TECHNOLOGICAL INNOVATION ARCHITECT

As an industrial architect and systems integrator, you have to know how to develop and apply state- of- the- art technologies. Dassault Aviation offers this rare skill, making it a pivotal player in ensuring the strategic autonomy of France and Europe for both civil and military applications. We display our research & innovation at the Paris AirLab.

Research and Innovation: Substantial investments

Ongoing Rafale upgrades for the F4 standard or export versions, the Future Combat Air System (FCAS), development of the Falcon 6X and Future Falcon, modernization of the ATL2, next-generation maritime surveillance and electronic warfare aircraft, drones… all of these challenges count on our ability to innovate, reflected in new development contracts and a substantial investment in R&D.

Civil aviation research in France

We are a member of France's civil aviation research council, Corac (Conseil pour la recherche en aéronautique civile), with contributions spanning the entire sector: a composite wing demonstrator, modular avionics extended to business aircraft, tomorrow's cockpit functions and aircraft systems, more electric aircraft, and production processes for the Factory of the Future.

European innovations

Dassault Aviation has been involved in the European research programs Clean Sky 1 and 2 since 2008. Along with about 20 major partners from seven European countries, we are aiming for a nearly 50% reduction in aircraft fuel consumption, emissions and noise. This work has led to an

extended laminar wing aircraft demonstrator called BLADE (Breakthrough Laminar Aircraft Demonstrator in Europe), along with the development of manufacturing technologies needed for volume production. We have been participating in BLADE flight tests and data analysis since 2015, as well as building a demonstrator for production of the tail plane that would meet laminar aerodynamics criteria. We are also working on ways of improving airport and passenger environments, including studies on controlling internal and external noise, and saving weight through load control methodologies.

Within the scope of SESAR, a joint undertaking to improve European air traffic management, we helped develop the FalconEye system, which will support the increased and safe use of airports, even under bad weather conditions, without having to add new ground infrastructures.

Dassault InnovLab: to federate and promote Innovation

The InnovLab initiative, launched in spring 2018, strengthens, facilitates and accelerates innovation actions within Dassault Aviation. This initiative will connect existing and future creative laboratories offering then a new dynamic of exchange and sharing. The ambition is to promote participative and collaborative innovation by providing all employees with spaces dedicated to creativity and innovation.

The Labs are spaces, devoted to creativity, modelling, new technologies and original work methods experimentation. They are meeting places where all the competences of different directorates interact. This skills-based networking aims at sharing the best practices and innovation methodologies by multiplying interactions in Dassault Aviation and by integrating InnovLabs from external innovation networks (laboratories, start-ups ...).

Man-Machine Teaming program

The Man-Machine Teaming program was awarded, by the French defense procurement agency DGA, to Dassault Aviation (main contractor) and Thales (co-contractor) to develop the Artificial Intelligence technologies essential for future combat aircraft cockpits and missions. The program has started beginning of 2018. It strenghtens Dassault Aviation in its architecture skills in combat aircraft systems, whilst benefiting from Artificial Intelligence technics such as machine learning, knowledge data bases.

In 2018 and 2019, Dassault Aviation and Thales have launched around thirty projects in partnership with ecosystem members to incubate and mature technologies essential to master the Artificial Intelligence applications for the future combat aircraft.

Innovathons: innovation in marathon mode

To broaden its philosophy in the field of breakthrough innovations, Dassault Aviation has organized two innovathons in the recent years. The Company is experimenting with the contribution of young outside talents, who implement new collaborative approaches in innovation.

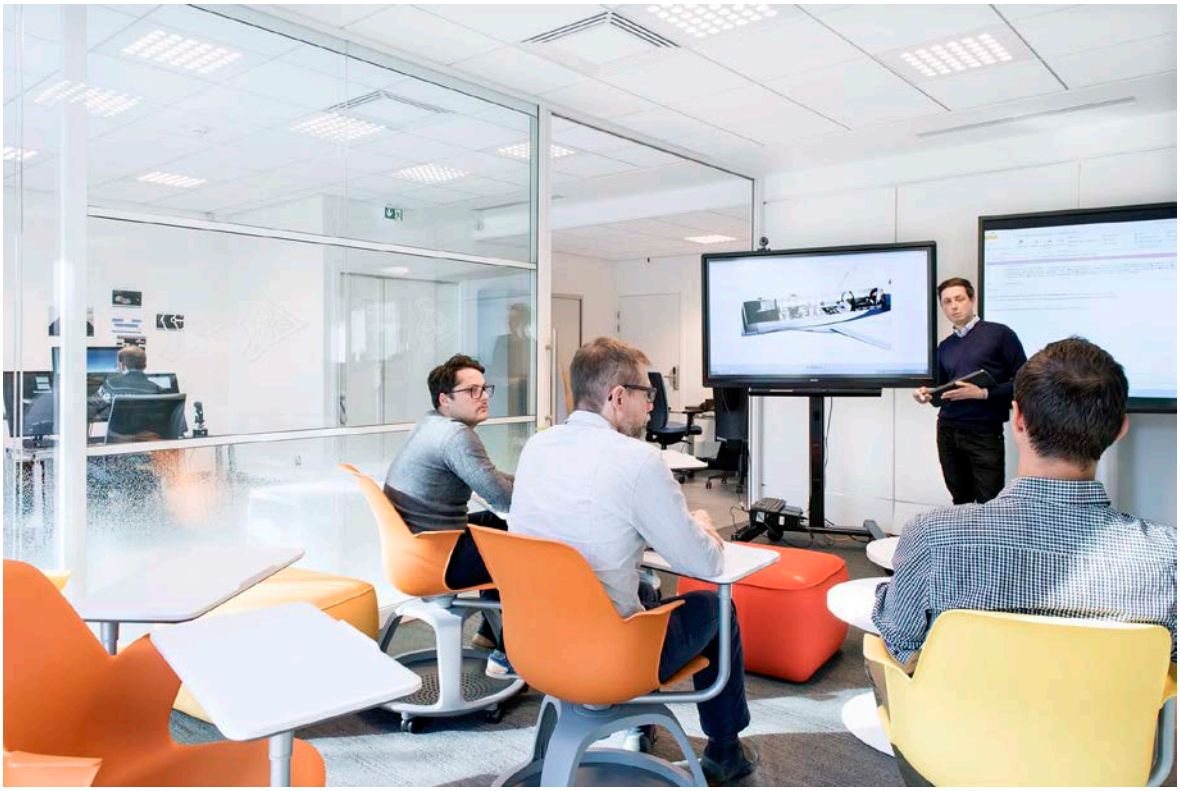
During the first edition, at the end of 2017, sixty participants (developers, designers, start-ups ...) had "48 hours to enhance the Falcon cabin experience". The aim was to propose solutions that would make the aircraft environment fully adaptable to home automation, work space and leisure.

Eric Trappier, Chairman and Chief Executive Officer of Dassault Aviation presented the first prize to members of the Faster Falcon Coach project, a digital assistant (video, augmented reality, intelligent search) simplifying the use of the cabin by the passengers and crew.

The second innovathon, organized in New Aquitaine at the beginning of 2019, targeted only startups, to help the incubation of the most innovative solutions. Ten start-ups were selected and had "24h to design the maintenance of the future". The solutions were to focus on Big Data, artificial intelligence, predictive maintenance, robotics, additive manufacturing, or training. Bassetti company won the innovathon with its tool for breakdowns intelligent diagnosis.

The MMT cockpit concept defined to take in charge the tactical advantage with the help of new advice and analysis functions. The machine can better appreciate the crew's expertise and intentions to interact with him such as a crewmate. This agile cockpit adapts to the situation and clears the boundaries between the aircraft interiors and its environment.

The availability of the 3D printing equipment in manufacturing units, made it possible for Mérignac FabLab promote collective ideas. It offered a great exchange between teams with a different profile, strengthen the transmission of knowledge via pairs training sessions and the sharing of innovative resource around Dassault Aviation specific technical interests.



Saint-Cloud Cognitive Center (C2) is a new space of creativity including a collaborative and meeting place hosting a mock-up and workshop units. Today, it accommodates the project Man-Machine Teaming (MMT).

"48h to enhance the Falcon customer experience", Dassault Aviation first Innovathon was held on 22, 23 and 24 September 2017.

The intelligent breakdown diagnosis tool made it possible for Bassetti to win the second innovathon organized by Dassault Aviation.

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