**MAAXIMUS**

**Project ID:** 213371  
**Funded under:** FP7-TRANSPORT

**More Affordable Aircraft structure through eXtended, Integrated, and Mature nUmerical Sizing**

**From** 2008-04-01 to 2016-09-30, closed project

**Project details**

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<th>Total cost:</th>
<th>Topic(s):</th>
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<td>AAT-2007-4.4-01 - Integrated approach to life-cycle based development of aircraft structures</td>
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<th>EU contribution:</th>
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<td>Germany</td>
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<th>Call for proposal:</th>
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<td>FP7-AAT-2007-RTD-1  See other projects for this call</td>
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<td>CP-IP - Large-scale integrating project</td>
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**Objective**

Even though composite materials are more and more used in modern airframes, many significant improvements are still achievable. Firstly, the substitution of the assembly of many small composite parts by a single one-shot large part provides additional weight reduction. Secondly, the final assembly line process must be adapted to composite properties (lack of ductility, stiffness). Thirdly, if the appropriate level of confidence and cycle time was available, Simulation-based design would provide a faster and less expensive path to find the optimal structures than the current development process, which relies on physical tests. Lastly, more conductive composites are necessary to avoid additional weight for system protection. The aim of MAAXIMUS (More Affordable Aircraft structure through eXtended, Integrated, & Mature nUmerical Sizing) is to demonstrate the fast development and right-first-time validation of a highly-optimised composite airframe. The MAAXIMUS objectives related to the highly-optimised composite airframe are: 50% reduction of the assembly time of large composite sections; 10% reduction of manufacturing & assembly recurring costs; 10% reduction of the structural weight. The MAAXIMUS objective related to a faster development is to reduce by 20% the current development timeframe of aircraft structures and by 10% the corresponding cost. The MAAXIMUS objective related to the right-first-time structure is to additionally reduce the airframe development costs by 5% through the delivery of a predictive virtual test capability for large composite structures with a quantified level of confidence, to avoid late and costly changes This will be achieved through coordinated developments on a physical platform, to develop and validate the appropriate composite technologies for low weight aircraft and a virtual structure development platform, to identify faster and validate earlier the best solutions through major improvements in airframe Simulation-base design.

**Related information**

**Result In Brief**

Faster and cheaper fuselage development

**Report Summaries**

Final Report Summary - MAAXIMUS (More Affordable Aircraft structure through eXtended, Integrated, and Mature nUmerical Sizing)
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Subjects
Aerospace Technology - Industrial Manufacture