

ArvinMeritor LVS CATIA V5 speeds development and improves interaction with customers and suppliers.



"With CATIA, we can collaborate with our customers to achieve quicker design with more flexibility and faster turn-around." John Osman, Applications Engineer, ArvinMeritor LVS

Highlights

- *Linear design slowed development, limiting design flexibility and collaboration with customers. ArvinMeritor sought CAD software capable of concurrent design*
- *CATIA V4 and V5 are now used worldwide throughout the ArvinMeritor group of companies. Feature-based modelling capabilities support concurrent design*
- *CATIA has improved interaction with suppliers, decreased development times and allowed ArvinMeritor to meet client requests for the use of CATIA V5.*

Combined 100 years experience supplying leading automotive manufacturers

Arvin Meritor LVS, the UK arm of a worldwide group of companies formed from the merger of Arvin Industries and Meritor Automotive, provides products for light and commercial vehicles to leading automotive manufacturers, including VW, Ford, General Motors, Rover, Toyota, Nissan, Renault and Volvo. The UK site specialises in access control systems and door latches and is the Access Control Systems Centre of Expertise for ArvinMeritor.

As part of the Accelerate programme, launched in 1996 to promote the automotive business in the West Midlands area of the UK and funded in part by the European Community, Arvin Meritor participated in a one-year, collaborative Supply Chain

Improvement Programme (SCIP) to shorten the product design cycle by compressing the transfer time from component design and development to volume production. Working closely with its suppliers and INCAT, the approved Accelerate consultant to ArvinMeritor, the company concentrated on strengthening links and interactions and upgrading skill levels and associated technology to improve CAD data transfer and gain efficiencies in design collaboration.

CATIA enables designs to be transferred and approved quickly

Born at least in part as a result of the Accelerate programme, eleven CATIA V5 systems at the Stichley site provide hybrid design for complex mechanical parts and assemblies, with full-scale digital mock-up and product drawing capabilities in addition to compatibility with CATIA V4 and data exchange interfaces.

"CATIA is used worldwide throughout the ArvinMeritor group of companies," said John Osman, Applications Engineer, ArvinMeritor LVS. "CADD5 5 is now used only for legacy data and new data is in CATIA V4. CATIA V5 is used in research and development in the advanced engineering

department, where customers are asking for projects to be completed in it. Migration by our customers will drive our ongoing change over to Version 5."



CATIA V5 delivers on design flexibility

Developing components, such as a door module, requires careful study of the customer's requirements to establish the proper packaging for compatibility with other aspects of the door's design. The first presentation to the customer is created in CATIA with photo realistic rendering in order to win business.

At the prototype stage, there is continual contact between the customers and the designers at ArvinMeritor using electronic data interchange (EDI). "We use CATIA extensively to check for interference between the latch mechanism and the door geometry and components like the glass channel and wind regulator," said Osman.

CATIA's tolerance layouts are an important feature, allowing designers to apply constraints and arrive at the optimum design that can be manufactured economically and operate correctly.

"CATIA's design makes it very easy to modify and manipulate designs through the history tree," Osman said. "We do a lot of solid modelling changes. Solid models are easily

accessible in CATIA and the process of going back to make a modification is very simple."

Tangible benefits with CATIA

Previously ArvinMeritor's design processes were linear. With the feature-based modelling capabilities of CATIA, the company now is able to work concurrently, breaking a feature away from the design tree, making changes and adding it back into the core design. Concurrent design has had a large impact on the overall development cycle at ArvinMeritor.

"The interfaces in CATIA are particularly valuable, enabling communication with downstream applications for finite element analysis and simulation of mechanisms," Osman said. "In addition, they enable the reuse of legacy data from CADD5 as building blocks of new designs, going directly into CATIA V5."

"The benefit of CATIA is that we can collaborate with our customers to achieve quicker design with more flexibility and faster turn around," he said. "CATIA is the system of choice for ArvinMeritor."

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