

The background of the top half of the page is a photograph of a complex industrial machine, likely a robotic assembly line or a precision manufacturing station. It features various components like pipes, cables, and mechanical parts, with a prominent blue robotic arm or conveyor system in the foreground. The lighting is bright, highlighting the metallic surfaces and the intricate details of the machinery.

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Siemens PLM Software

Advanced machine engineering for industrial machinery

Reduce development time, mitigate delivery risk, enhance innovation

“With this technology, customers are able to deliver their machines faster with higher quality automated solutions. For example, their commissioning time on a real machine could be reduced up to one-third of the original time.”

Thomas Strigl
CEO
ISILOG
Engineering Service Provider
Siemens PLM Software Partner

To be successful in today’s global industrial machinery market, you need to build machines that are smarter, more flexible and easier to maintain. The market demands maximum up time not only on a day-to-day basis, but also expects machines to remain productive for decades. The new reality for machine builders is that their engineers need to collaborate more in order to make complex decisions with less time to get it right. Product lifecycle management (PLM) addresses this reality by enabling you to receive the right information and make the right decisions.

The way forward, Advanced Machine Engineering, is an approach that enables you to more easily re-use designs and best practices, and connects the virtual design with the real commissioning during the development of new machines. With this approach, the entire machine – every part,

control, operation and all associated software and the machine commissioning process – is simulated before the machine is even built.

Instead of waiting until the machine is on the shop floor to program and test controls software, the behavior of the machine can



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be tested, refined and optimized concurrent to the machine design or assembly in the shop floor. This virtual commissioning enables you to resolve any issues between machine design and PLC code design so when the machine is installed, there are no surprises. It can be up and running for the customer as quickly as possible.

A platform for modular, multi-disciplinary machine engineering

Advanced machine engineering effectively establishes a concurrent, multidisciplinary engineering platform, allowing the development of modular systems that can be configured and confidently assembled to meet your customers' demands.

This approach enables you to connect the mechanical, electrical and software engineering data that ends up in a complete, virtual machine on your desktop that you can test and validate during the development process. You can discover and agree with your customer on what works – and what doesn't – at a stage in the product development process when the cost of making changes is at a minimum. And you speed up both your time-to-market and your customers' time-to-value.

Benefits:

- Enable concurrent, multidisciplinary collaboration
- Optimize iterative system design and verification
- Capture and re-use institutional knowledge, configurations and best practices
- Achieve early concept and mechatronic validation
- Reduce physical prototypes and increase confidence in your commissioning process
- Reduce development time, delivery risk and costs

The Siemens solution for advanced machine engineering, from design to controls

Siemens PLM Software supports the development of industrial machines with a full suite of CAD/CAM/CAE solutions. Our NX™ software enables you to virtually design and commission industrial machines within an integrated environment. We also provide Teamcenter® software, the world's most widely used PLM system that assists you with requirements management, management of design information, and regulatory compliance.

Siemens AG completes the Advanced Machine Engineering solution with a full portfolio of CNC machinery solutions: the SINUMERIK product line, providing intelligent solutions that help increase productivity and efficiency while simplifying the production process.



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