SIEMENS

Industrial machinery and heavy equipment

AMK Drives and Controls

Drive and control technology firm uses Solid Edge to reduce manufacturing errors by enhancing quality of documentation

Product

Solid Edge

Business challenges

Improves new product development

Shares information across the organization

Enhances enterprise data management

Keys to success

Use Solid Edge to facilitate the re-use of existing data

Use advanced CAD technology

Leverage strong training and reliable technical support

Results

Facilitated the use of accurate and updated versions of documentation for manufacturing

Reduced manufacturing errors

Enhanced competitiveness due to better technical support

Increased modeling productivity (directly attributable to the use of synchronous technology)

Siemens PLM software solution enables AMK Drives and Controls to enhance competitiveness and improve productivity

AMK Drives & Controls Ltd (AMK) is a family-owned company with headquarters in Kirchheim/Teck, Germany. The mother company has been one of the market and technology leaders in the electric drive technology, control technology, industrial automation engineering, and automotive areas for more than five decades.

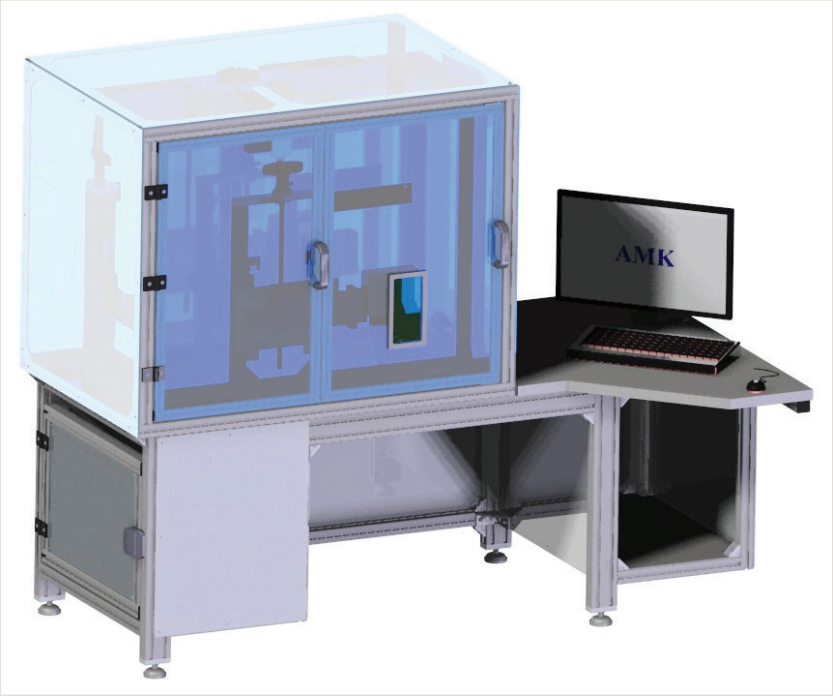
For more than 12 years, the company has used product lifecycle management (PLM) specialist Siemens PLM Software's Solid Edge® software as its corporate product design platform. AMK chose Solid Edge because the company required compatibility between file formats and easy transfer of data. As a result, there is no need for the bidirectional conversion of files to and from other computer-aided design (CAD) systems and, therefore, no loss of data. At the same time, it saves central processing unit (CPU) time and engineering work.

For the purposes of manufacturing, Solid Edge is used for 3D design of asynchronous motors and other devices and instruments that are necessary for improving machinery and available equipment. By creating 3D models for all components, AMK is able to significantly expedite the computer simulation and assembly of various options and the creation of detailed

drawings for manufacturing. Generated drawings are also stored in the manufacturing management system and are used for production management, enabling accurate and updated versions of documentation and specifications, eliminating the possibility of producing products with old revisions.

As an example of the kind of projects AMK takes on, the company developed and implemented the manufacturing of electric hoist and crane motors involving more than 60 types of asynchronous motors with power from 5 to 37 kilowatts (kW).

Using Solid Edge allows AMK to participate in a variety of engineering projects because it can quickly respond to customer



"For us, the advantages of Solid Edge are ease of use, an intuitive interface, fast and flexible design with synchronous technology, easy import of external models, the ability to check collisions and errors in design, a rich toolset for 2D drawings, and increased competitiveness thanks to very good technical support."

Kaloyan Ivanov
General Manager
AMK Drives & Controls Ltd

needs by adding options for engines, such as encoder (speed and/or position control), forced cooling and nonstandard mounting dimensions

In the engineering department of AMK in Gabrovo, Bulgaria, Solid Edge with synchronous technology is used to design small- and medium-size machines and modular production lines. Parts of the projects are for replacement of the old electric drives with new AMK drives.

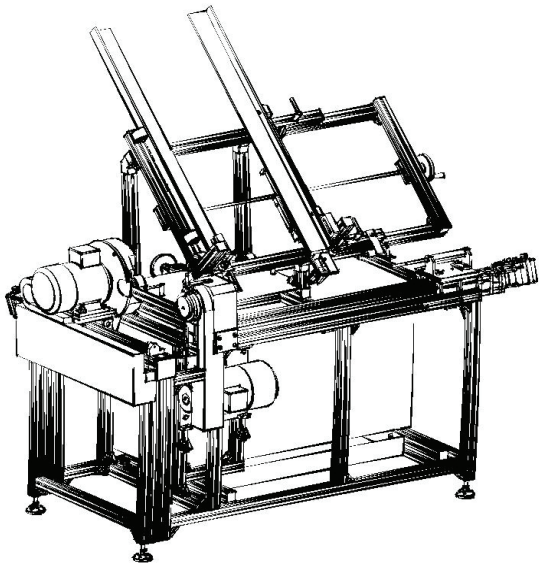
Some of the tasks are assigned by the headquarters in Germany, and then implemented at the customer location. In the AMK Development Department, the hardware, controllers and servo-drives designed using 3D CAD systems of a third party must be exported to Solid Edge, where the final product is constructed. This includes the latest developments in the field of engineering associated with laser equipment.

AMK also participates in projects as a sub-contractor, helping to develop a wide range of innovative products, including the wave maker for applied research in the fields of ship hydrodynamics, shipping and ocean engineering; modules of automated assembly lines for engines and radiators for some of the world's leading carmakers; labeling machines for yarn balls; and specialized lathes for making fishing floats. More often than not, these are unique projects that do not offer the option to reuse data. However, by using the synchronous technology capability of Solid Edge, AMK can meet tight deadlines for the design, which provides an appreciable advantage over its competitors.

Technical support accelerated the benefits of Solid Edge

"Our lengthy product experience combined with the prompt assistance of colleagues from Siemens PLM Software partner SpaceCAD and its platform for online CAD and CAM (computer-aided manufacturing) self-learning provides us with all the necessary information to cope with our everyday tasks in the company," says Kaloyan Ivanov, general manager at AMK.

"By working in the Solid Edge design environment, we can provide complete solutions to our customers, such as parts, sheet metal, assemblies, weldment and drafts."



During the structural design stage, AMK finds the tools of Solid Edge to be intuitive and natural across project applications. The company's engineers note that it is especially helpful to use a synchronous technology environment in which geometry can be easily edited, whether it is their own or imported.

"Solid Edge enables us to get the most out of our CAD system and offers the most advanced design technology in its class," says Ivanov. "It enables us to be on the leading edge in product development and will facilitate our cutting-edge products in the future."

There is also a marketing advantage. Designers who work with Solid Edge literally support the activities of the AMK's marketing department by preparing templates, photorealistic images, brochures

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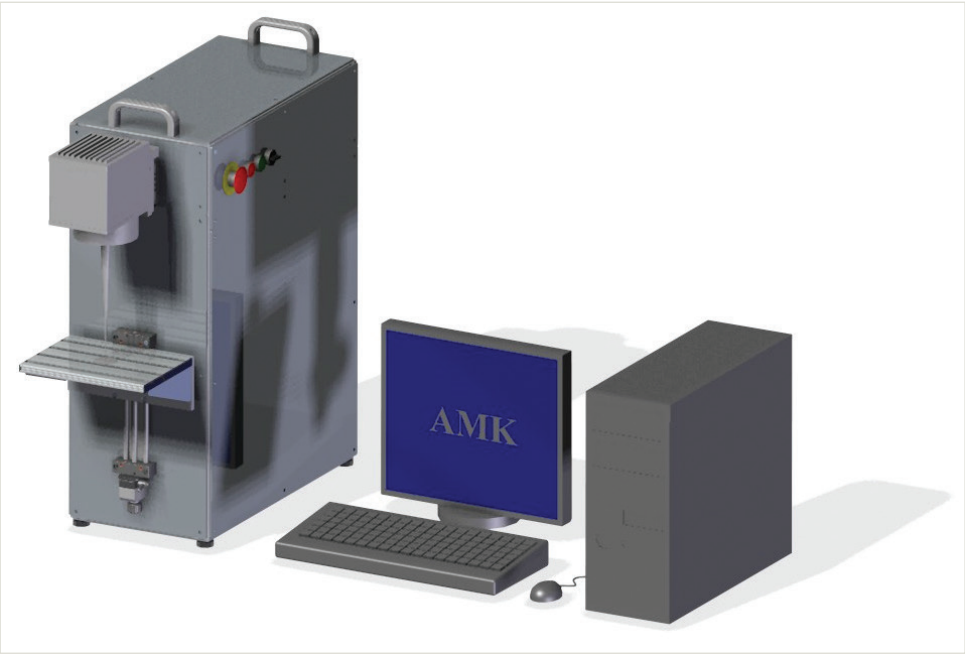

Solutions/Services

Solid Edge
www.siemens.com/solidedge

Customer's primary business

Manufacturing motors and drives since 1963, the AMK Group offers a wide variety of servo motors, servo drives and servo motion controllers for industrial automation in plastics, printing, packaging, machine tools, metalworking and wood working. AMK has a global network of subsidiaries and agencies to support sales and service.
www.amk-drives.bg

Customer location

Gabrovo
Bulgaria

Partner

SpaceCAD Ltd.
www.spacecad.bg

and other catalog data. The use of Solid Edge as an indirect marketing tool has been quite effective in attracting the attention of customers and prospects.

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On the horizon

With AMK's equipment primarily consisting of computer numerical control (CNC) machines, Ivanov notes: "We are also looking at the use of CAM and considering that for future investment."

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