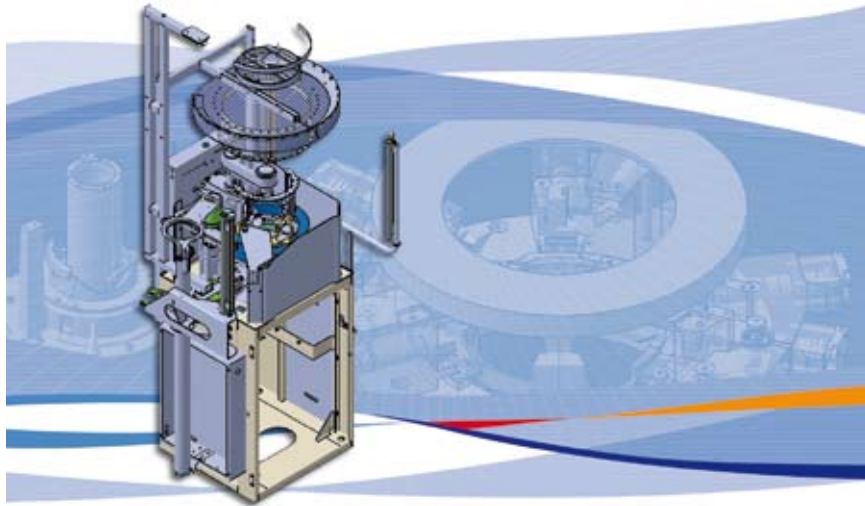


# Sangiacomo knits a tight solution with CATIA V5 and ENOVIA SmarTeam



*“PLM allows us to define a product at the virtual level as close as possible to the real one, reducing our testing time and costs.”*

Giorgio Capistrano,  
Engineering Manager, Sangiacomo.

## Overview

### ■ The Challenge

*Sangiacomo needed to reduce cycle times and costs to keep its top-quality industrial knitting machines competitively priced*

### ■ The Solution

*CATIA V5's kinematic and digital mock-up capabilities enable Sangiacomo to test its complex designs virtually, while ENOVIA SmarTeam tracks existing designs for reuse in new products*

### ■ The Benefit

*Virtual modelling has reduced testing phases by 20 percent and ENOVIA SmarTeam has cut technical documentation management time by another 20 percent.*

### Complexity requires sophisticated solutions

For more than 50 years, Sangiacomo SPA of Italy has been a leading producer of industrial knitting machines for socks, underwear, sleepwear and sportswear.

But as the company's machines grew more complex, with as many as 10,000 parts in a single unit, and as its product line expanded, the challenge of designing the machines and managing the product data became increasingly difficult. Growing competition from manufacturers in emerging markets also put pressure on the company to produce its machines faster and more economically than ever before.

To manage the complexity Sangiacomo turned to IBM PLM solutions developed by Dassault Systèmes, including CATIA V5 for 3D product design and ENOVIA SmarTeam for collaborative product

data and lifecycle management for the SMB market. The benefits gained from PLM have translated into shorter cycle times and lower development and manufacturing costs for Sangiacomo, helping to keep its sophisticated products competitive on the world market.

### CATIA V5, ENOVIA SmarTeam manage complexity

Sangiacomo's products have thousands of intricately shaped, rapidly moving parts that could easily clash in a poor design. CATIA V5 Generative Shape Design allows the company to design parts with complex geometrical shapes, including the helicoidal profiles needed to guide devices such as needles and selectors. CATIA V5 Digital mock-up (DMU) and Kinematics products allow the company to create 3D virtual models of the machines and simulate their motion to check for interferences.



The ability to 'fly through' the 3D model allows designers to view the model from every possible angle. Engineers can even get views deep inside complex mechanisms – views that would be impossible with a physical model.

“Just by preventing many interference problems in the design phase, we are saving at least 20 percent of the time we used to spend on our testing phase,” says Giorgio Capistrano, Sangiacomo’s engineering manager. When designs are ready, the data can be output directly to the company’s NC machining operations. “It allows us to realise our designs without translation, which would increase the required time and cause errors in the final product.”

ENOVIA SmarTeam, meanwhile, has eliminated another major challenge – keeping track of existing part designs so they can be used again. “Before ENOVIA SmarTeam, the huge number of CAD models caused problems in searching and the inevitable consequence of duplicate part numbers,” Capistrano said. “We wasted time searching for documents or re-designing parts that already existed or could have been modeled from a similar part.” Approximately 60 to 70 percent of all product components in a Sangiacomo product are reused from a previous design. Capistrano estimates a 20 percent savings in time spent on technical documentation management.

### More benefits on the horizon

These improvements are just the beginning of the returns Capistrano anticipates receiving from the company’s PLM investment. Sangiacomo wants to further develop its ENOVIA SmarTeam implementation to allow the system to act as a design configurator, automatically building every customer-ordered machine in virtual 3D, to produce simulations for customers that will show them the characteristics of the textiles that can be produced on their equipment.

Capistrano also wants to share product data with other Sangiacomo departments for cost accounting and supplier communication. And the company is studying ways to use ENOVIA SmarTeam’s workflow capabilities to manage its Engineering Change Order process and apply product data to its after-sale service activities.

“CATIA V5 and ENOVIA SmarTeam both play a fundamental role in our activities,” Capistrano said. “We conducted extensive research to find the best solutions on the market. The fact that our choices are so widely used in the textile machining industry tells us that we made the right decision.”

For more information, contact your IBM Representative, IBM Business Partner or visit the IBM PLM Web site at: [ibm.com/solutions/plm](http://ibm.com/solutions/plm).



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