Modular Machine Design – a Strategy for Companies of All Sizes

Solution brief
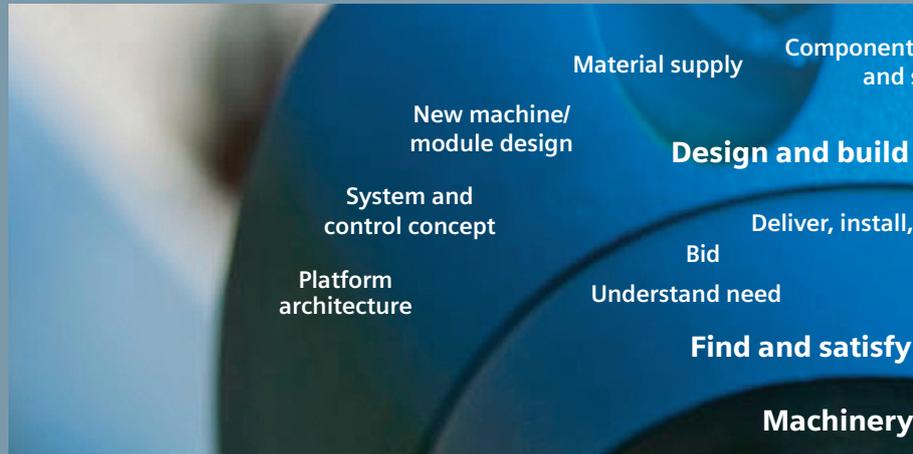
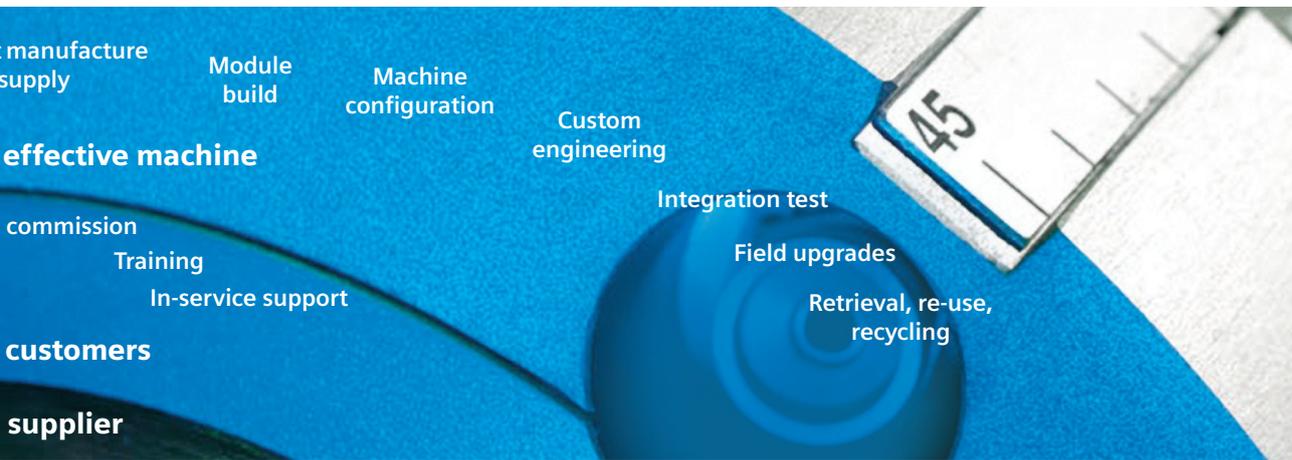## machinery

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Machinery industry solution brief

Manage complexity, and you will be able to offer today's machinery customers the performance, price, flexibility and service they need.

Material supply

Component
and

New machine/
module design

Design and build

System and
control concept

Deliver, install,

Bid

Platform
architecture

Understand need

Find and satisfy

Machinery

manufacture
supply

Module
build

Machine
configuration

Custom
engineering

effective machine

Integration test

commission

Field upgrades

Training

In-service support

Retrieval, re-use,
recycling

customers

supplier

Rapid, sustained development is a fact of life for machinery (including industrial equipment) manufacturers. Business success requires new ways to improve efficiency, focus on the customer and win business.

Machinery suppliers must offer new capabilities at lower cost. New capabilities mean additional complexity – in products, manufacturing, supply and service. This complexity can create cost and delay.

To manage complexity, companies of all sizes develop modular products based on common platforms.

This strategy – modular machine design – not only manages complexity, but also offers improvements in cost, speed, quality and performance that endure for many years.

How can Siemens help?

Siemens' solutions provide the integrated engineering environment needed by machinery companies. These solutions enable multi-disciplinary teams to collaborate and investigate more alternatives. The result is more innovation, better modularization, improved re-use and a quicker development cycle. You manage complexity and meet changing market needs.

For machinery companies, an integrated product and process information environment must provide:

• End-to-end data management – consistent datasets, managed workflows and easy re-use
• Design and simulation – from individual components to integrated machines, at every lifecycle stage
• Easy deployment and integration – configurations that work out-of-the-box and support the complete development process

Novel materials for
new performance

Efficient use
of energy

Error-free operation
in harsh conditions

High performance
with maximum yield
and minimum waste
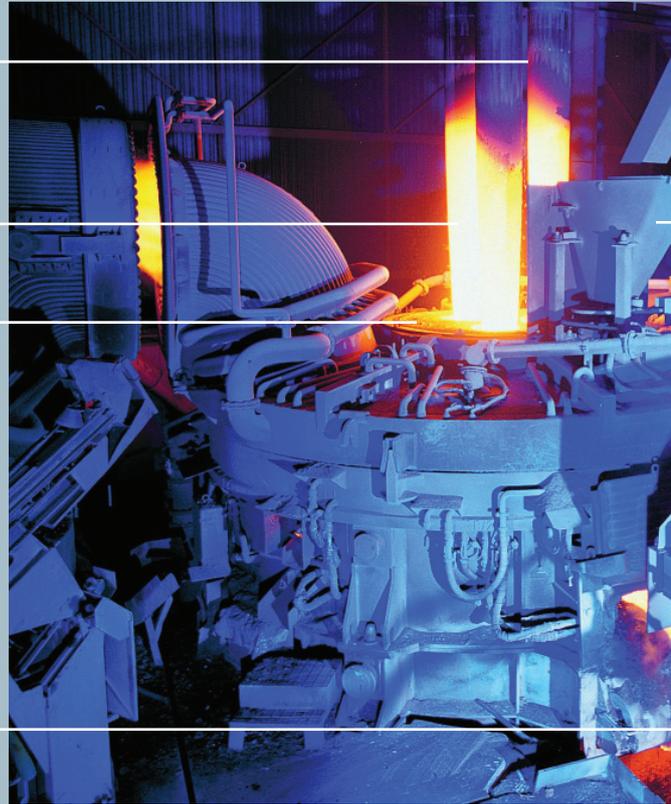
Siemens offers world-class PLM technology including three capabilities which are critical to machinery companies, and key to modular machine design.

Siemens' easy-to-use solutions are suitable for companies of all sizes. Configurable modules work both independently and integrated with other information technology applications.

1   End-to-end data management

Eliminate barriers to communication. Create a single seamless environment to give R&D, design, manufacturing and other groups immediate, controlled access to up-to-date product and process information.

Design engineers can collaborate with colleagues both in-house and in the supply chain. Sales specialists can use reliable, up-to-date information to work with customers. Confusion and delays become a memory, not a daily occurrence.

Siemens offers capabilities to bring together structured and unstructured information, and, if necessary, enforce workflow rules. Where needed, tight coupling between technical design information and other data can be maintained.
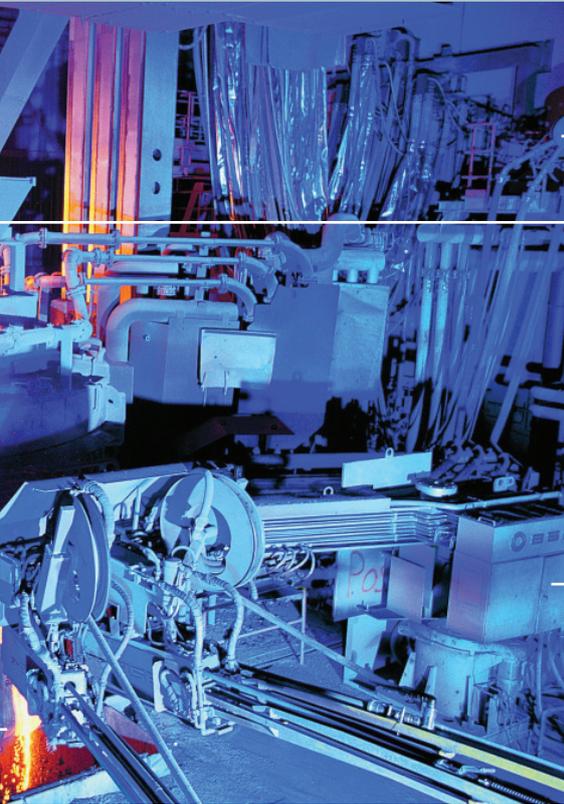
Integration with
pre-existing
equipment

Standard
components

Controls
to enable
unattended
operation
and remote
monitoring
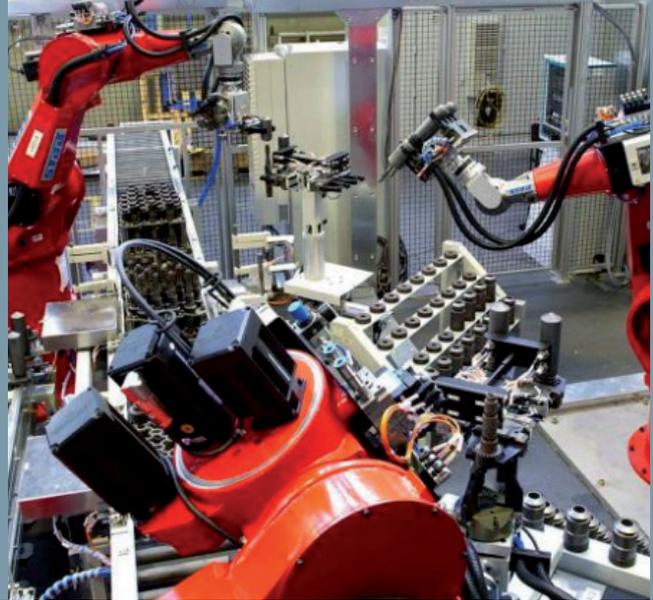
People can find, work with and communicate accurate, up-to-date information. This allows effective use of strategies from systems engineering and modular design to common platform development and re-use optimization.

Siemens end-to-end data management helps every size of project. A small team at a single site shares consistent data. People involved in a globally dispersed, multi-company collaboration know everyone is using the right information.

2 Design and simulation

Siemens offers capabilities to create and use the information that defines:

• Products
• Manufacturing processes
• Service procedures

Requirements, architectures, general layouts, detailed designs and supporting documents are coupled with simulation and analysis across the multiple technologies of machinery. Engineers validate and optimize new designs and variants without building time-consuming, expensive prototypes.

For machinery companies, this capability must work at every scale – from stress analysis of a critical component, to simulation of the process that will be

used to build a machine, and review of the operation of a configured machine. This releases maximum value from product and process information. For example, manufacturing engineers can review production processes for individual components; sales specialists can create the dynamic simulations and performance estimates expected by machinery buyers.

The result is a solution that allows engineers to address the full range of customer requirements. They can meet expectations and simultaneously develop insights leading to new technologies, architectures, platforms and modules.
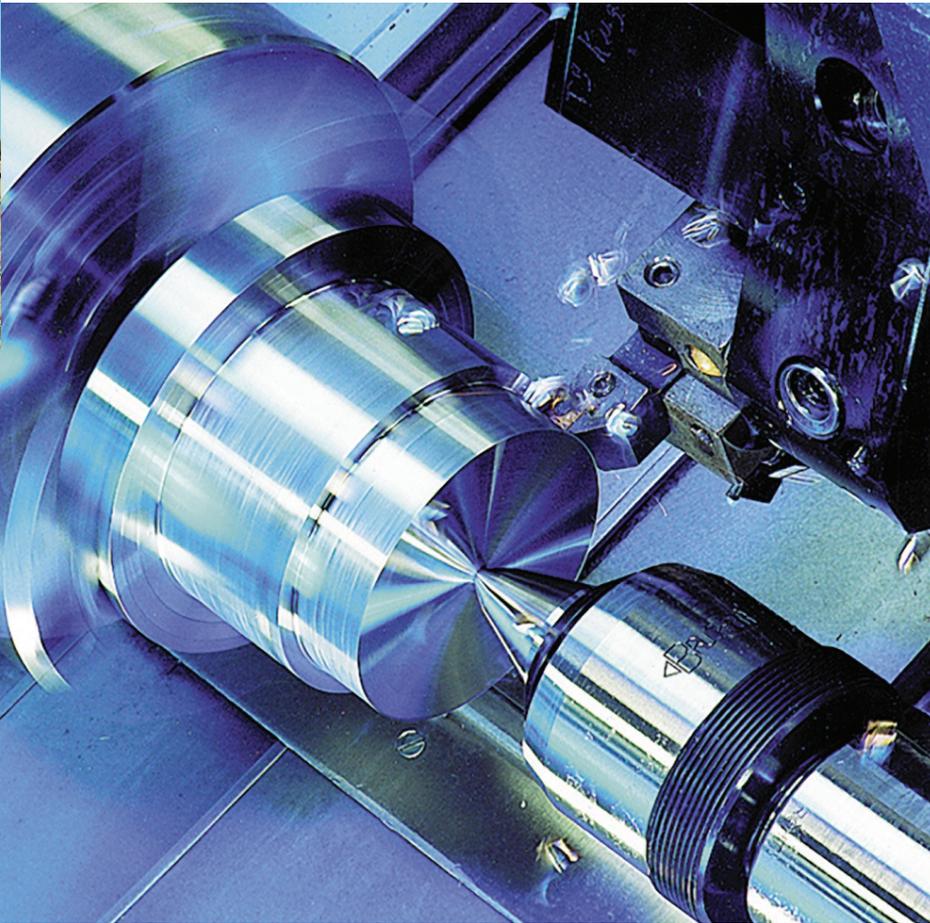
3   Easy deployment and integration

With a familiar user interface that simplifies learning and ease of use, Siemens' solutions gain rapid user acceptance. This reduces deployment costs, and encourages quick-win projects. Role-based interfaces provide multiple, integrated graphics and text views. If necessary, users can fine-tune their environments and adapt to their specific requirements.

Siemens' solutions connect to other information technology solutions and databases using standard and custom integrations that simplify operation and maintain error-free information flow.

The result cuts through complexity. Users access the right information in the right context. Collaboration is simplified. Quick, accurate decisions are made. Actions are immediately communicated around the team. Every response to every requirement and change can take account of all important factors.

Siemens' professional services are available globally, helping roll out solutions and achieve maximum impact as quickly as possible. Integrating industry know-how with a full range of product training and support services, Siemens offers machinery companies complete solutions.

The bottom line

Siemens PLM Software offers easy deployment and integration of capabilities to create and manage product and process information. Whether for one engineering office, or a globally distributed network of facilities and partners, Siemens PLM Software scales to meet the need.

For machinery companies of all sizes, Siemens PLM Software enables designers and engineers to innovate and collaborate. The goal – optimum architectures, layouts and designs for modular machinery – gets closer. The result is better products, delivered sooner, at lower cost.

How do I get started?

Contact your Siemens PLM Software representative today. We look forward to understanding your needs and helping your company experience the benefits of modular machine design.

www.siemens.com/plm/machinery

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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 4.6 million licensed seats and 51,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software's open enterprise solutions enable a world where organizations and their partners collaborate through Global Innovation Networks to deliver world-class products and services. For more information on Siemens PLM Software products and services visit *www.siemens.com/plm*.