



MECAPLAST

Modeling Means Better Planning

Mécaplast's challenge of producing 40 different parts for the 320,000 vehicles assembled by TPCA in the Czech Republic each year is no easy task. The company thus called on MDTVISION's numerical simulation expertise to validate its production line architecture.

Mécaplast, a Monegasque company created in 1955, develops, industrializes, manufactures and delivers interior and exterior trim parts for the automotive industry. The company is what is known as an "automotive cabinetmaker" and is a top subcontractor for manufacturers. With its 14 sites throughout the world, Mécaplast generated 2002 revenues of €353m, and has 3,500 employees.

A SMALL CAR FOR EMERGING MARKETS

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Daniel Santamatilde
B0 project industrialization coordinator

PSA and Toyota joined forces to create Czech joint-venture TPCA to produce a small economy car, the "B0", destined for Eastern European markets. TPCA chose Mécaplast to supply the interior trim, upholstery and acoustic parts. The new vehicle will be assembled in the specially-built TPCA factory in Kolin, 100km from Prague. Mécaplast will produce the plastic trim parts in its ZebraK factory, while the upholstery and acoustic parts will be manufactured in the Pardubice factory, which will be entirely kitted out for the operation.

The Kolin factory will produce 6,600 vehicles a week over six days. Considering Mécaplast will manufacture 40 parts for each vehicle, it is easy to imagine the complex nature of the project. Vehicle production is set to begin in 2005, while the Mécaplast parts production lines will be put into action in April/May 2004.

A STRATEGIC CHALLENGE

"Mécaplast is facing a significant challenge: it is the first time we have won a contract including all the upholstery parts. Better known for plastic interior parts, Mécaplast wishes to develop this line of business," explains Daniel Santamatilde, B0 project industrialization coordinator.

In order to define textile production line architectures, Mécaplast called on the experience of its teams in La Rochefoucault (Charente, France), the only site currently equipped for producing this type of part.

The project's strategic challenges, the industrialization lead time



and the substantial investments involved in implementing this new production system will require Mécaplast's choices to be optimized and validated with great precision: resource provisioning, manufacturing processes and potential problems and their consequences, etc.

A DIGITAL FACTORY TO REFINE THE CHOICE OF ARCHITECTURES

Aware of the extent of the challenge, Mécaplast called on MDTVISION to carry out a flow analysis. This study supplied the manufacturer with a virtual model of future production lines on which the most relevant production scenarios are simulated. Analyzed section by section, the virtual factory is based on a macroscopic capacity analysis. Carried out with Quest software from Delmia, the various issues were analyzed and synthesized and the different flow hypotheses were modeled. Each part produced has its own procedures and guidelines. The analysis provided an overview of internal logistics flows. Throughout the project, MDTVISION demonstrated its strong business process skills and ability to translate an industrial approach into an IT approach," says Daniel Santamatilde.

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GOOD ROI

"In addition to modifying and validating production line architectures, these simulations enabled us to make informed investment decisions and keep project teams informed using 3D tools, thus inviting discussion. It is also a highly effective external communication medium, showing Mécaplast's customers and prospects what it is capable of," explains Daniel Santamatilde.

WHAT'S NEXT?

"MDTVISION understood the scope of our challenge and fully met our requirements. The main aspects of the product line architecture have been defined, but we have noticed several possibilities offered by the Delmia software that make us want to go further. We would like to study them in detail and fine-tune our view of areas and flows, etc." concludes Daniel Santamatilde.