

Advanced Operational Certification

2013-2015

Axe(s)

Modeling
& Simulation
Metallic Alloys
& Processes



Industries

V2i
LMS Samtech
Optron
Lambda-X
Open-Engineering

The project's objective is to develop an advanced platform for certification under extreme vibration environments, such as components for aircraft engines. Indeed, the new aviation requirements demand ever higher optimization for new components of aircraft engines. This implies more and more sophisticated numerical simulations with reduced security coefficients. Therefore, these calculations require, more than ever, experimental validations. The testing capabilities must be extended to allow the validation of the behavior of new components (or materials) under stress conditions not yet available or poorly controlled.

Research Bodies

ULg
ULg-CSL
UCL

Constraints on time-to-market require almost certainly successful testing of experimental certification. To meet this requirement, the experimental validation must also be modeled to allow the prediction results. This is the 'virtual testing' concept.

Total Budget

7,6 M€

Only a strong interaction between the experts of the numerical simulation and experimentation will enable significant advances needed in the control of the dynamic behavior of structures and equipment.

Type

R&D

The objective of the AOC project is to create, through the juxtaposition and interconnection of various services and equipment developed by this research, the most advanced and most comprehensive facility in Europe for vibratory fatigue testing of blades used in aircraft engines.