

Airbus Helicopters pioneers user-friendly ways to fly eVTOLs

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Marignane, 10 October 2023 – Airbus Helicopters' demonstrator FlightLab has successfully tested an electric flight control system in preparation of a new human machine interface (HMI) that will equip CityAirbus NextGen, Airbus' eVTOL prototype. This milestone represents an important step towards ushering in a new generation of electric powered urban air mobility aircraft.

The pilot controls have been considerably simplified thanks to the enhanced piloting assistance provided by the electric flight control system. Marking a first in the helicopter industry, one single piloting stick replaces the three conventional pilot controls (cyclic, pedals, collective) and is able to control all aircraft axes. Using the single stick, the pilot is able to perform all maneuvers: take-off & landing, climb, descent, acceleration, deceleration, turn, and approach.

The single stick takes up less space, offers improved visibility to the pilot and is combined with a revised HMI which uses simple displays, providing a selection of information specifically tailored to eVTOLs.

“From the start, we designed this system considering every certification parameter in mind as it will be a big step forward in validating the design of our urban air mobility eVTOL, CityAirbus NextGen. The advantage of an electric flight control system is enormous, especially when it comes to reducing pilot workload and ultimately enhancing mission safety. It is also a great example of how our demonstrators are used to mature the techno-bricks necessary to prepare the future of vertical flight,” says Tomasz Krysinski, Head of Research & Innovation at Airbus Helicopters.

After the success of the flight test campaign Airbus Helicopters is working on finalising the details of this new system before new tests are conducted in the framework of Vertex, a project conducted in partnership with Airbus UpNext that will advance autonomy even further by managing navigation and simplifying mission preparation.

Airbus has been one of the pioneers in exploring how electric propulsion can help drive the development of new kinds of aerial vehicles. In September 2021, the company unveiled its fully electric eVTOL prototype, CityAirbus NextGen. Airbus is developing an advanced air mobility solution with eVTOLs, not only to offer a new mobility service, but also as an important step in its mission to reduce emissions in aviation across its product range.

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