



## CONTINUOUS PROCESSES WITH 3D

As an internationally active systems and development supplier of wire, cable and onboard network systems, LEONI is marked by highest degree of product innovation. To satisfy customer expectations and stay competitive, the company resolved to take a decisive development step toward a continuous PLM system.

LEONI supplies renowned customers from widely different industrial markets. The complex products are used in automobiles, telecommunication, automation and drivetrain technology, medical technology, etc. In this high-tech environment, innovative energy is a decisive competitive factor. Another requirement is that product innovations must be realized as time-efficiently as possible.

Two years ago, as LEONI was expanding its activities in the aerospace market, the Aerospace Business Unit decided to take a decisive step toward a continuous PLM system. Product development was shifted from the previously used AutoCAD to CATIA V5, the main focus of attention being on the development of 3D models instead of the 2D models that had thus far been used in this field.

### ► ADVANTAGES

„There were a number of reasons for our decision in favor of 3D development“, says Helmut Lanfermann, Product Manager of LEONI’s Aerospace Business Unit, and

explains: „The most important reason is of course that CATIA V5 has already been on the market for several years and has become an accepted standard in the aerospace industry. So naturally our customers also expect this standard from us as a supplier, so that interface problems can be avoided and continuous processes can be guaranteed“. Further advantages which have become evident in the wake of the software change, and which LEONI can of course pass on to its customers, are a reduction in development times as well as the simplification of develop-

ment for customers: they get everything from the first development idea to the finished cable harness.

### ► IMPLEMENTATION

Prior to the introduction of the new CATIA V5 system, LEONI’s plant in Friesoythe in Northern Germany worked exclusively with 2D data on AutoCAD. Since a majority of its customers already worked with 3D models, interface problems often necessitated time-consuming manual conversions. In order to stay ahead technologically, a quick fix had to

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Product Manager Business Unit Aerospace**

ments using the virtual 3D model instead of time- and cost-intensive measuring procedures using customer prototypes. In developing onboard vehicle network systems, LEONI has already been relying on CATIA for years.

The conversion also resulted in an expanded range of service offers: instead of presenting itself solely as a manufacturer of cable harnesses, as was previously the case, LEONI can now offer its aerospace customers an across-the-board development support using 3D models. In this way, LEONI is a one-stop shop

be found. „Our customers were pleased about the news that in the future we would also be able to deliver 3D models“, says Helmut Lanfermann, and adds: „So it was a priority for us to be able to implement the conversion as quickly as possible“. This meant that LEONI needed to find a specialist IT service provider who was already familiar with the requirements of the sector – both from the OEM and the supplier perspective. The decision was made in favor of CENIT AG. „CENIT was exemplary in the way they supported us in implementing the project. Many open questions and problems were resolved“,

# LEONI: CONTINUOUS PROCESSES IN 3D

Lanfermann lauds the good cooperation with the IT service provider. He underlines that „repeatedly, CENIT's PLM experts were able to come up with suggestions for innovative solutions to introducing new processes and ideas. Without their professional support, there is no way that we would have been able to complete the project in such a short time“.

The goal was to equip an initial two workstations at LEONI's plant in Friesoythe with CATIA V5. But a large number of workers and divisions, from IT to development to production, were affected by the introduction of the new PLM system. Thanks to the great commitment by those involved in the project, and to the professional cooperation of CENIT, both the developers and other LEONI divisions were able to work successfully with the product within only a few months, and to make the first 3D models available to their customers for verification. LEONI's Aerospace Business Unit has already been delivering products developed in CATIA V5 to its customers since mid-2007.

## ► SUCCESS AND ACCEPTANCE

„Of course, there were some internal acceptance issues, as is so often the case when one moves away from a tried-and-true process. This was especially the case where we used the product to do entirely new things“, says Lanfermann in looking back to the project's early days. But in view of the new markets that LEONI has tapped thanks to the new PLM strategy, and the new customers it has won as a result, yesterday's sceptics quickly became converts. And thus the successful introduction of CATIA V5 has even had an influence on the company's further PLM

orientation. For 2008, LEONI's aerospace wing is already planning to ramp up the number of CATIA V5 licenses and to introduce SmarTeam. „After our successful cooperation during the last project, we will of course again rely on CENIT's expertise“, concludes Lanfermann.

## ► HIGHLIGHTS

The LEONI specialists work with geometry data they receive from their customers. Obviously, the continuous PLM solution saves an enormous amount of time, because previously work had to base on prototypes – now the 3D data is simply transferred to the customer and the time-

„The cable harness was created entirely in CATIA V5, without any aids in the form of physical models – and that gave us enormous savings in terms of costs and time“. In this way, high-precision preparatory work on the computer was able to rule out installation problems from the beginning – without having to expend any effort on building prototypes. The cable harnesses were manufactured directly at the LEONI plant. „In the end the harnesses were mounted in the airplane, and they fit perfectly“, explains Lanfermann, happy at the success they had with the customer: „The successful implementation of the cable harnesses

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Product Manager Business Unit Aerospace**

intensive manual work steps are avoided altogether. In this context, CATIA's 'electrical features' play an important role for LEONI. „The electrical features offer us the ability to create virtual cable harnesses relatively easily, to route individual cables automatically within the 3D model and thereby to determine the length of each individual cable“, explains Lanfermann.

Thus CATIA V5 was able to open up new ways of developing cable harnesses for LEONI's Aerospace Business Unit. „Already during the prototype phase, we were able to do the cabling for a business jet“, says Lanfermann, and explains:

gave us very high acceptance from this customer. Now they want us to do further aspects of the cabling, which used to be done manually, in 3D“.

## ► ABOUT LEONI

LEONI is a global supplier of wires, cables and wiring systems. With about 47,000 employees in 46 countries, the group generates consolidated sales of more than EUR 2.3 billion. The principal customer base is the automotive industry, for which LEONI develops and produces technically sophisticated goods: from single-core automotive cables to complete wiring systems with integrated electronics. LEONI's customer base includes such well-known names as Audi, BMW, Bosch, Daimler, Ericsson, General Motors, Land Rover, Miele, Philips, Porsche, and VW.



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