

The QUICOM Project

The QUICOM project will develop a technology platform of advanced X-ray computed tomography techniques and methods for characterizing aeronautic composites and components. The QUICOM technology platform will provide highly detailed, qualitative and quantitative 3D characterizations of inner and outer structures in order to escalate and replace commonly used NDT techniques.

The consortium has been setup in order to bring together the expertise of 4 universities, 2 research institutes, 2 small and medium enterprises, 3 large enterprises and 1 network for dissemination. To date, there is no group in Europe able to carry out this endeavour on its own.

The QUICOM partners will work together for a duration of 3 years with a total budget of 5.075 M€.

Consortium

-  → Universities
-  → Research Institutes
-  → Small & Medium Enterprises
-  → Large Enterprises
-  → Dissemination Network

Budget

€ 5.075.000

Project Duration

36 months
2012 - 2015

The Partners



Quantitative Inspection of Complex Composite Aeronautic Parts Using Advanced X-ray Techniques

QUICOM Project Website
www.QUICOM.eu



Coordinated by



University of Applied Sciences

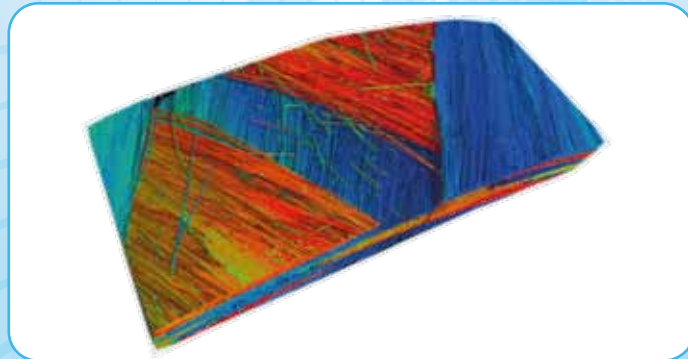


Our Motivation

Recent years have seen a rapidly growing demand from aeronautic industry regarding function-oriented, highly integrated, energy-efficient and lightweight structures.

In advanced composites a promising material was found, which integrates these characteristics allowing for continuously elevating the complexity of new components concerning shape and internal structure.

The consequences of this increasing complexity are tremendously raising efforts in quality control, as conventional non-destructive testing methods are reaching their limits and become either extremely time-consuming or unusable for a full inspection.



Our Goals

QUICOM aims at taking the next big step in the development of aeronautic components by developing a new technology platform of highly detailed inspection methods in combination with advanced composite modeling and simulation.

The project generates new concepts and methods based on cutting edge X-ray techniques, which aim to escalate conventional non-destructive techniques in aeronautics on the short run and to replace them on the long run.

The QUICOM technology platform will allow a full characterization of all kinds of aeronautic specimens concerning material decomposition and geometric features within short time. The results are integrated into a feedback cycle, to boost composite development in the direction of saving weight without losing the demanded characteristics.

In detail the following high level goals are targeted:

- » Escalate and replace commonly used NDT techniques (e.g. ultrasonic inspections, micro cuts) by using X-ray computed tomography in aeronautics
- » Develop and apply advanced X-ray computed tomography techniques for characterizing aeronautic composites and components
- » Provide highly detailed, qualitative and quantitative 3D characterizations of inner and outer structures
- » Advanced application specific simulation and modelling of composites materials and parts.

Work Breakdown

