

Automotive and transportation • Aerospace and defense

Aritex Canding

OEM/supplier integration speeds manufacturing process development

Product

Tecnomatix

Business initiatives

Production efficiency

Business challenges

Shorten time frame to develop robotic assembly lines for a new vehicle

Develop more tightly integrated OEM/supplier processes

Keys to success

A common platform for collaboration

Organized, reliable and documented data; easily extracted reports

Ability to modify processes and evaluate alternatives

Results

Faster manufacturing process development especially after final product release

Reduced overall vehicle development time

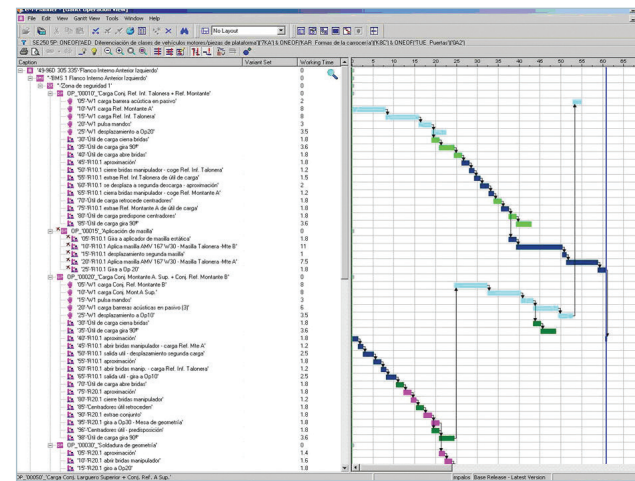
Quality and reliability standards met

Tecnomatix enables collaboration on new robotic assembly lines that reduces overall development time for a new vehicle

Turnkey assembly solutions

For more than 40 years, Aritex Canding S.A. has been supplying turnkey robotic assembly systems in the automotive sector, as well as component assembly installations in the aerospace sector. The company's involvement spans the entire process, from the beginning of development to the completion of production lines, including the design of tools, manufacturing and assembly processes and so on. With a production facility of more than 100,000 square feet, Aritex Canding employs approximately 100 people.

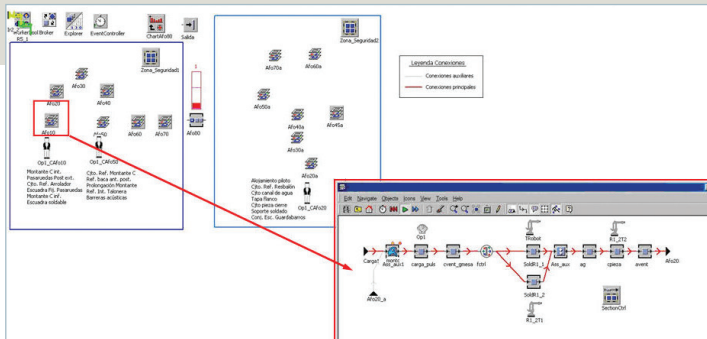
Aritex Canding's engineering department designs tools as well as manufacturing processes. In recent years, the company has implemented the Tecnomatix® Process Designer, Robcad and Plant Simulation solutions from Siemens PLM Software to better design and control customers' manufacturing processes.



Process sequence definition.

Data flows between applications

The creation of robotic welding lines for an automotive OEM offers a good example of how Aritex Canding uses the Siemens software. In the early stage of a project, when a new vehicle is in development, the supplier can begin defining the manufacturing processes at the conceptual level. Aritex Canding, working from data provided by the OEM, imports work operations into Process Designer where they are broken down into suboperations to enable more detailed analysis for production sequencing and cycle time analysis. Process Designer's Pert chart functions



Discrete event simulation.

allow engineers to easily configure production sequencing while the Gantt chart function supports time study analysis. This assures Aritex Canding that the production systems they're building can meet the OEM's target cycle times while efficiently allocating the necessary resources across the assembly line.

Once the operations are defined and sequenced at the conceptual level, the processes most at risk are simulated using Plant Simulation, a discrete event simulation tool. These simulations are used to validate that the process will meet the requirements as defined by the OEM based

on various factors including cycle time, number of resources, machine uptime and maintenance schedules, etc. Based on these results, and a tight integration with Process Designer, each operation is then fine-tuned until the process design succeeds in meeting all of the customer's requirements.

Using Process Designer, it is possible at any time during the design stage to visualize a 3D representation and detect possible problems (collisions, inaccessible components and so on). Once a work solution is validated, the 2D layout can be created using Microstation to verify that the installation fits within the physical space allotted by the OEM.

It is also possible to export the 3D information generated with Process Designer to Robcad where detailed simulations of all robotic processes can be validated. This makes it possible to verify the accessibility of weld guns, grippers and other end effectors, to distribute weld points and to allocate resources efficiently. Furthermore, the final process is geometrically validated, the cycle time is checked and the final position of the major components is pinpointed on the layout.

Nearly complete at final data release

As the customer continues to define the vehicle data, each simulation can be updated and fine-tuned to reach an optimum solution. Iterative analysis is quickly completed by simply updating existing



3D layout generation.

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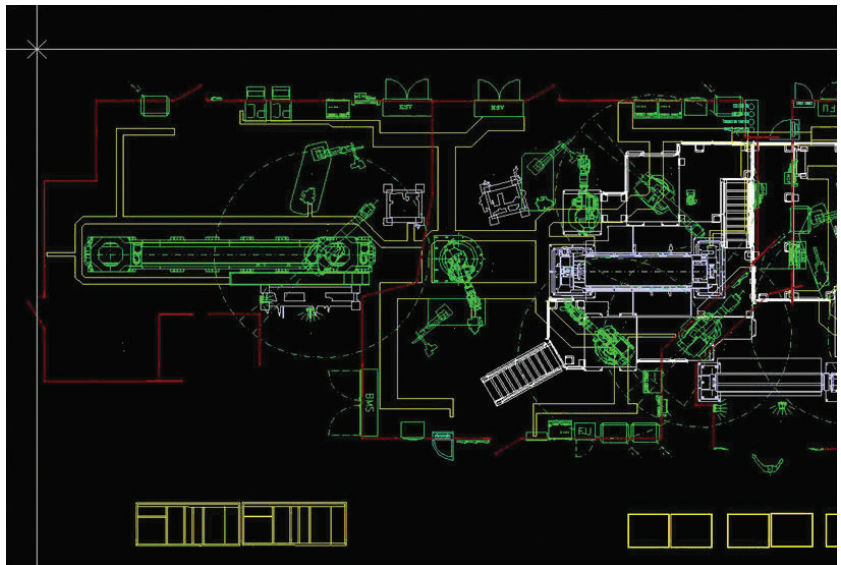
simulation models with the released product. This increases the accuracy of the final analysis and drives repeated use of best practices as defined in validated process plans. Because of the tight integration between Process Designer, Plant Simulation and Robcad, data is shared and leveraged across multiple domains. This increases the accuracy of the final models.

By the final release of product data, most of the work has already been carried out for the supplier, who only had to finish checking and validating the designed process against the final processing requirements. This reduces the amount of manufacturing process development time that takes place after final product release, thus significantly shortening overall development time for a new vehicle. Likewise, the collective use of the Tecnomatix tools allowed the new product development to be evaluated against all the necessary reliability and quality standards.

Performing this work in Tecnomatix enables a single, shareable source of data for the new robotic assembly processes. This gives the customer the ability to compile and extract reports and other

information at any time. The cooperation between the OEM and supplier has a direct benefit for the supplier, increasing competitiveness, reducing time wasted in creating duplicate information and providing a high degree of flexibility and quality in communications between supplier and customer.

Aritex Canding's experience with Tecnomatix drives additional benefits for future collaboration in the automotive sector, which will lead to further fine-tuning of these work methods to



3D layout generation.

Solutions/Services

Tecnomatix
www.siemens.com/tecnomatix

Customer's primary business

Aritex Canding plans, builds and installs turnkey robotic assembly systems in the automotive sector and component assembly installations in the aeronautical sector.
www.aritex-es.com

Customer location

Badalona
Spain

Partner

T-Systems Iberia
España, Spain
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maximize the benefits derived by both the OEM and the supplier. Overall, Aritex Canding expects to see greater re-use of data from projects already completed, improved integration of the documentation system with the simulation and layout tools and, eventually, adapting the company's internal working processes to the new horizons that the virtual factory has now opened for the industry.

Aritex Canding acquires its product lifecycle management (PLM) technology through T-Systems Iberia, part of the Deutsche Telekom Group. T-Systems is a value-added reseller for Siemens PLM Software. T-Systems offers high-quality services combining information and communications technologies. One of its business areas is PLM, which offers the integration of solutions for conceptual design, product development, simulation and analysis, virtual factory, product data management and virtual reality. T-Systems also handles supplier integration and the



Validation through geometric simulation.

outsourcing of CAx services, as well as providing PLM consultancy and the application of a specific methodology for customers' processes. In 2003 T-Systems had a business volume of €216 million across Iberia (Spain and Portugal). In 2007 volume increased to €355 million. For 2007-2010, the company has a primary turnover objective of €500 million. T-Systems employs 3,650 employees.

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