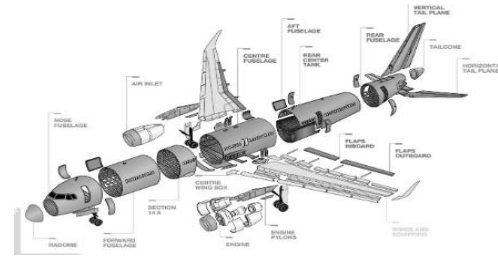


Title: Certification by Analysis of airframes

Problem statement

When manufacturing parts for aviation, safety is of paramount importance. Parts must therefore be inspected and certified before they can fly. It is also important that all parts can be traced, so that the history is known. This applies to aircraft production, but also to maintenance work and parts re-use.



In this assignment, we focus on aircraft airframes. Whereas in the past the distinction between aircraft frame and skin was clear, these are now increasingly being integrated. The fuselage, with integrated ribs and stiffeners, also contributes to structural integrity.

Component qualification and certification can be costly and time-consuming. Also, by no means all parts are easy to inspect. Internal damage in composite materials, for example, is by no means always noticeable on the surface of a part.

Qualification and certification of airframes could be accelerated by the use of advanced digital methods.

Research question(s)

What are the procedures and requirements for certification of airframes? How could these be improved and accelerated using digital methods, while maintaining quality and reliability?

Expected type of work

- Aeronautic Engineering
- Information technologies
- Mechanical Engineering
- Literature research and interviews to determine procedures and requirements
- Modelling and/or experimental work to develop and validate new methods

References

- Will be provided during the project

Commissioner details

Organization / Department: Airbus

Name: Javad Fatemi

Email: j.fatemi@airbusDS.nl