SIEMENS

Tecnomatix

Doosan Infracore

Digital manufacturing accelerates machinery development

Industry
Machinery

Business initiatives
Production efficiency

Business challenges
Fiercely competitive market
Aggressive growth targets

Keys to success
Digital manufacturing system
Standardized process for design tasks
Line simulations

Results
Early identification of manufacturing problems
Enhanced quality
Optimized material movement
Reduced logistics costs
Global competitiveness improved

Tecnomatix helps optimize material movement to reduce logistics costs

World leader in industrial machinery
Doosan Infracore, formed in 1937 as Chosun Machine Works, is Korea's largest machinery company. It leads the growth of Korea's machinery industry through its emphasis on continuous technology and quality innovation and by positioning itself as a global company.

In order to take off as a world-leading 21st-century corporation, Doosan Infracore has strengthened international partnerships through local investment and technology collaborations. In addition, the company is expanding its business areas to include construction equipment, industrial vehicles, automated machinery systems, diesel engines and defense equipment. Doosan Infracore has 4,600 employees.

The industrial machinery market is fiercely competitive, forcing companies to introduce new products faster while reducing development costs. Doosan Infracore has established a goal for sales and profitability called VISION 10-10. This initiative aims to earn 10 trillion Korean Won in sales and achieve a 10 percent operating profit in 2010. The company's goals also include becoming one of the global top-five manufacturers in the Infrastructure Support Business (ISB) sector.

Digital manufacturing foundation
Meeting these goals involves improving everything in the product development and launch process. Doosan Infracore has been innovative in doing this. For instance, the company has standardized and systematized its manufacturing design tasks to prevent inefficiency, find waste and enhance quality throughout its design and launch processes. It has also identified other areas for improvement, such as reducing time for preparing and distributing documents, managing history, optimizing the movement of goods and materials, and reducing logistics costs.

As a way of meeting these challenges, Doosan Infracore's Industrial Vehicles

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Solutions/Services

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Customer's primary business

Doosan Infracore is
Korea's leading machinery
manufacturer.
www.doosaninfracore.co.kr

Customer location

Incheon
Korea

> "With the implementation of
> Tecnomatix, we can rapidly
> perform line simulations to
> optimize material movement
> and reduce logistics costs."
>
> Hong Shin Pyo
> Section Chief
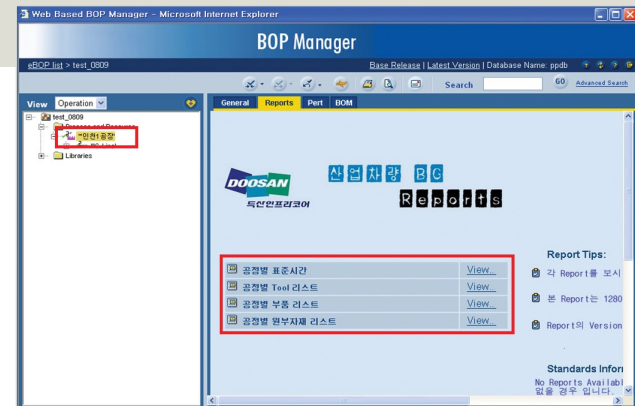> Industrial Vehicle Business
> Group
> Doosan Infracore

business group implemented a digital manufacturing system based on the Tecnomatix® digital manufacturing solution from Siemens PLM Software. Using Tecnomatix, the company links part, process and resource data to create 3D facilities to simulate manufacturing plans and optimize production deliverables. Integration with legacy systems and data ensures maximum use of Tecnomatix.

Using Tecnomatix, Doosan Infracore leverages 3D CAD part and tooling information to review and verify assembly processes and plant layouts. Multiple process variants can be defined to accommodate products with highly configurable option content while production documentation updates are automatically applied through change management workflows. With a digital manufacturing foundation, Doosan can easily simulate material flow logistics while visualizing production metrics in a 3D environment.

A CAD interface program converts the company's Catia product data for use in Tecnomatix. It creates 3D data as well as XML files of product data such as part numbers, definitions, revisions and so on. Process, part and resource information from Tecnomatix is used in Excel and HTML documents to create specifications, with links to related drawings and other documents. Tecnomatix uses Doosan's own timetables to calculate standard work time for manufacturing operations. Work process logistics planning functionality is used to create a separate manufacturing bill of material and to manage supply logistics information.

Optimization and other benefits

With its Tecnomatix-based digital manufacturing system, Doosan Infracore has

been able to achieve a complete data and workflow management system of process-centered technology through the integration and association of product, process, resource and production facilities data. It has enhanced its product and process quality by standardizing and systematizing manufacturing design tasks and through early identification of problems. Document preparation and distribution now take less time and history management has been established. Also, the company has been able to reduce logistics costs through the optimization of material movement. Moreover, the company's ability to excel in the global marketplace has been substantially bolstered, with tangible results already realized.

In the future, Doosan Infracore plans to integrate its PDM and ERP systems with its Tecnomatix digital manufacturing system, and to implement digital manufacturing at its plant in China. It also has a far-reaching plan to apply line simulation and human simulation for a truly complete digital manufacturing system. When this three-stage system is completely implemented, Doosan Infracore notes it will have achieved a level of competitiveness in its industry that it feels is unrivalled anywhere in the world.