E-Jets are in the process of taking over from the Avros," says Foster, underlining how the larger aircraft in the fleet are still in a state of flux.

"Our E-Jets are not yet fully deployed and there is scope for schedule optimisation," he adds in reference to achieving maximum utilisation. "Full deployment will evolve in time once appropriate opportunities to augment the current activity has been identified and implemented – there are multiple opportunities."

Malfitani says Azul's aircraft utilisation for each type is among the highest in the industry. "In peak months, we fly the A320neo around 14 hours a day, the E-Jets approximately 11 hours a day and the ATRs around eight hours a day," he says.

He believes the airline has the ability to improve the utilisation even further. "We are always looking for opportunities to make Azul an even better airline. For example, we have recently enhanced a process we call Operation Azul, through which all of the operational teams collaborate to recover delays in a safe, efficient manner," he says.

"Our operations control centre determines when a flight needs to go Operation Azul based on our schedule and operational performance," adds Malfitani. "That triggers a series of pre-planned tasks which streamline our turnaround process and allows us to add precious minutes back to our schedule, all while maintaining our focus on safety, our number one value. Through efforts such as this we have been named the most on-time airline in Brazil for three years in a row."

CRJ550 – a new arrival

Many of the aircraft operated by these airlines are in a single-class configuration with some having a dual-class layout. In the USA, the desire for a seamless experience for passengers as they transfer from regional aircraft to mainline types (or vice-versa) has seen three-class layouts in the larger regional jets – E175, Bombardier CRJ900 – for a few years.

By the end of 2019, however, a three-class 50-seat CRJ will be operating with Trans States subsidiary GoJet Airlines under the United Express brand. This is being aided by the decision by Bombardier Commercial Aircraft to launch a new CRJ Series aircraft model – the CRJ550 – with a new type certificate based on the CRJ700. The move is likely to revitalise sales of this airframe, because the CRJ700 has had very few orders since the early part of the decade, the CRJ900 having taken the vast majority.

This is the third time that Bombardier has created, as Azul's Malfitani might put it, a horse for a course and they have all been aimed at operations in North America and driven by pilot scope clauses. In the early 2000s, a 44-seat version of the CRJ200, designated the CRJ440, was operated by Pinnacle Airlines (now Endeavor Air) as a way to satisfy the scope clauses of Northwest Airlines. As time went by, the scope clause changed and all the CRJ440s were converted back to the CRJ200 configuration.

The second such creation was the CRJ705, based on the CRJ900 airframe. These aircraft had 76-seats plus enough differences from the CRJ900 to satisfy the scope clause at Air Canada. Operated by Jazz Aviation, only 16 of the type were ever delivered and they too were converted back to the specification of the platform on which they were based once the regulations allowed.

Now comes the CRJ550, for which – as mentioned – separate certification is being sought. United Airlines' plans for the aircraft include a self-service snacks and drinks station plus increased legroom per seat, all designed to deliver the service levels in a regional aircraft that passengers in each class receive on larger types in the United fleet.

> *"In peak months, we fly the A320neo around 14 hours a day, the E-Jets approximately 11 hours a day and the ATRs around eight hours a day."*
>
> **Alex Malfitani**, chief financial officer, Azul

For the operator and its mainline partner, the CRJ550 is low risk. GoJet has operated the CRJ700 for many years and is thoroughly familiar with the type and its 99.5% industry-wide dispatch reliability.

The two-cabin, but three-class CRJ550 will feature 10 United first seats, 20 economy plus seats and 20 economy seats. It will eventually replace the existing single-cabin 50-seat aircraft that operate under the United Express banner and, according to United, "will bring a higher percentage of two-cabin departures to smaller cities across the carrier's network". United expects the CRJ550 to be flying from Chicago O'Hare, followed by Newark/New York, during the second half of the year.

Although Bombardier will be the first to market with a three-class 50-seater, such a configuration has been put before US carriers before. On its US demonstration tour in 2016, ATR featured in its promotional literature a 50-seat, three-class version of the ATR72-600. During its stopover in Charlotte, North Carolina, to coincide with the Regional Airline Association (RAA) Convention, this potential version was discussed with many leaders of RAA member airlines. When his opinion was sought during the convention, SkyWest's chief executive officer Chip Childs described it as "an outstanding configuration".

As *Airfinance Journal* went to press, ATR also proposed a response to the CRJ550 – the ATR72-600E in three class configuration, which the manufacturer expects to replace the existing fleet of ageing Bombardier RJ50s.

Regional airlines will always have a role to play in the airline industry. With the aircraft choices available plus smart utilisation and an intense focus on costs, there is every opportunity to fulfil that role profitably.

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