International Paris Air Show Le Bourget, june 2017

RESEARCH & TECHNOLOGIES INNOVATION ON BOARD

Dassault Aviation is the hub of a global network of strategic partnerships, preparing future Rafale and Falcon developments, along with tomorrow's drones.
The Research and Technologies studies aim at leading to the maturity of new technologies usable in current programs and future systems.
Being a source of tomorrow's competitiveness, these new technologies are acquired thanks to the Company's full commitment to prepare for the future and acquire key skills needed to design, develop and manufacture future products.

Aeronautical activities

Our R&D effort covers primarily the Falcon 5X and 8X, and the Rafale's F3-R and F4 standards.

Further, Research and Technologies activities are preparing future air systems.

In the military field, the preparation of the Future Combat Air System (FCAS) involves three themes:

- Remotely piloted aircraft: mainly operational analysis, feasibility and technical maturation tasks for the UCAV,
- Surveillance systems: contribution to the definition phase of the European medium altitude long endurance drone project RPAS (Remotely Piloted Aircraft System). This phase has been awarded by the Organization for Joint Armament Cooperation (OCCAR) in mid-2016.
- Piloted aircraft, preparing Rafale's forthcoming developments.

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The French Defense Procurement Agency (DGA) has awarded contracts to Dassault Aviation, notably:

- A new tranche of FCAS project contract regarding technological maturation activities for low observability drones,
- First study phase of air take design methods for supersonic aircraft,
- Tasks linked to Thales' technological developments of airspeed sensors.

Regarding systems engineering, Dassault Aviation is working with DGA in order to build a framework for a data base model, and to define a tooling process model ensuring a numerical continuity between the DGA requirement process and the industrial process.
The study identifying links between DGA operational simulations and industrial simulations are currently being performed with DGA.

Research and Technologies studies also prepare future civil products. Some of these works are backed up by national support for civil aeronautics. Some others are led in the framework of Clean Sky European Research Programme.

Here are some significant outcomes:

- Bench tests demonstrating a new Falcon cockpit concept and associated functions
- The critical design review and the beginning of a wing demonstrator manufacturing in composite material
- ground tests at scale 1 which enabled to progress on the design of the Falcon rear body reducing the noise footprint

New studies have started, including the development of on ground and in flight pilot functions and risk reduction studies on the ability to withstand damages on composite materials, applicable to the next generations.

Our involvement in Clean Sky 2 program has taken shape at the end of last year, in launching numerous calls for partnerships on a wide range of research tasks applied on innovative concepts, as well as in managing the item « fitted airframe » of the program.

Our company enhances innovations value by taking out more than thirty strategic patents a year.

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