

SIEMENS

Ingenuity for life

Modularized product development

Modularization and re-use for industrial
machinery and heavy equipment

Siemens Digital Industries Software

In order to effectively manage product and process complexity and control costs, companies that provide industrial machinery and heavy equipment must implement a modularized product development strategy based on common product architectures. This approach establishes common parts and processes among a family of products while defining functional modules (subsystems) that can be easily modified to meet a customer's specific requirements and related changes. Effective modularization requires a systems-engineering approach to product development and the ability to manage the global supply chain in a way that ensures first-time quality at assembly.

How can Siemens Digital Industries Software help?

Siemens Digital Industries Software solutions support a company's product platforms and promote modularization and re-use at all stages of the product lifecycle. By capturing proven product and process information and making it readily available to stakeholders across the value chain, product lifecycle management (PLM) makes it possible to proactively manage change,

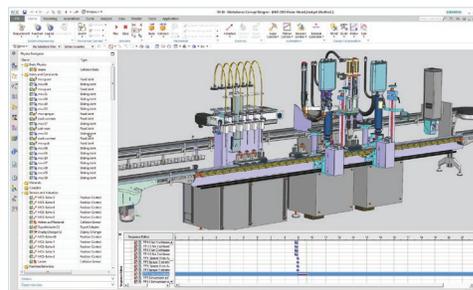
develop more products with fewer unique parts and streamline processes across the value chain, resulting in:

- Reduced manufacturing costs
- Improved program timing
- Improved quality
- Increased customer satisfaction

Quotation and risk assessment

Market leaders are improving the quotation process to reduce risk and facilitate more effective design and manufacturing by creating a digital manufacturing environment that links cross-functional disciplines at all stages of the product lifecycle. This allows sales engineers to quickly deliver accurate bids for a range of options to the

Siemens Digital Industries Software's approach to modularization and re-use provides companies that deliver machinery and heavy equipment with four essential elements for improving their business results.





Solution focus

Case

Hyundai Heavy Industries (HHI) designs its vehicles in 3D, making use of existing computer-aided design (CAD) data from a library of 35,000 standard parts. Part classification, made possible by Teamcenter® software, has increased the company's ability to maximize the re-use of proven parts.

customer. The bidding process is compressed, thereby ensuring optimal design, manufacturing and assembly.

Product and process development

Siemens Digital Industries Software's digital environment provides knowledge-automation tools that dramatically enhance the management of the product platform. When re-usable platform information is available early in the design process, designers can ensure that new products meet the constraints imposed by their respective disciplines. This approach also increases product quality, enhances consistency and reduces costs.

Manufacturing engineering and sourcing

Siemens Digital Industries Software provides sophisticated search capabilities that promote product and process re-use. Manufacturing engineers gain access to design information early in the production planning process. With proper authority, suppliers can access all the information they need when they need it regardless of their location. Since product and process data are centrally managed, companies can be sure that everyone is working with the most

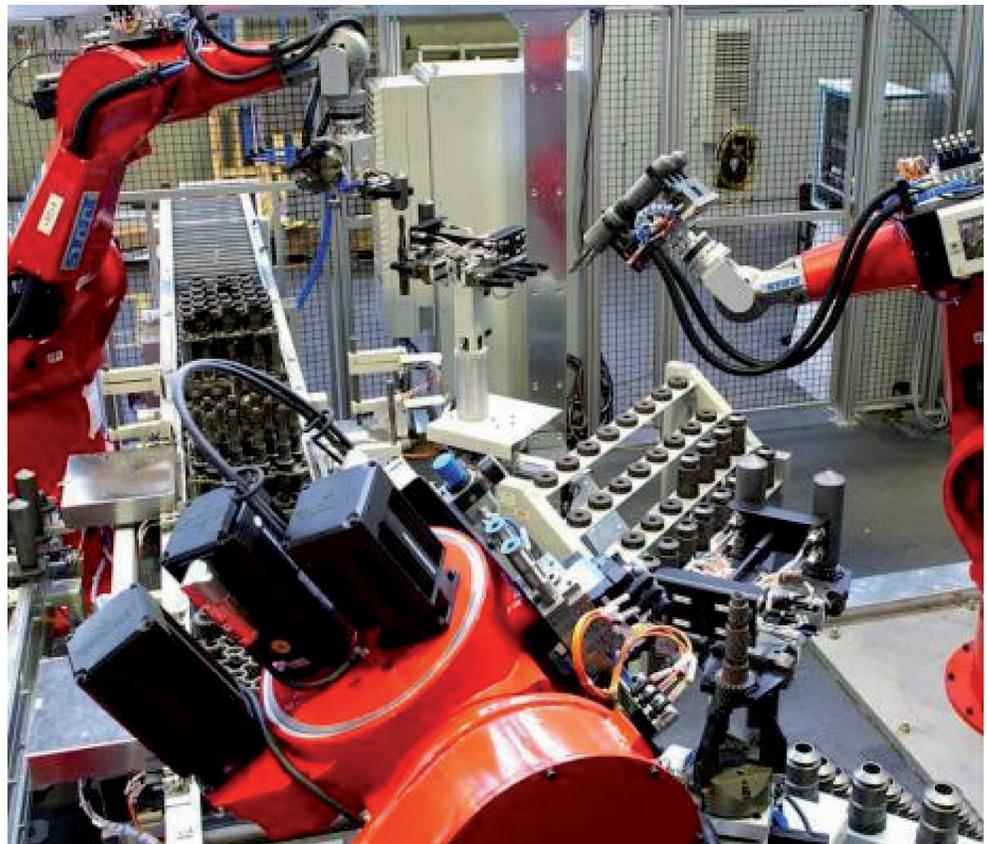
current information. Proven processes, parts and tests can be accessed and re-used, dramatically reducing overall production planning time.

Product platform and re-use

Siemens Digital Industries Software provides you with the capability to develop product platforms and systematically re-use common components and modules for machine design. You can configure a seamless and automated re-use process so that the engineers only need to focus on new module design. Furthermore, the customer can easily identify the revisions and modifications that have been made to every component in the machine design throughout the product lifecycle. Therefore, product changes or problems can be managed efficiently. This approach reduces design time and effort and improves overall quality.

Integrate across functions

Siemens Digital Industries Software solutions enable companies to integrate their cross-functional processes on an enterprise basis. This approach facilitates better decision making by enabling users to drill down into part of the process context to



“For us, it is very important to reduce the lead time between design approval and start of production. By using Siemens’ software we see new possibilities to support this objective, for example, in collaboration between the design team and our global production locations; in simulation to allow specialists to plan and support global production; and to achieve more re-use of parts and processes.”

Carl-Olof Wiebensjö
AB Sandvik Coromant



determine what information they can re-use to make more informed cost, change impact, warranty, performance, piece cost, tooling, investment, supplier capacity, volume forecast, material specification, sourcing and site location decisions.

The bottom line

By implementing a common PLM environment on an enterprise basis, companies gain visibility into product and process information across multiple disciplines and diverse work sites, making it possible to better support modularization and re-use.

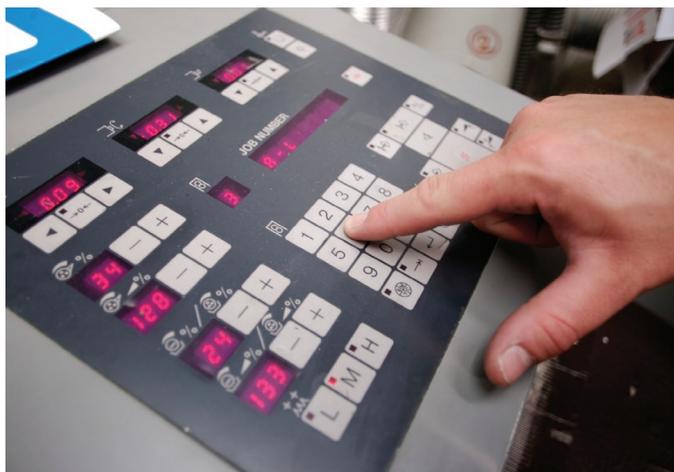
- Cross-functional PLM integration of process information supports better re-use decisions
- Companies require search engines with powerful interrogation capabilities to find this level of detail

- Tying operations together through the use of process templates also reduces errors that occur due to insufficient or late information flow within design and manufacturing processes

How do I get started?

If you would like to hear more about the way our products and services can help you achieve your business goals, please contact your Siemens Digital Industries Software representative today and let us work with you to determine the best way to get started.

siemens.com/industrial-machinery



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