

Automotive and transportation

Farmingtons Automotive

Farmingtons Automotive broadens its IT environment with NX

Product

NX

Business challenges

Preparation for upcoming collaboration with Daimler

Improving design processes in the business unit for armored vehicles

Keys to success

Early decision to use NX

Detailed implementation and training plans

Gathering practical knowledge in the business unit for armored vehicles, which can also be used in other business units

Results

Successful and smooth introduction across real-life projects

Fast realization of significant productivity benefits

Improved customer relationships



Toyota TLC 79, armored by Farmingtons Automotive. Copyright: Farmingtons Automotive GmbH.

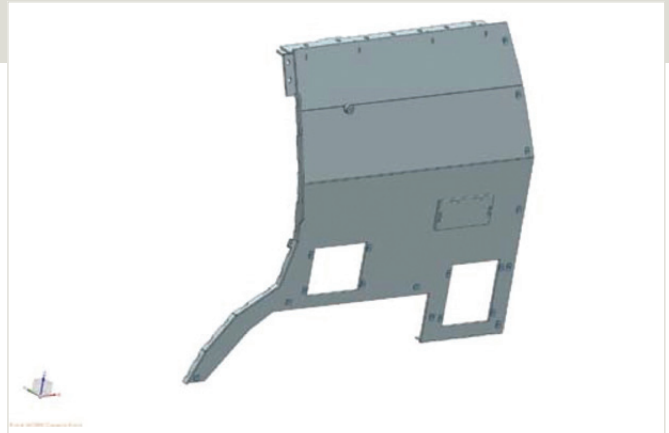
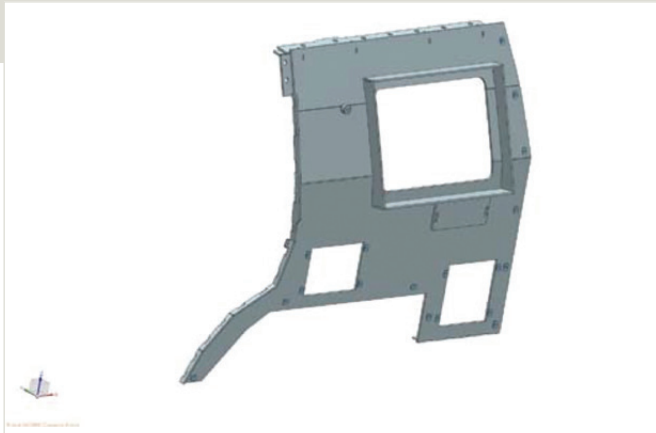
Intelligent and detailed planning guarantees successful software deployment and use

30-year partner

Farmingtons Automotive GmbH, with headquarters in Georgsmarienhütte, Lower Saxony, Germany, is a member of the Welp Group, which also includes IndiKar Individual Karosseriebau GmbH in Germany, and pgam Advanced Technologies Ltd. in the United Kingdom. A medium-sized business with about 300 employees, Farmingtons Automotive has been a skilled partner of the automotive industry for more than 30 years, as an engineering and design services provider,

a supplier of manufacturing equipment like injection molds and a small- to medium-size batch manufacturer. Customers include major automotive original equipment manufacturers (OEMs) and well-known system suppliers.

The company engineers and manufactures interior components, such as instrument holders, center consoles, door panels and exclusive exterior plastic parts. Farmingtons Automotive also designs and manufactures armored civilian vehicles based on commercially available cars, according to the high design and manufacturing standards of the automotive industry.



Component variants of the Toyota TLC 79, designed with the NX "arrangements" function and manufactured from high-strength steel. Copyright: Farmingtons Automotive GmbH.

Because Farmingtons Automotive does not have the precise CAD data of the vehicles they equip with safety components, it must often work with data scanned from actual vehicles. NX enables import of scanned point clouds and streamlines their conversion into surfaces.

Farmingtons Automotive is a certified maker of these vehicles and protection kits that fulfill the highest ballistic armoring requirements for civilian cars. The company uses advanced and proven ballistic materials for production, and the manufacturing process is monitored through a quality management system. The final products are inspected and certified by a German state agency.

A changing IT environment

Most automotive suppliers use the computer-aided design (CAD) systems used by their customers, because the OEMs require development data in the native CAD format of their systems. Upon Daimler announcing its switch to new product lifecycle management (PLM) technology – changing its primary CAD system from CATIA® software to NX™ software – Farmingtons Automotive decided to implement NX.

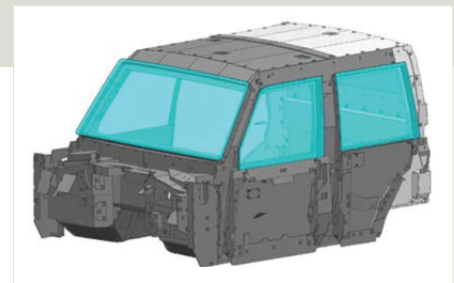
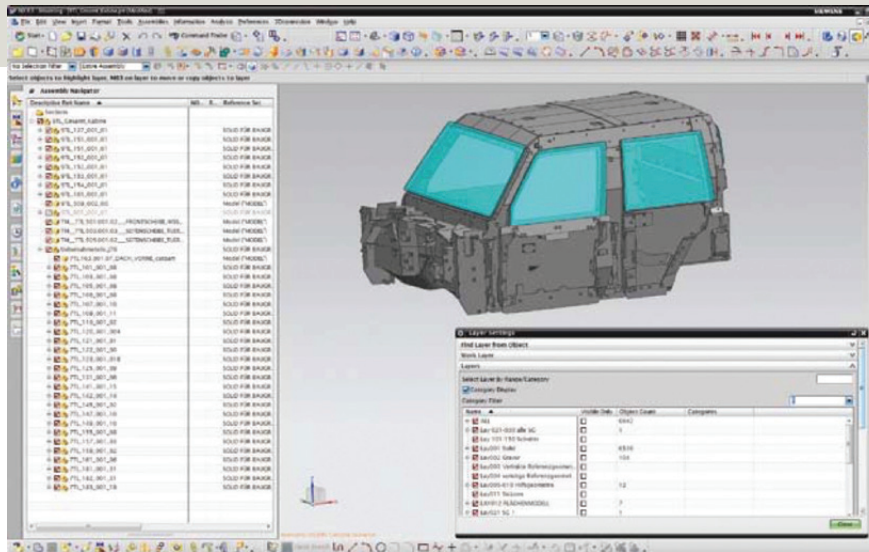
Moving smoothly to NX

"We made the decision to adopt Siemens PLM Software's NX early so we could be ready immediately for future projects with Daimler," explains Matthias Reckmann, managing director of Farmingtons Automotive. "In our business, such projects usually require 15 to 20 engineers who must be thoroughly prepared for the work with a new CAD system. That cannot be achieved within a few days. As we have different business units, we can use the CAD system of our choice for armored vehicles, since we are not dependent on the system requirements of our customers. We have used this business area to get familiar with NX and to collect practical experience, supported by Siemens PLM Software, with a detailed training plan and an external training company that is certified by Daimler."

Farmingtons Automotive sought to build familiarity with system functionality and specific methodology of NX, even though the company did not yet have actual development projects with Daimler. For this purpose, Farmingtons Automotive developed a complex and effective armored vehicle to gain an understanding of the particular operating principles of NX, and to assess the benefits that NX could offer, for example, in surface reconstruction or data conversion. The company intended to use these experiences then in the automotive division for upcoming Daimler projects.



Mine protection. Copyright: Farmingtons Automotive GmbH.



Product depicted: ©2015 Farmingtons Automotive GmbH.

Product depicted: ©2015 Farmingtons Automotive GmbH.
 NX software screenshot: © 2015 Siemens Product Lifecycle Management Software Inc.

“We believe that our early decision to move to NX, as well as our growing knowledge and our experiences so far, will help us to improve the good relationship with our customers even more.”

Matthias Reckmann
 Managing Director
 Farmingtons Automotive

Convincing practical experiences
 Farmingtons Automotive favorably regards the range of functions of NX. These include the many different data formats NX can handle, as well as the applications for finite element analysis (FEA) and kinematics simulation. In addition, the company evaluated the visualization functions of NX as superior to those in other systems.

The company also values the capabilities of NX for handling data scanned from physical models. Because Farmingtons Automotive does not have the precise CAD data of the vehicles they equip with safety components, they often must work with

data scanned from actual vehicles. NX enables the import of scanned point clouds and streamlines their conversion into surfaces. Farmingtons Automotive has determined that NX also helps control other tasks better, including the design of part and assembly variants. With the armoring components for one vehicle, the company has to consider models with manual or automatic gearboxes, left- or right-hand drive, gas or diesel engines, different numbers of windows in the rear or other custom equipment. All this has influence on the design of the armoring components, which are made of high-strength steel or glass.

Solutions/Services

NX
www.siemens.com/nx

Customer's primary business

Farmingtons Automotive GmbH is a skilled partner of the automotive industry, providing engineering and design services, manufacturing equipment like injection molds, and a small- to medium-size batch production capabilities. Customers include major automotive OEMs and well-known system suppliers.
www.farmingtons-automotive.com

Customer location

Georgsmarienhütte,
Lower Saxony
Germany

The design and engineering of parts in different variants can be very easily and flexibly controlled using NX functionality, including WAVE, arrangements, layers, and reference sets.

The design and engineering of these parts in different variants can be very easily and flexibly controlled using NX functionality, including WAVE, arrangements, layers, and reference sets. The reference sets also make it simple to add engravings to the components that describe subsequent manufacturing processes, such as the addition of drilled holes or threaded bolts. Furthermore, the creation of the bills of materials (BOMs) for the variants can be easily handled with NX.

Calculation of mass properties using NX also represents a key productivity tool for Farmingtons Automotive. With NX, the engineers can very quickly calculate the weight of the variants. This is a critical capability because the weight has influence on the chassis components, which must also be reinforced and are dependent on the weight of the much heavier armor-ing components.

Outlook

Farmingtons Automotive plans to increase its number of NX licenses. Based on the company's collected experiences with NX thus far, Farmingtons Automotive feels it is well-prepared for upcoming projects, both as an automotive supplier and in its



Live-fire test for certification.
Copyright: Farmingtons Automotive GmbH.

business unit for armored vehicles. "We believe that our early decision to move to NX, as well as our growing knowledge and our experiences so far, will help us to improve the good relationship with our customers even more," Reckmann says.

"We made the decision to adopt Siemens PLM Software's NX early so we could be ready immediately for future projects with Daimler."

Matthias Reckmann
Managing Director
Farmingtons Automotive

Siemens PLM Software

Americas +1 314 264 8499
Europe +44 (0) 1276 413200
Asia-Pacific +852 2230 3308

www.siemens.com/plm

© 2015 Siemens Product Lifecycle Management Software Inc. Siemens and the Siemens logo are registered trademarks of Siemens AG. D-Cubed, Femap, Fibersim, Geolus, GO PLM, I-deas, Insight, J T, NX, Parasolid, Solid Edge, Syncrofit, Teamcenter and Tecnomatix are trademarks or registered trademarks of Siemens Product Lifecycle Management Software Inc. or its subsidiaries in the United States and in other countries. CATIA is a registered trademark of Dassault Systèmes Corporation. All other logos, trademarks, registered trademarks or service marks belong to their respective holders.

45599-Z4 5/15 H