



How do we transform the process of innovation for industrial machinery?

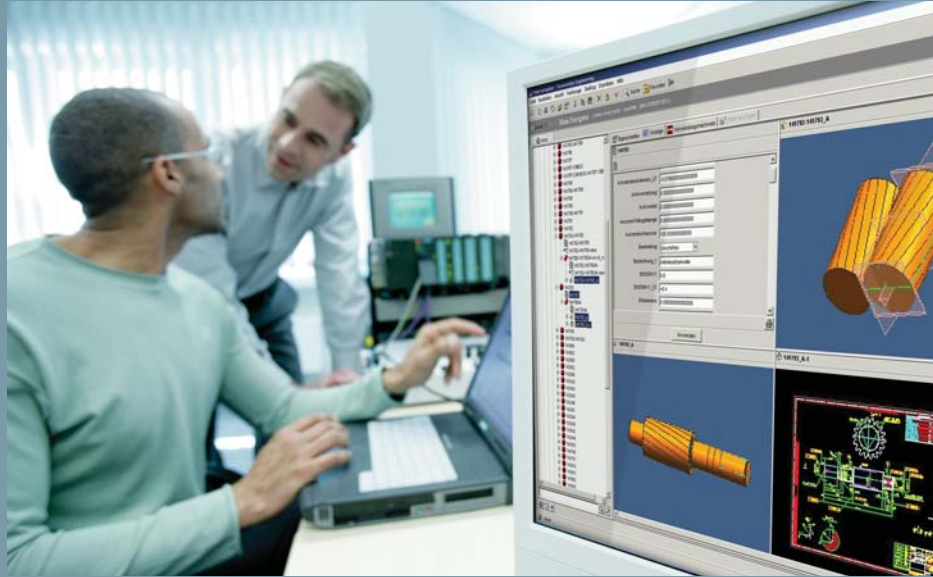
Siemens PLM Software offers product lifecycle management (PLM) solutions to build the right product and build the product right

ACUITY
Your engineering technology partner

[siemens.com/plm](https://www.siemens.com/plm)

SIEMENS

Today's industrial machinery industry



Increasing global competition requires industrial machinery companies like yours to continuously innovate and optimize their products. The need to capture and leverage fresh value-creating ideas from your own employees, as well as from your partners, customers and suppliers, extends today's innovation process beyond traditional boundaries.

Innovation has become a core driver of growth, performance, and valuation. You need to accelerate product delivery while ensuring a fast and appropriate return on your innovation investments. These goals are compounded by the fact that today's new product development process is comprised of hundreds of decision points and parallel work flows that now take place in a global context.

Siemens PLM Software addresses these realities by providing a product lifecycle management (PLM) platform that enables your company to flourish in this complex business environment, allowing you to build the right products and build your products right.

Business challenges

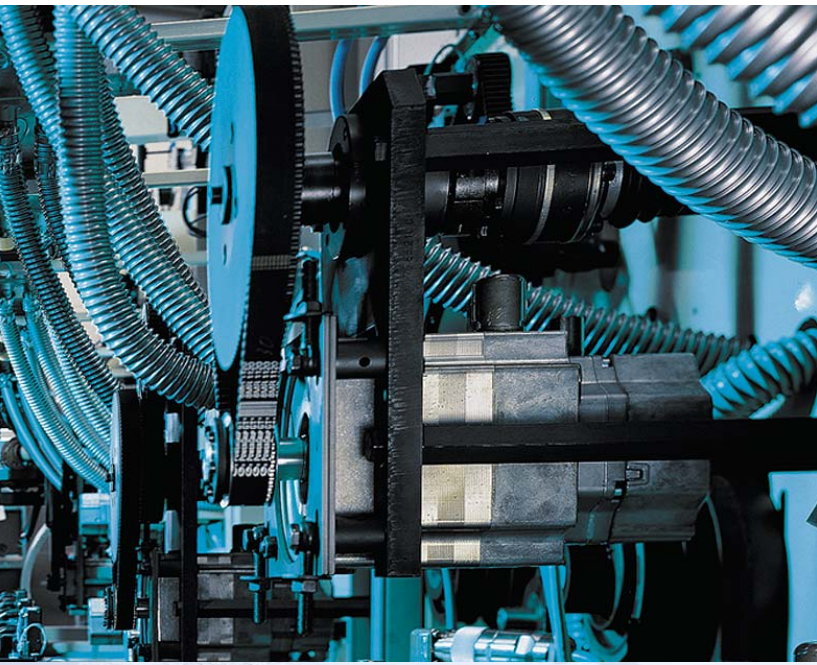


Industrial machinery manufacturers are constantly challenged to adapt to new circumstances. Many industrial machinery manufacturers find themselves facing an increasing number of new requirements, such as the demand for more flexible machines that can be rapidly adapted to new products or formats, as well as for machines that can be easily integrated into existing plants.

Another crucial challenge requires manufacturers to drastically reduce the time it takes to develop new machines, while ensuring that these machines can operate at close to 100 percent uptime.

Equally important, the basis of competition is shifting toward delivering excellence in service and parts management. Given these challenges, the following questions become key business issues.

- How do you ensure profitable growth in a globally competitive environment?
- How do you deal with the mounting pressure to improve operational performance while meeting escalating customer requirements?
- How do you improve the productivity of your new product development process so it can operate at a faster clock rate, deliver better and more constant product quality and minimize lifecycle costs?



Mastering complexity

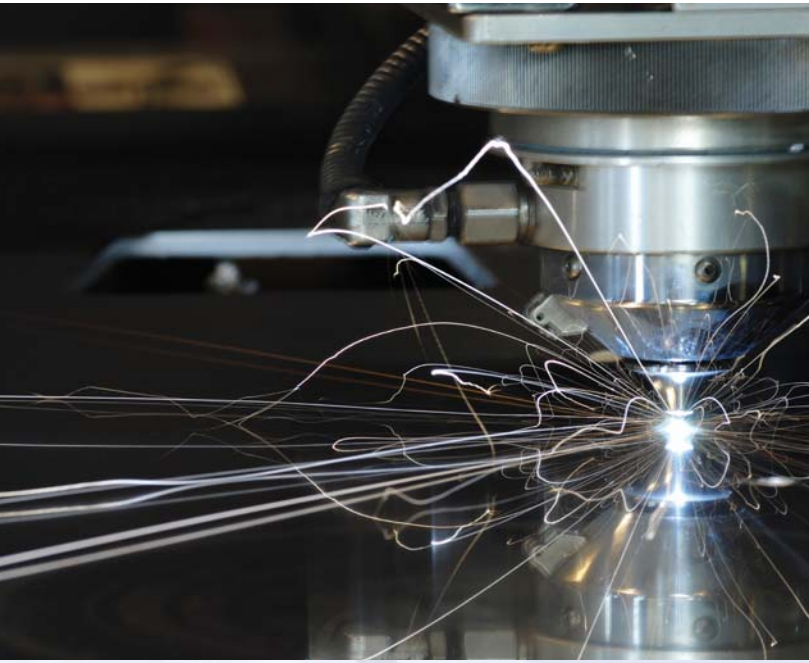
Globalization

New and emerging markets have generated strong consumer demand for manufactured goods, which in turn bolsters the demand for new manufacturing equipment. Industrial machinery manufacturers have responded either by following their customer base to these new markets or by forming new global sales and service partnerships and extended value chains to support these global clients. They also have tried to streamline their operations to provide products that are both high-tech and low-cost.

Industrial machinery manufacturers need to leverage these global opportunities, while at the same time finding the best way to compete with new global competitors by also leveraging low-cost manufacturing alternatives and adopting agile business practices that can support today's rising configure-to-order, make-to-order and design anywhere, make anywhere initiatives.

Optimization

Product innovation involves multiple work processes that require the participation of many disciplines working across organizational boundaries and collaborating with outside vendors to address the needs of targeted global markets. Much smarter configure-to-order and make-to-order processes and solid design anywhere, make anywhere solutions are needed. Accurate market alignment and on-time product delivery depend on total visibility into the status of your initiatives, the impact of change and identification of potential bottlenecks before they result in irreparable delay. Optimization of the plan-to-production process is essential for you to manage innovation complexity.



Speed

Constant technology innovation and customer demand for this technology combine to place extra pressure on today's industry machinery manufacturers. These pressures require manufacturers to add new features and capabilities to their machines at a very rapid pace. Additionally, non-negotiable contracts require manufacturers to deliver their machines precisely on time with no margin for error. These time-to-market requirements and their impact on your cycle times compound the complexity of today's product and production lifecycles.

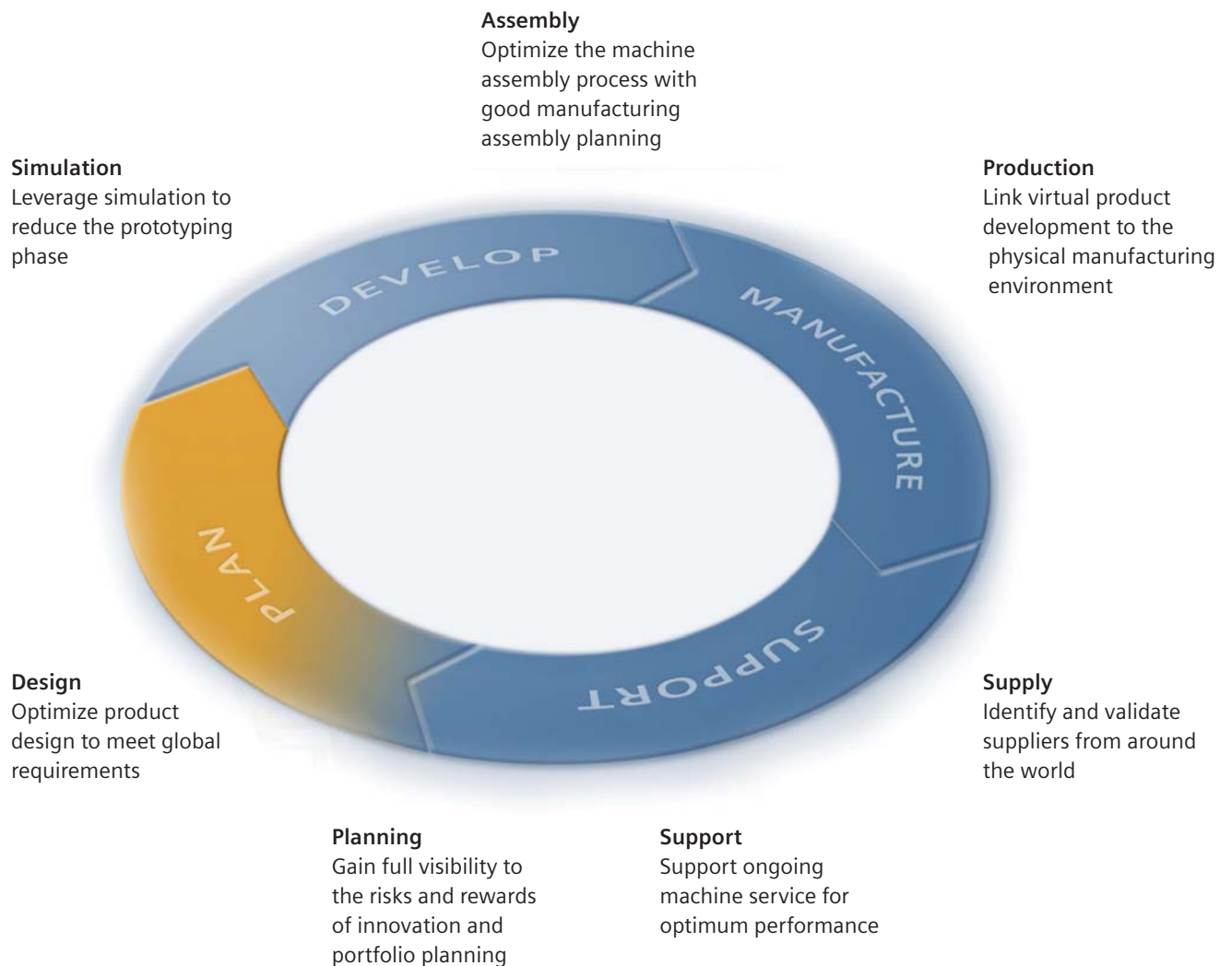
Sustainability

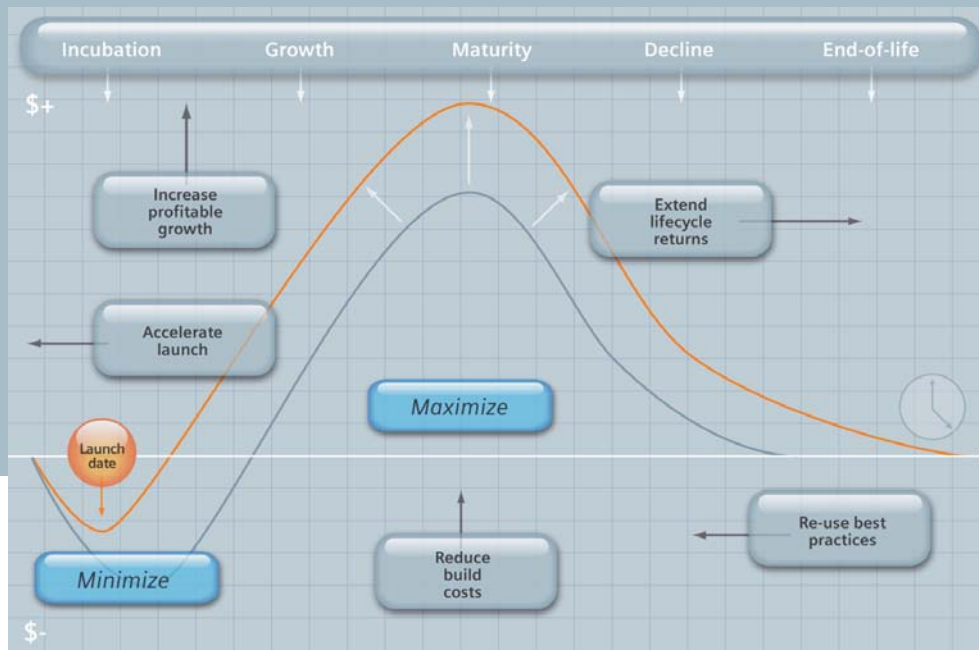
More than 90 percent of the lifecycle cost of today's machinery comes from actually running the machine. When you factor this in with the rising cost of energy, it is easy to see how innovative methods for making your machines more energy efficient deliver a significant competitive advantage. Today's manufacturers also want to establish this advantage by reducing the amount of waste (water, grease) that their machines produce. In addition, they try to adopt the best approach for recycling machine components/parts and for complying with today's voluminous government regulations. Finally, it is important to ensure worker safety by incorporating sensors and controls into today's machinery designs. All of these sustainability considerations combine to increase the complexity of the machine design and manufacturing process.

Product lifecycle management for the industrial machinery industry

Enabling the plan-to-production innovation process can be difficult. With industry-specific solutions from Siemens PLM Software, your company can begin the PLM journey at any step along the way and improve productivity right from the start. These solutions ensure greater certainty

in the development of mature machines, resulting in short commissioning times and more immediate productivity. You can solve a current pain point today while building a complete innovation platform step-by-step, reducing cost and creating value for your machine along the way.





PLM benefits for industrial machine manufacturers

Accelerate launch

You can reduce the number of prototypes and improve your speed to delivery. In addition, you can use a virtual machine to reduce setup time while operating your machine.

One of our customers leverages the power of a virtual machine to reduce its machine setup by 90 percent.

Increase profitable growth

You can deliver high margins from your machines by accelerating launch and establishing higher price points, as well as by reducing prototyping costs and facilitating concurrent global engineering and manufacturing to minimize cost.

A global leader in automation technologies used PLM to significantly improve the speed of its work processes and reduce product errors by providing all of its product development stakeholders with continuous access to the latest product information and enabling these users to make real-time changes that could be reviewed and audited.

Extend lifecycle returns

PLM enables you to streamline your design process to improve operational performance while adding innovative product content that enables your machines to meet escalating customer requirements for greater productivity and lower cost of ownership.

Our customers say that PLM provides them with visibility to other ideas and technology platforms that enable them to more quickly refresh their products with unique improvements.

Re-use best practices

You can leverage PLM's knowledge capture and workflow capabilities to ensure that your company's information assets are being re-used as much as possible.

By simply enabling its design engineers to select factory standard components through their CAD systems, one of our customers was able to accelerate design time, improve standardization and reduce the capital it tied up in unnecessary stock.

Reduce build costs

You can reduce product costs by minimizing the number of physical prototypes you build and simulating machine behavior and performance during the early stages of product development.

One of our customers removed a significant number of non-value added functions from its lifecycle processes and collapsed its product delivery cycle by leveraging PLM to adopt knowledge-driven manufacturing and incorporate proprietary programming know-how into re-usable templates.



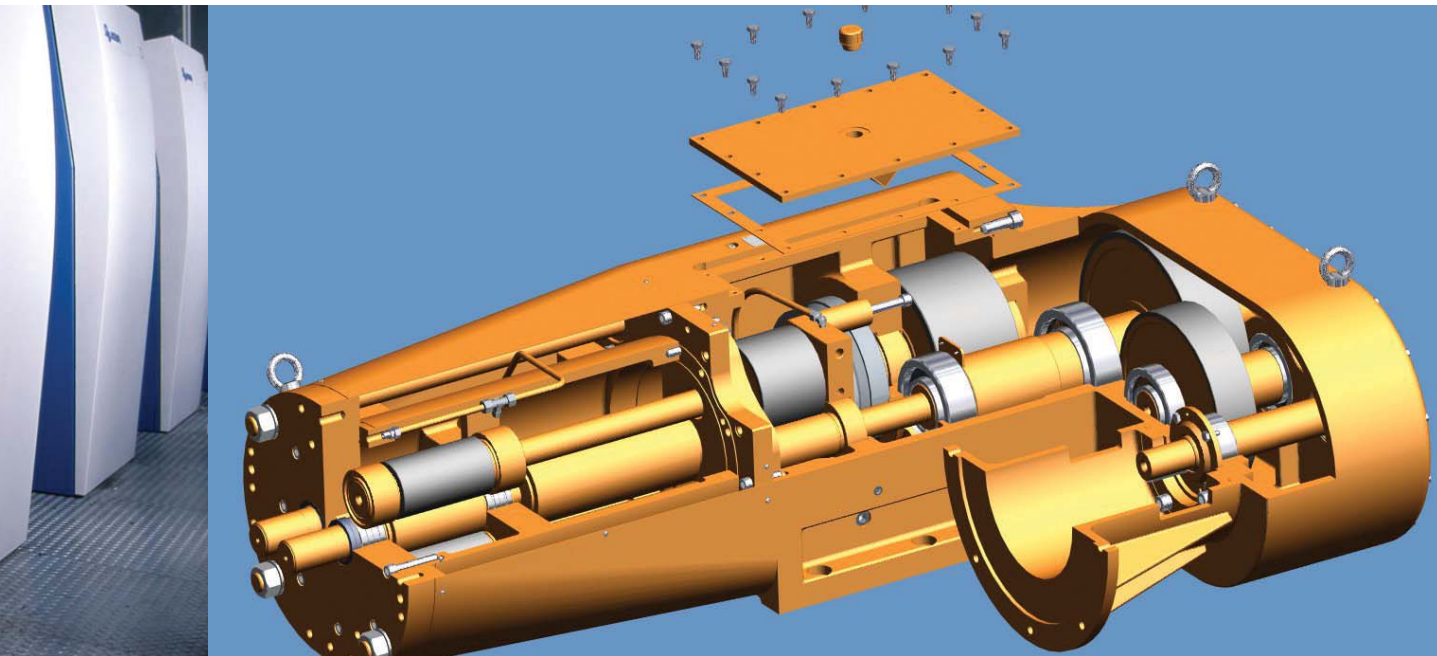
Build the right product and build the product right

Keys for building the right product and building the product right

How do you ensure that the right ideas – ideas that build the most business value – make it onto your machines? Siemens PLM Software provides industry-specific solutions on a PLM platform with the technology you need to build the right product and build the product right.

You can capture ideas from any source and give structure to the development of these concepts, resulting in better product portfolio decisions. PLM solutions facilitate superior execution of these ideas. They

make new machine requirements visible to every creator, specifier and stakeholder in your idea-to-delivery innovation process, helping to instill the discipline needed to build the product right the first time. With new integrated solutions, like the virtual machine, these challenges become significantly easier.



Transforming your process of innovation

For most companies, examination of the innovation process quickly determines the need for transformation. Successful innovation requires companies to facilitate open innovation, enable collaboration both inside and outside their organizational borders and instill discipline across their lifecycle processes. Siemens PLM Software provides a PLM platform, especially designed for industrial machinery manufacturers that unifies both the product and production lifecycles.

Siemens PLM Software is setting the pace with a future vision that delivers a new level of value to customers around the globe. By leveraging best-of-breed technologies for the product development and production lifecycles, your company will be able to share both product data and process knowledge and leverage simulation models to optimize these lifecycles before anything physical is actually built.

This strategy is especially value for industrial machinery makers who can leverage new PLM-enabled technologies like the virtual machine to virtually verify every aspect of your machine before you build it. This innovation has a tremendous impact on your ability to optimize your machines' manufacturing process (which minimizes your production costs), as well as maximize the operational performance of your machines, which improves their marketplace value.



Solutions for industrial machinery manufacturers

Global engineering and manufacturing

The strong global consumer demand for manufactured goods has boosted the demand for machinery equipment. When this demand is coupled with the need to leverage global product development and production resources, it is easy to understand the challenge faced by today's machine tool builders. To address this challenge, industrial machinery companies need to establish a global engineering and manufacturing platform that will enable them to design modular machines and support multiple machine variants.

In many cases, these platforms and variants are being developed by global design and engineering teams and manufactured by multiple plants around the world. These operations need to track project schedules, resource allocations, customer specifications and all of the product/process knowledge that is generated by a distributed value chain. With this requirement in mind, machine tool builders and their suppliers are turning to PLM technology as the basis to establishing a flexible collaboration environment that can facilitate global engineering and manufacturing.

PLM platforms are especially adept at extending your product design process with processes that enable you to perform real time analysis of the design intent and evaluate it from a production

perspective. Siemens PLM Software provides Teamcenter® digital lifecycle management solutions to enable you to build collaborative global engineering and manufacturing environments that facilitate:

- Globally distributed product development, which enables widely dispersed team members to work together in a highly iterative and systematically managed process
- Flexible manufacturing on a global scale, which enables companies to leverage manufacturing knowledge within the product development process
- Global supplier collaboration, which seamlessly connects suppliers into your lifecycle process without regard to their geographic location
- Virtual machine innovation, which enables product and production teams to visually validate machine performance from both behavioral and functional perspective





Solutions for industrial machinery manufactures

Mechatronics

Today's industrial machines are becoming more complex. Systems are more integrated, with a myriad of functions to prevent, track and issue system failure alerts. This trend is causing machine builders to take a holistic approach to design that encompasses systems engineering, as well as electrical, mechanical and software design. A holistic approach requires today's value chains to look at early system layout and system performance through hybrid 2D/3D layouts and digital engineering models.

Siemens PLM Software provides holistic solutions that enable you to realize this integrated process by communicating design changes throughout your operation's various functional disciplines. PLM facilitates a rich integrated product development environment that addresses the needs of all of these different disciplines with

a single source of product and process knowledge. This provides you with the clear transparency and traceability required to inform each discipline about the product and process definition changes that iteratively evolve across the product and production lifecycles. Siemens PLM Software's holistic mechatronics solutions enable your company to get it right the first time, reduce integration issues, lower the cost of engineering rework and speed up order delivery times.

Digital manufacturing

Siemens PLM Software provides comprehensive digital manufacturing solutions for machine tool builders, including virtual machines that can be used to assess and validate new machine tool designs. In addition, as an important validation step of the design process, virtual machines can further support the early development of computer numerical



control cycles (CNC cycles) and specific operator interface pages on the human-machine interface (HMI). Most importantly, this virtual replica of the machine tool can illustrate how a machine will operate – even before it is built.

Siemens PLM Software's unique combination of technology also provides great value for the end users of the machine tools.. The virtual machine can be used for many non-productive tasks, such as program testing, set-up checking and even operator training. Program code can be edited and changes verified right on the virtual machine, saving valuable time on the real machine.

With respect to part manufacturing, Siemens PLM Software provides Tecnomatix® digital manufacturing solutions to define and optimize a manufacturing plan that can subsequently be connected for execution on the shop floor. This highly efficient bridge between production planning and the shop floor

takes your manufacturing planning and production environments to new levels of efficiency, enabling you to reduce manufacturing cycle times and improve quality. In addition, the electronic delivery and automated entry of machine tool setup information increases confidence that the right manufacturing information and equipment are in the right place at the right time for production.

Serviceability

Seventy percent of a machine's lifecycle costs are incurred during its support. Globalization trends are increasing the need for service centers, hubs, and networks for equipment manufacturers around the world. Sustainability requirements are expected to increase demand for services to refurbish and/or integrate environmental control systems in existing machines.

In addition, during periods of economic decline, manufacturers tend to hold onto aging equipment longer. This practice increases the costs associated with service and maintenance, boosting revenues for service providers. In fact, there is a huge untapped profit potential in "non-captive" as well as "captive" markets. In spite of these trends, most companies are not even close to tapping their business potential.

Siemens PLM Software provides Teamcenter- driven maintenance, repair and overhaul solutions to integrate a machinery product's definition, configuration, and change history with its maintenance history. This enables service personnel to easily and accurately obtain information they need to perform maintenance planning, maintenance execution, materials management and logistics records management.

Industry advantages with Siemens PLM Software

Scalable

Large global companies need a collaborative platform that can scale to tens of thousands of users and suppliers in a single software instance without losing performance. Siemens PLM Software's enterprise PLM platform is designed for scalable use and quick information retrieval regardless of global location.

One of our customers is a large global provider of heat transfer, separation and fluid handling systems for oil, water, chemicals, foodstuffs and pharmaceuticals. The long geographic distances between its employees used to delay this customer's product development process. The company wanted to turn its globally dispersed workforce into a competitive advantage. By using PLM to integrate its global product development teams more effectively, the company now has a three-country, two-continent development process that provides extra work hours every day to its product teams. In turn, these teams use these time savings to speed time-to-market and increase market share.

Proven

Solutions from Siemens PLM Software are deployed by many of the world's largest companies, including some of today's most innovative industrial machinery builders. These companies rely on Siemens PLM Software's proven leadership in applying PLM technology to product and process innovation.

For example, experts at the world's best known sheet metal company need to resolve both simple and complex manufacturing issues for its clientele on a regular basis. This company uses its own application software to deliver customer-specific product solutions. However, the project-related process that the company employs to deliver these solutions needs to be both economical and acceptable to the individual customer.

To meet these twin needs, the company decided to combine a PLM-driven end-to-end digital product development platform with an enterprise-wide project and document management system. The resulting PLM implementation provides visibility to all of the company's divisional and functional data. As a result, the company has been able to deliver comprehensive user-accepted products, while significantly reducing the time its experts spend searching for project-specific information, leveraging this knowledge across multiple teams and converting this knowledge into saleable customer-specific products.

Open

Siemens PLM Software's service oriented architecture (SOA) is a PLM technology foundation that improves the flexibility of your existing IT investments and optimizes their value. By applying an effective SOA to your PLM system, your company can support more business capabilities, reduce IT complexity and accelerate IT implementation. This also enables you to re-use more applications via web services and better align your PLM initiatives with other business activity.



For example, Siemens PLM Software can provide integrations into your CNC and shop floor applications. These integrations enable you to reduce your time-to-market and manufacturing costs by minimizing your need for prove out and first-article machine trails. They also facilitate highly accurate cycle times that ensure reliability of your validation process by significantly reducing non-productive time and re-equipping time on the machine tool. Similarly, these integrations reduce testing on the real machine, while facilitating parallel simulation, correction and verification of the next job.



Answers for industrial machinery manufacturers

Siemens is one of the world's largest and most respected companies, operating in more than 190 countries and employing over 400,000 people. This scope and experience provides Siemens with a unique understanding of the industrial machinery industry's global business requirements. Siemens technologies help bring together product and production lifecycles, facilitating unprecedented speed to market for industry-leading companies around the world.

Siemens PLM Software is helping its customers deliver increasingly more complex machinery in a marketplace that requires high reliability, short order delivery cycles, improved total cost of ownership and lower product development costs. A unified industrial PLM platform that

brings the virtual and real worlds together facilitates an efficient bridge between production planning and the shop floor. This bridge delivers strategic advantages by providing innovation capabilities especially tailored for machine tool builders. The connection of the virtual and real world significantly improves cross-discipline collaboration while facilitating better and more accurate finished products as well as faster time-to-market and faster time to full deployment.

Let Siemens PLM Software transform your process of innovation. For more information, contact your local sales representative or visit www.siemens.com/plm/machinery.

About Siemens PLM Software

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a leading global provider of product lifecycle management (PLM) software and services with nearly 6.7 million licensed seats and 63,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with companies to deliver open solutions that help them turn more ideas into successful products. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.



www.acuityinc.com ■ info@acuityinc.com
Main Office: 7320 SW Hunziker Street, Suite 205 Tigard, OR 97223
Toll-free: 888.747.0850 ■ Direct: 503.747.0850 ■ Fax: 503.747.4269

Siemens PLM Software

Headquarters

Granite Park One
5800 Granite Parkway
Suite 600
Plano, TX 75024
USA
972 987 3000
Fax 972 987 3398

Americas

Granite Park One
5800 Granite Parkway
Suite 600
Plano, TX 75024
USA
800 498 5351
Fax 972 987 3398

Europe

3 Knoll Road
Camberley
Surrey GU15 3SY
United Kingdom
44 (0) 1276 702000
Fax 44 (0) 1276 702130

Asia-Pacific

Suites 6804-8, 68/F
Central Plaza
18 Harbour Road
WanChai
Hong Kong
852 2230 3333
Fax 852 2230 3210

www.siemens.com/plm

© 2010 Siemens Product Lifecycle Management Software Inc. All rights reserved. Siemens and the Siemens logo are registered trademarks of Siemens AG. D-Cubed, Femap, Geolus, GO PLM, I-deas, Insight, Jack, JT, NX, Parasolid, Solid Edge, Teamcenter, Tecnomatix and Velocity Series are trademarks or registered trademarks of Siemens Product Lifecycle Management Software Inc. or its subsidiaries in the United States and in other countries. All other logos, trademarks, registered trademarks or service marks used herein are the property of their respective holders.

18975-X25 7/10 A