COMPLETED PROJECT

DEVELOPMENT OF A FLEXIBLE ASSEMBLY SIMULATION AND TOLERANCING PLATFORM

FASTER PROJECT| 2018 - 2021

FASTER aims to develop a methodology and a software platform for simulation and predictive 3D tolerancing to test different assembly processes from the design phase of the aircraft, integrating the flexibility of the parts. It will be a common tool (Engineering / Manufacturing) to the decision and the product/process design to retain the best assembly scenario.

3 YRS

3 148K€

IRT JULES VERNE

AIRBUS OPÉRATIONS

MECAmaster

PROJECT ACHIEVEMENTS

Platform functional and software specification digital FASTER

Benchmark methods / software / test case results & list of test cases selected software for the FASTER digital platform

Integration of all scientific and technological technologies developed in the project in a platform FASTER 3D flexible tolerancing in the 3DX environment

Validation of this FASTER platform on a use case Representative aeronautics

Transfer of the FASTER platform to Airbus teams, through training, and the realization of an assembly model aerostructure, on a third purely digital demonstrator

The use of the FASTER platform (based on MECAmaster® and Abaqus® software) has been validated on a complex aeronautical use case. In the same environment, it enables tolerance and stress analyses to be carried out, which are currently performed separately in MECAmaster® and Abaqus®.

TECHNICAL AND ECONOMIC IMPACTS

Reduced development and cycle times
Reduction of non-qualities
Improved reproducibility of the assembly process

INDUSTRIAL APPLICATIONS

The FASTER project has enabled the IRT to develop its expertise in flexible assembly tolerancing and script development in Python® format (meta-modeling by Kriging for example). The major result of the project is the development of the FASTER flexible digital tolerancing platform, developed in a 3DX® environment and tested on several physical and digital POCs.

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FRANCE 2030