

EADS* Astrium Satellites UK
Taking satellite development to new heights
*EADS has been rebranded as Airbus Group as of January 2, 2014

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Siemens PLM Software is a world-leading provider of product lifecycle management (PLM) software. They help thousands of companies make great products by optimizing their lifecycle processes, from planning and development through manufacturing and support.

In this case study much simulation software of Siemens has been used in order to reduce the satellite development lead-time, which is usually one year including 6 months of simulation. Modelling is key to the high standards of quality demanded for space applications, the cost efficiency required by customers and the timely delivery they expect. Therefore, Astrium uses Femap (simulation software of Siemens) extensively for the iterative process of creating, checking and viewing models, processing model results and exploring alternatives in order to achieve concurrent engineering with the purpose of reducing the time by half.

Simulation and Forecasting Technology role

Reduce development lead-time, cost efficiency, high quality, achieve concurrent engineering.

Sector

Aerospace and Defence

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EADS Astrium Satellites UK
Taking satellite development to new heights

Industry
Aerospace and defense

Business challenges
Reduce satellite development time

Keys to success
Increased understanding of complex designs using layers
Easy handling of multiple modeling scenarios
Quick generation of new models to enable easy exploration of options
Ability to quickly confirm that all components meet the specification
Ability to create routines and automate certain processes

Results
Work performed concurrently across disciplines
Development time substantially reduced
Genuine re-use of existing parts and subsystems

Astrium uses the full digital simulation capabilities of Femap to achieve concurrent engineering, increase knowledge capture for optimal part and subsystem re-use, and reduce development time

Constant pressure to meet development deadlines
Satellites play a crucial role in our lives, from global security and defense to local in-car navigation. On a daily basis we rely on them for telephone communication, television and radio reception, and long-range weather forecasting. Many of these satellites use operating platforms and payloads designed and built by Astrium, an expert in space applications for more than 40 years. Employing 15,000 men and women in France, Germany, the United Kingdom, Spain and the Netherlands, Astrium is a wholly owned subsidiary of EADS, a global leader in aerospace, defense and related services.

The wide range of equipment that Astrium designs and manufactures includes solar generators, highly stable yet lightweight structures, thermal management systems and components; guidance, navigation and control systems; antennas and reflectors; onboard digital processors, electrical, radio frequency and microwave equipment; sensors; and flight software.

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Glenn Harris, structural analysis engineer at Astrium, explains, "We are always under pressure to meet development deadlines. A typical development cycle is one year and simulation represents six months of that." Astrium uses Siemens Femap™ software finite element pre- and postprocessor to optimize the simulation process within a concurrent engineering environment.

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