

Thales unveils PureFlyt, the brain of tomorrow's aircraft

- Thales launches PureFlyt, a breakthrough Flight Management System (FMS) that advances both safety and efficiency of flight.
- PureFlyt has been designed from the outset to capitalise on the greater availability of data from both onboard and open-world sources.



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Thales is unveiling PureFlyt, the Flight Management System (FMS) of the future, specifically designed to efficiently manage aircraft in a connected aerospace ecosystem and in increasingly crowded skies. Indeed, with the global commercial aircraft fleet forecast to double by 2030, and the use of drones set to rapidly grow, we will be entering an era in which millions of aircraft movements are recorded each day.

Combining extensive knowledge of Avionics, Connectivity, Air Traffic management and 40-year Flight Management System expertise, Thales has developed PureFlyt, an entirely connected FMS, designed to offer airframers and airlines the best combination of safety, security, and fuel and operations efficiency. PureFlyt will allow crews to make better decisions using more sources of information, will bring improved performance and reactivity to the aircraft during complex phases of flight and will calculate alternative trajectories in real time to propose or react quickly to changes of plan. Providing pilots with the right information at the right time heightens trust in the computed trajectory, enhancing efficiency and reducing pilot workload throughout all flight phases.

One of the core innovations making PureFlyt a game changer in the FMS world is its ability to draw on both onboard and open-world data, such as weather information. By combining the integrity of the FMS and the agility and power of Electronic Flight Bag flight functionalities, aircraft trajectory can be permanently controlled, adapted and enhanced, resulting in optimised flight, decreased fuel consumption and improved passenger comfort.

While being a technological breakthrough, PureFlyt enjoys an unparalleled maturity level. Using massive testing and artificial intelligence technologies to simulate 2 billion test cases enabled accumulating an invaluable experience, equivalent of 100 million actual flight hours.

Cyber-secure by design, PureFlyt has also been designed to be future-proof, accommodating the implementation of concepts such as the Initial 4D (I4D) trajectory management methods currently being researched by SESAR (Single European Sky ATM Research) in the EU and NextGen in the US. By increasing the accuracy of flight in four dimensions, the fourth dimension being time, PureFlyt will enable more effectiveness in maintaining optimal distance between aircraft, particularly in the demanding phases of departure and approach.

PureFlyt will be available for entry into service in 2024, for both linefit and retrofit.

“In the air, the digital revolution has only just begun. A paradigm shift in onboard cockpit electronics is taking place in the connected airspace and PureFlyt is at the forefront of this digital new age, leading the next generation of Flight Management System that truly makes the aircraft a node of connectivity. By computing and sharing vast amounts of data, PureFlyt will make flights safer, greener, easier for the pilots to manage, more profitable for airlines and, all this, ultimately for the full benefits of passengers” declared Jean-Paul Ebanga, Thales Vice-President Flight Avionics.

For more information please visit:

<https://www.thalesgroup.com/en/group/magazine/quantum-leap-flight-management>

About Thales

The people we all rely on to make the world go round – they rely on Thales. Our customers come to us with big ambitions: to make life better, to keep us safer. Combining a unique diversity of expertise, talents and cultures, our architects design and deliver extraordinary high technology solutions. Solutions that make tomorrow possible, today. From the bottom of the oceans to the depth of space and cyberspace, we help our customers think smarter and act faster - mastering ever greater complexity and every decisive moment along the way.

Thales generated revenues of €19 billion in 2018 with 80,000 employees in 68 countries.

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