

Embraer's Energia - 'Sustainability in action'

Embraer Executive Jets has adopted aggressive long-term sustainability goals that include achieving carbon neutrality by 2040, reaching net-zero carbon growth starting in 2022 and meeting industry goals to execute zero emissions by 2050. In pursuit of this 'Sustainability in Action' initiative, the Brazilian manufacturer Embraer has partnered with an international consortium of engineering universities, aeronautical research institutes and private enterprises to explore ways of using sustainable aviation fuel (SAF) in commercial aircraft designs.

In a dramatic move in November, Embraer unveiled its new 'Energia' family of four concept aircraft of varying sizes that incorporate different propulsion technologies. The launch was broadcast live via YouTube from its manufacturing facility in São José dos Campos. The Energia Family comprises:

- E9-HE Energia Hybrid – 9 seats, rear-mounted engines, reduction of up to 90% CO2 emissions – hybrid-electric power – technology ready 2030.
- E9-FE Energia Electric – 9 seats, aft contra-rotating propellers, zero CO2 emissions – full electric power – technology ready 2035.
- E19-H2FC Energia H2 Fuel Cell – 19 seats, rear-mounted electric engines, zero CO2 emissions – hydrogen electric power – technology ready 2035.
- E50-H2GT Energia H2 Gas Turbine – 35-50 seats, rear-mounted engines, up to 100% CO2 emissions reductions – Hydrogen or SAF/JetA turbine power – technology ready 2040.

"We're working right now to refine the first airplane concepts, the ones that can start reducing emissions sooner rather than later. Small aircraft are ideal on which to test and prove new propulsion technologies so that they can be scaled up to larger aircraft. That's why our Energia family is such an important platform," said Luis Carlos Affonso, Embraer's Sr. VP of Engineering, Technology and Corporate Strategy.

VistaJet sets 'Global' records

Malta-based programme specialist operator VistaJet expects to have delivery of 13 Bombardier Global 7500 aircraft by the end of 2022. The company already has four of the long range, large capacity aircraft in service and pointed to their introduction as a major factor in its ability to meet heightened demand for private travel because of the Covid pandemic. In promoting the aircraft at the Dubai Air Show, VistaJet noted: "With the longest range, largest cabin and smoothest ride in its class, the Global 7500 is a game changer in private aviation". The firm clocked up more than 9,000 flying hours worldwide with its Bombardier fleet in Q3 – an increase of 35% over the same period last year and 19% over 2019.

Illegal UK charter - aircraft manager jailed

The high-profile issue of illegal charter in Europe has been centre stage during the trial of David Henderson, who arranged the flight that crashed over the English Channel near Guernsey in January 2019 killing Argentinian footballer Emiliano Sala and British pilot David Ibbotson. Henderson was found guilty of 'recklessly endangering' the safety of an aircraft and was sentenced to 18 months in prison.

Business aviation traffic - Omicron worries

Even at this early stage, the emergence and anxiety over the spread of the Omicron variant of Covid-19 is clearly beginning to have an impact on business aviation traffic levels. According to the latest data published by specialist analyst WINGX, the seemingly relentless upward trend in traffic levels slowed at the beginning of this month as news of the variant appeared and blanket traffic restrictions were introduced. Traffic in the first week of December was 6% up on the same week in 2019 but had been running at 14% higher the previous week before restrictions were brought into place.

That said, bizav activity is still some 48% ahead of last year's figures. Traffic in North America saw a 'Thanksgiving bounce' in November with US flights up 20%, but overall figures remain largely on par with 2019 levels. North American traffic accounts for just over three-quarters of all the 4.6 million flights worldwide. In an effort to slow the spread of the new variant, European countries have begun to return to a tightening of travel restrictions. Traffic levels in early December were 8% up on the same period in 2019, but this figure was running at 30% in November. Away from Europe and North America traffic figures for the first 11 months of the year are running at 4% below the same period in 2019.

AVIATION SERVICES HUB: Aircraft registration

It may be a cliché, but there is no 'one-size-fits-all' aircraft registry. A number of new registries have been launched over the last few years and more are in the pipeline despite the uncertainty of Covid-19. Many existing registries have also made changes to their offering. Each is seeking to attract owners and operators of corporate aircraft – a comparatively small but highly lucrative market – with what they consider to be a unique selling point.

The reasons for registering an aircraft outside the owner's home jurisdiction are many and various, and it should always be remembered that what might be an appropriate register for one client may not be suitable for another. All credible registries must be able to offer outstanding service, cost efficiency, flexibility in terms of acceptance of aircraft and crew standards, as well as providing security, confidentiality and political neutrality. Some may also offer potential tax savings and the benefits of asset protection and limitation of liability through corporate ownership.

Pre-owned market - five year forecast

Leading business jet sales specialist Jetcraft predicts 12,261 pre-owned transactions equating to USD57.2 billion revenue in the years to 2025, according to the 2021 edition of its annual '5 Year Pre-Owned Business Aviation Market Forecast'.

This year's report – the first to have been compiled using enhanced spotlights on global trends and data-driven methodology reflecting market opportunities – anticipates that annual pre-owned volume will continue to grow and is expected to total 2,647 transactions worth USD12.4 billion in 2025.

The principal reasons for continued growth in the pre-owned market are supply-chain issues for MROs, which are leading to increased waiting times for new aircraft, together with record industry demand for private aircraft in the wake of the Covid pandemic and the increasing number of HNWI's, particularly in Europe and Asia, which will approach levels previously only seen in North America.

European bizjet registration continues to grow

Specialist pre-owned bizjet broker Colibri Aircraft has undertaken an analysis of the current number of bizjet aircraft registered in European states. On latest figures, there are 2,444 private jets registered in Western Europe – compared to 2,414 last year and 2,344 in 2019.

Breaking down the figures, Germany remains the largest bizjet register – with some 485 current aircraft. The UK – which includes the Crown Dependencies of the Isle of Man, Guernsey and Jersey – boasts 453, with the Isle of Man holding more than half at 241. Austria comes third with 222, while the growing Maltese register recorded 214 aircraft in fourth.

The overall increase can be attributed, according to Colibri, to a number of important factors. Principally, demand has strengthened as customers have moved away from commercial airlines due to concerns over safety during the pandemic and the wholesale withdrawal of airline routes due to Covid restrictions. The pandemic has also seen a rise in liquidity and the use of that liquidity to purchase private aircraft.

Corporate aircraft news

Canadian OEM Bombardier marked a significant milestone on 3 December when it delivered the 1,000th Global Express twinjet. The aircraft in question was also the first of 20 Global 7500 airframes ordered by fractional specialist NetJets. The landmark comes 22 years after the first Global Express was delivered in 1999.

Ten days earlier, Textron Aviation celebrated the first flight of its Beechcraft Denali single turboprop. The maiden flight took place from the OEM's plant in Wichita and lasted two hours and 50 minutes. Publicity material for the Denali points to the aircraft's environmentally friendly GE Aviation Catalyst engine and 'the largest cabin in its class'. The aircraft is expected to receive certification in 2023.

On 9 November an Airbus Helicopters H225 performed the world's first helicopter flight using 100% sustainable aviation fuel (SAF). The flight took place from the OEM's plant at Bordeaux Mérignac and marks another stage in the manufacturer's project to have all its helicopters certified for 100% SAF within a decade.

Russian manufacturer Irkut Corporation – formerly Sukhoi Civil Aircraft – showcased a bizjet version of its Superjet 100 at the Dubai Air Show. Branded as the 'Aurus' specifically for the event, the aircraft is being promoted as a cost-effective alternative to other bizliners on the market, with prices ranging from USD39 to 50 million depending upon cabin configuration. The aircraft offers a range of 7,000km and a top speed of 950kmh and, as a 'homemade' design, the 'Aurus' is expected to gain a ready domestic Russian market. The manufacturer estimates a demand for some 170 aircraft in this class. Certification is expected by the end of 2022.

The team at Sovereign's aviation division and the worldwide Sovereign Group would like to send seasonal greetings to all readers of Airborne, as well as our best wishes for 2022



AIRCRAFT FACT FILE \ \

Airbus Helicopters H145



CATEGORY

Helicopter

MANUFACTURER

Airbus Helicopters, multi-national

ENGINE

2 x Turbomeca Arriel 1E2 turboshaft

LENGTH

13.03 m

ROTOR DIAMETER

11.00 m

RANGE

680 km

MAX. SPEED

268 kmh

SEATING CAPACITY

9

NO. OF CREW

2

MAXIMUM TAKE-OFF WEIGHT (MTOW)

3,700 kg

DESCRIPTION

The H145 was not a 'clean sheet' design: the aircraft married the avionics and forward cockpit of the Eurocopter EC135 with the rear section of the MBB/Kawasaki BK117 C1. Over the years the design has also undergone a succession of names but the first EC145 made its first flight in June 1999 with European and Japanese certification following in 2000 and US FAA approval in place from January 2002.

In 2011, Eurocopter unveiled an upgraded version – the EC145 T2 – that featured new engines, digital engine controls, an upgraded tail, new rotor, enhanced avionics and a four-axis autopilot. The new version received the EASA nod in April 2014, with FAA certification following six months later. The EC145 T2 has been marketed as the Airbus Helicopters H145 since 2015. The H145 can (and does) perform a host of different roles – passenger transport, corporate/VIP shuttle, utility aircraft or in search and rescue/medical evacuation operations. Well over 1,500 examples have been produced.