Customer Story

PEMAMEK

Increasing cost effectiveness and reliability with SolidWorks and DELMIA

DELMIA helps build customer confidence in Pemamek because we can show our clients that our solutions will work.

Jukka Rantala
Director Sales and Marketing
Pemamek

Challenge

Pemamek needed to optimize its welding solutions and to ensure their flawless performance before installing a solution at the customer site.

Solution

Pemamek uses SolidWorks software to design its welding stations and DELMIA for robot and production line simulation.

Benefits

Designing and simulating its solutions in 3D before moving on to assembly has enabled Pemamek to shorten overall development time and to increase the reliability of its solutions.

DASSAULT SYSTEMES

Finland-based Pemamek Oy Ltd. is the world's leading specialist in the design and manufacture of welding mechanisms, automation systems and workpiece handling equipment. Whereas some of Pemamek's products are standard off-the-shelf solutions such as workpiece positioners, rollerbeds, and columns and booms, the company primarily designs and manufactures unique robotic welding stations, as well as entire production lines customized to meet each customer's requirements and production objectives. The company's comprehensive range of integrated solutions covers different sectors, such as mobile machinery, civil construction, shipbuilding and offshore, and wind energy.

Solutions for each industry

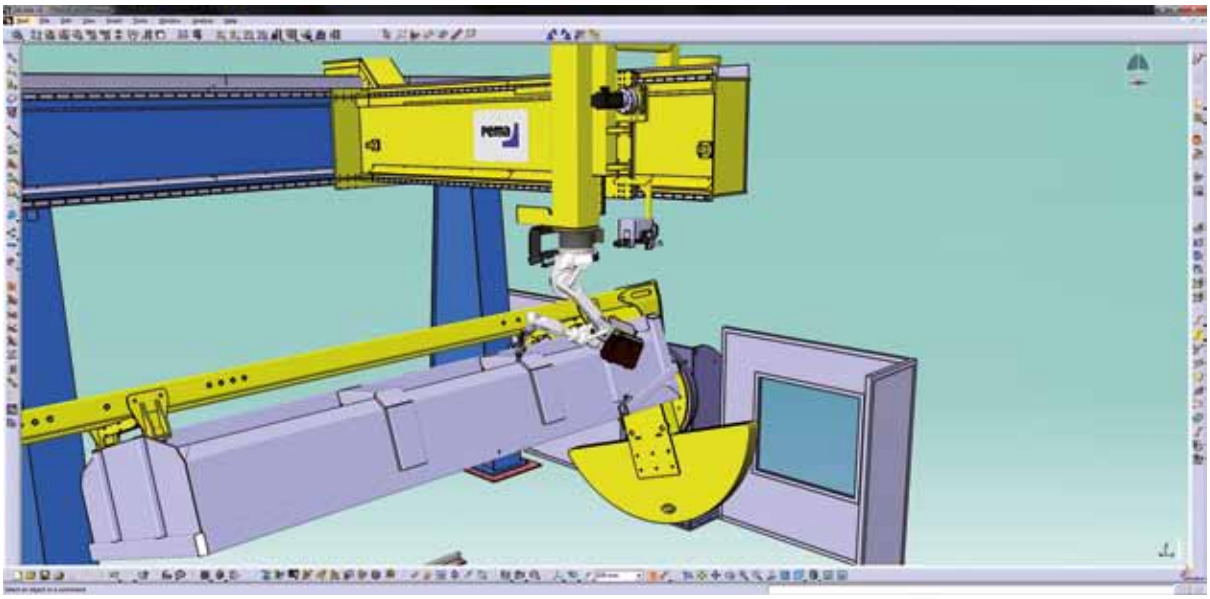
Although Pemamek, unlike most of its competition, is in a unique position when it comes to being able to address all seven industrial sectors, according to Jukka Rantala, Director of Sales and Marketing at Pememek, improvement is always necessary because "the competition is everywhere." This is the reason Pemamek continues to perfect its response to customers by investing in 3D virtual technology to help shorten development time and increase the reliability of its solutions.

"Back in the early 1990s, we adopted a 3D-design approach using SolidWorks software and a few years ago we chose DELMIA for factory design and simulation as well as for robot arc welding applications," said Mikko Savolainen, Product Manager for Pemamek.

Pemamek's projects are one of a kind. The concepts are often similar but the machines and welding stations vary in their dimensions and technical specifications. "Even though our solutions are essentially tailor-made, with SolidWorks software we can reuse our previous designs and make rapid geometry modifications to conform to the specifics of each new project," said Savolainen.

SolidWorks: the sustainable advantage

Working in 3D has made it easier to exchange information with suppliers since many of them also use SolidWorks software. "We can incorporate the 3D geometries of the components we obtain from our suppliers into our models to virtually validate that they can be assembled and that everything works together before manufacturing and installing the welding solution. The 3D digital process helps to shorten overall development cycle time since everything fits together the first



Mikko Savolainen
Product Manager
Pemamek

SolidWorks helps shorten overall development cycle time since everything fits together the first time with a minimum of design modifications.

time, minimizing the need for design modifications," said Savolainen.

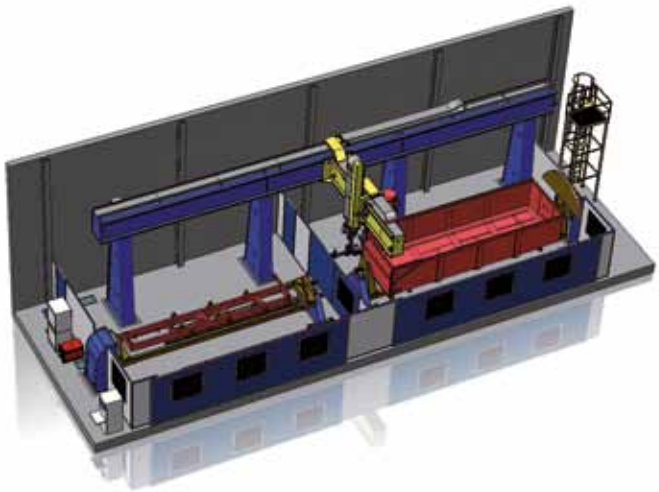
SolidWorks software enables Pemamek engineers to create a more optimized product, without excessive tolerances that can drive up material use and costs. "Less material waste has a positive ecological impact," said Savolainen. "Likewise, by producing better, more optimized machines that weld faster, companies can reduce their energy consumption, which in itself is good for the environment."

DELMIA as a sales tool

Pemamek uses DELMIA solutions for factory layout and robot simulations. "DELMIA is an excellent sales tool because it enables us to convince our customers that the products they want to manufacture with our machines can be produced efficiently and cost-effectively," said Rantala. "The customer can see how a product can be welded in a digital environment before on-site installation of the physical welding platform." There are even cases where Pemamek has minimized the overall cost of a station by proving to the customer that some external robot axes are not needed to do the job. "This is possible because with DELMIA we have the exact layout in the station and can simulate the robots welding the products without extra robot axes. This translates into savings for the customer," said Savolainen.

"DELMIA helps us digitally validate the feasibility of several robots working together and simulate an entire production line. We can show the products moving from one robot station to the next to check for possible interferences, which we can easily correct before anything is actually installed. DELMIA helps build customer confidence because they can see that what we propose will work," said Rantala. "And, if it works in a simulated environment, it will work in real life."

SOLIDWORKS DELMIA



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