

The Siemens logo is displayed in a bold, teal, sans-serif font in the top right corner of the slide. The background of the slide is a photograph of an industrial manufacturing plant with various machinery and pipes.

SIEMENS

SIEMENS PLM Software Announcement

Dr. Helmuth Ludwig

President
Siemens PLM Software

© 2010. Siemens Product Lifecycle Management Software Inc. All rights reserved
Siemens PLM Software




Momentum in integrating product and production lifecycles

Integrating product and production lifecycles with:

- Virtual commissioning
- Virtual machine
- PLM and Manufacturing Execution Systems (MES)
- PLM and Plant Design (Comos)

Siemens PLM Software Business Unit of Siemens Industry Automation



Sector	Divisions	Units
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Industry</p> 	<ul style="list-style-type: none"> ■ Industry Automation ■ Drive Technologies ■ Building Technologies ■ Osram ■ Industry Solutions ■ Mobility 	<ul style="list-style-type: none"> ■ Siemens PLM Software ■ Automation Systems ■ Sensors & Communications ■ System Engineering ■ Low-Voltage Controls
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Energy</p> 	<ul style="list-style-type: none"> ■ Fossil Power Generation ■ Renewable Energy ■ Oil & Gas ■ Energy Service ■ Power Transmission ■ Power Distribution 	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Healthcare</p> 	<ul style="list-style-type: none"> ■ Imaging & IT ■ Workflow & Solutions ■ Diagnostics 	

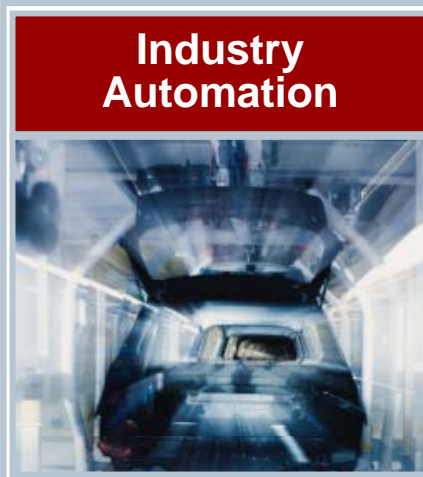
Industry Automation Division focus areas

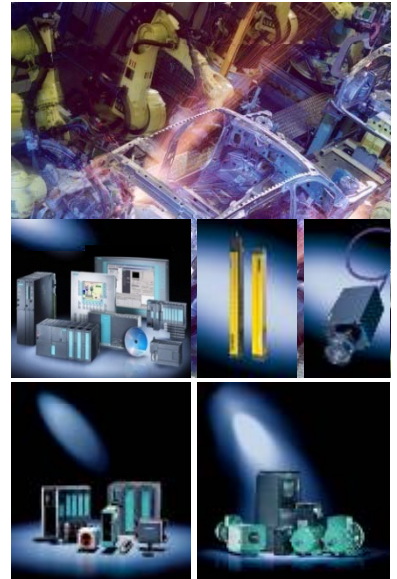

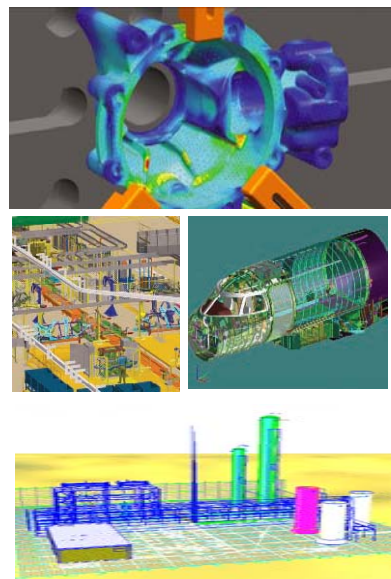


CEO
Anton S. Huber

Industry Automation Division

Optimize entire value-chains of manufacturing companies from product design and development to production, sales and service






Manufacturing Automation	Process Automation	Industrial Software
		



Siemens Industry Automation Offers all Core Elements of the Global Industry Software Market



Industry Software in 2009: € 16.9 Billion market with 5 year CAGR of 9%*

CAx	cPDM	DM
Computer-aided design and engineering	Collaborative product data management	Digital manufacturing
		
NX, SOLID EDGE	TEAMCENTER	TECNOMATIX

IA is integrating and expanding its software offerings

Plant Design	Manufacturing execution
From engineering to operations	Manufacturing efficiency and productivity
	
COMOS	SIMATIC IT

UNMATCHED COMPETITIVE DIFFERENTIATION

Siemens Industry Automation Offers all Core Elements of the Global Industry Software Market



Synchronous Technology:
"one of the most important, groundbreaking technical advancements in 3D solid modelling in over twenty years."
 CPDA

NX, SOLID EDGE

Teamcenter is one of the most proven, scalable, open PLM platforms that can be easily extended as needed."

ARC

TEAMCENTER

"...Siemens PLM Software's Tecnomatix® software has firmly established itself as the market leader in this category."
 CIMdata

TECNOMATIX

"[...] Siemens is now unique among automation suppliers, because it has this PLM and engineering capability for both the process and the discrete industries."
 ARC Advisory Group

COMOS

"SIMATIC IT technology and libraries have a potential for high ROI and low cost of ownership."
 ARC Advisory Group

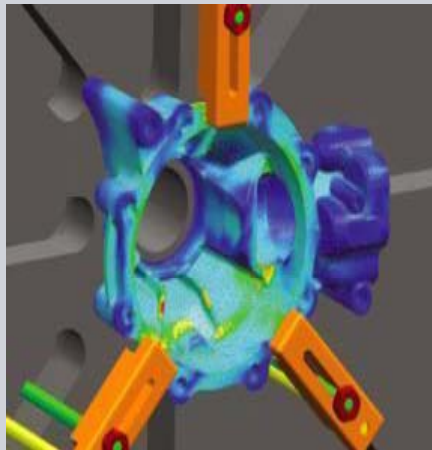
SIMATIC IT

UNMATCHED COMPETITIVE DIFFERENTIATION

Siemens industry software solutions: Innovate and improve confidence virtually

SIEMENS

**Prove PRODUCT
virtually...**



**Prove BUILD
virtually...**



**Prove COST
virtually...**



REQUIREMENTS

MODELLING

ANALYSIS

VALIDATION

**CHANGE
MANAGEMENT**

KNOWLEDGE

DATA MANAGEMENT FEEDBACK LOOP...ACCELERATE PRODUCT LAUNCH

Siemens Industry Automation Vision

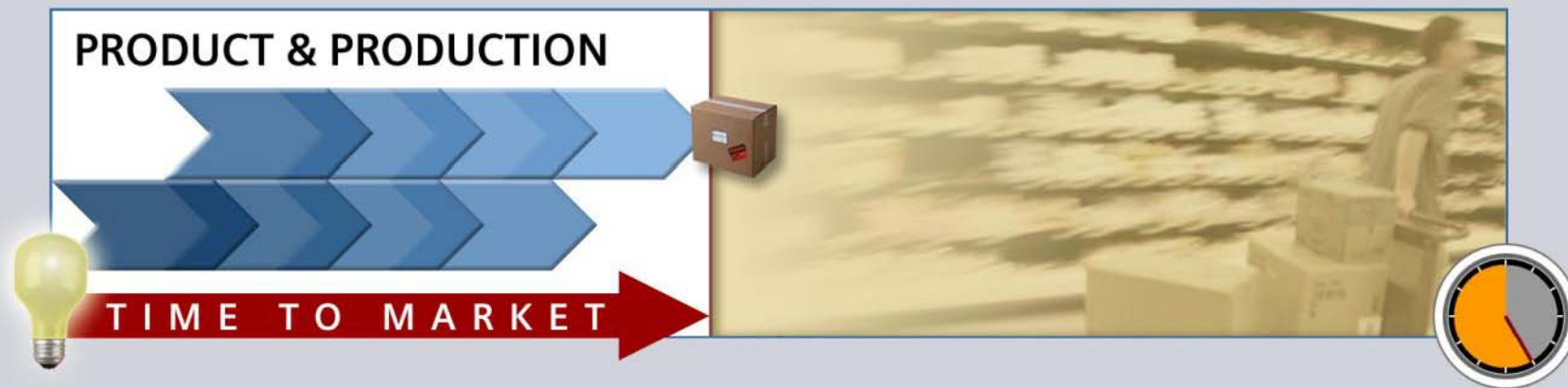
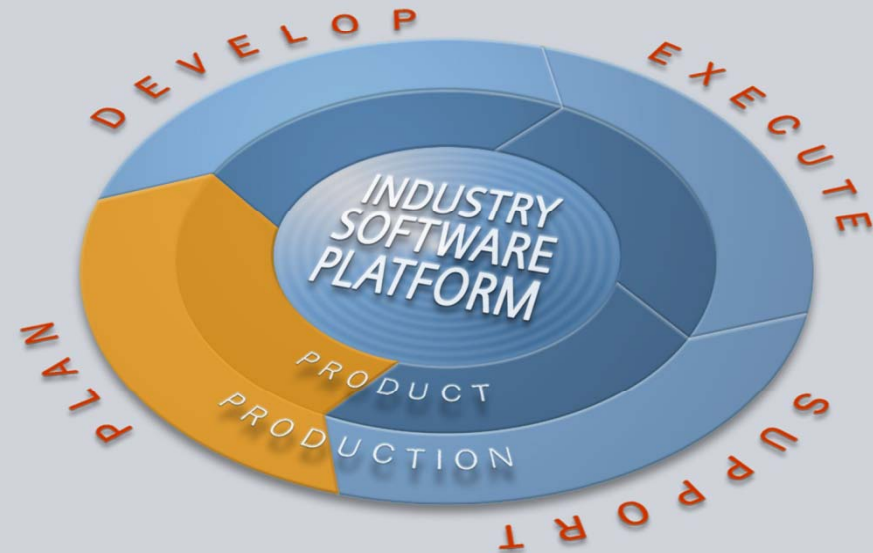
Unify Product & Production

SIEMENS

Siemens strategy:

Create intelligent product & production lifecycle

- Merge virtual with physical worlds
- Establish a digital platform for the unified lifecycles
- Share knowledge between unified lifecycles



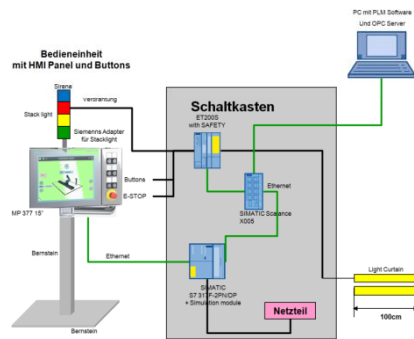
© 2010. Siemens Product Lifecycle Management Software Inc. All rights reserved

Integration of Product and Production Lifecycles

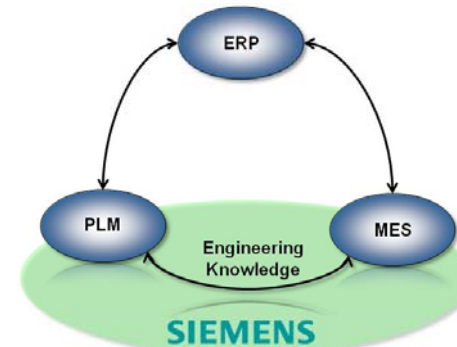
View Solutions in Hall 17



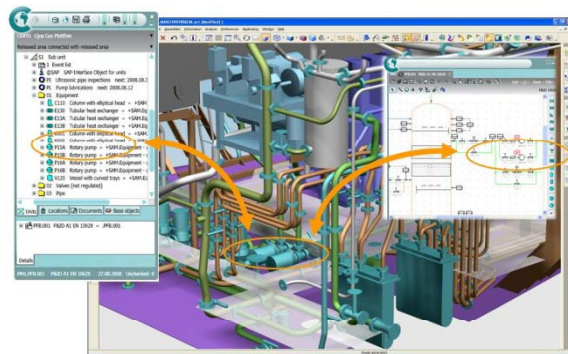
Virtual commissioning



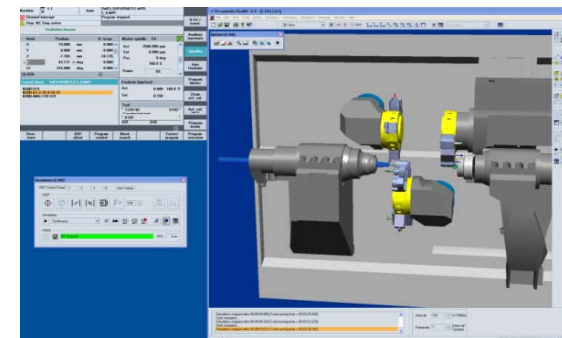
PLM and MES



PLM and Plant Design



Virtual machine



Virtual Commissioning

Integration of virtual environment with physical cells

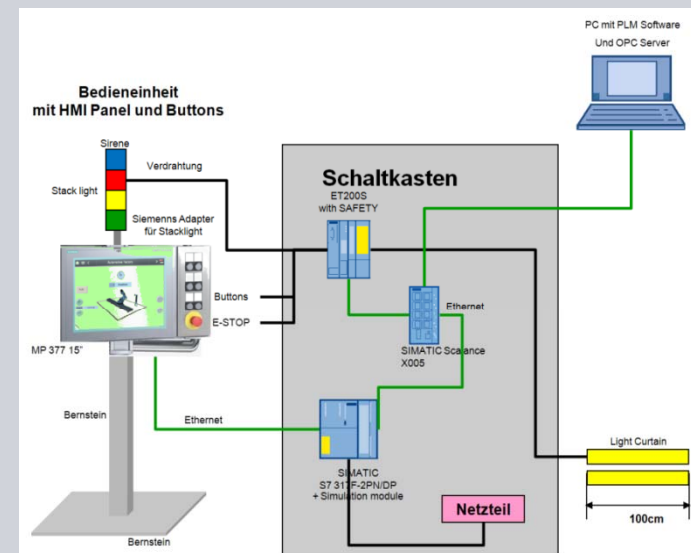
Siemens PLM Software – Process Simulate Commissioning

Siemens SIMATIC Hardware

- MP 377 15" - HMI
- SIMATIC S7 317F-2PN/DP
+ Simulation module

Typical Plant Floor Peripherals

- Fencing
- Light Screen



Virtual Commissioning

Benefits of the integrated solution

Communication platform

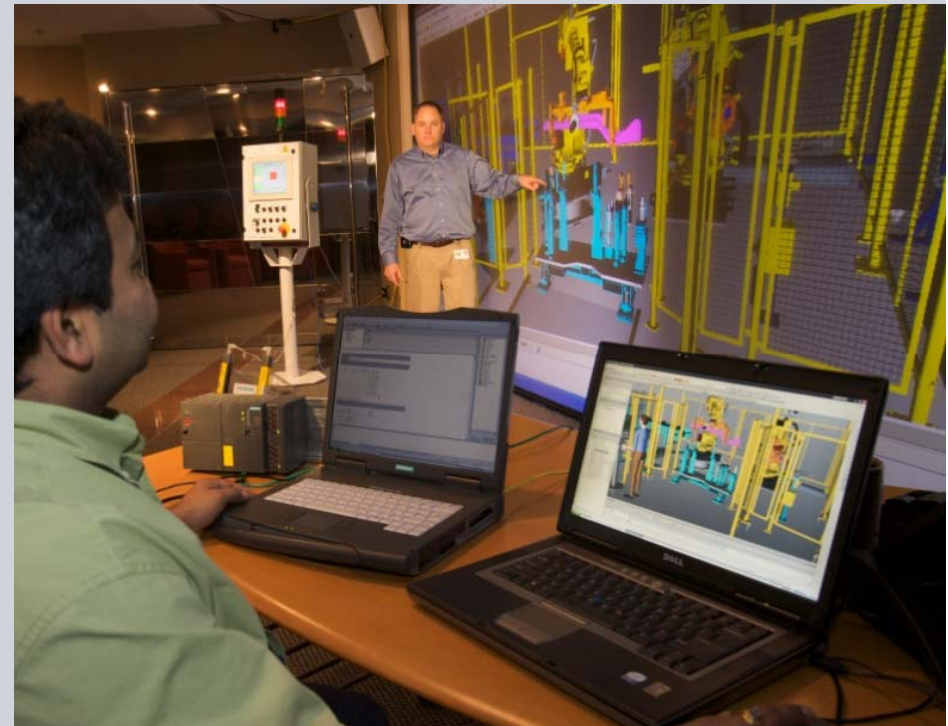
- Compresses time and increases savings across Manufacturing, Electrical and Automation Engineering

Hybrid simulation of controls and sensing equipment

- Reduces worker and automation related safety issues
- Reduces energy consumption through virtual validation

Integration and installation

- Reduces expensive changes during plant integration
- Reduces risk as system capabilities are achieved quickly resulting in faster time to market
- Reduces time of automation commissioning up to 30%



Benefits of Virtual Commissioning

EBZ SysTec GmbH

SIEMENS

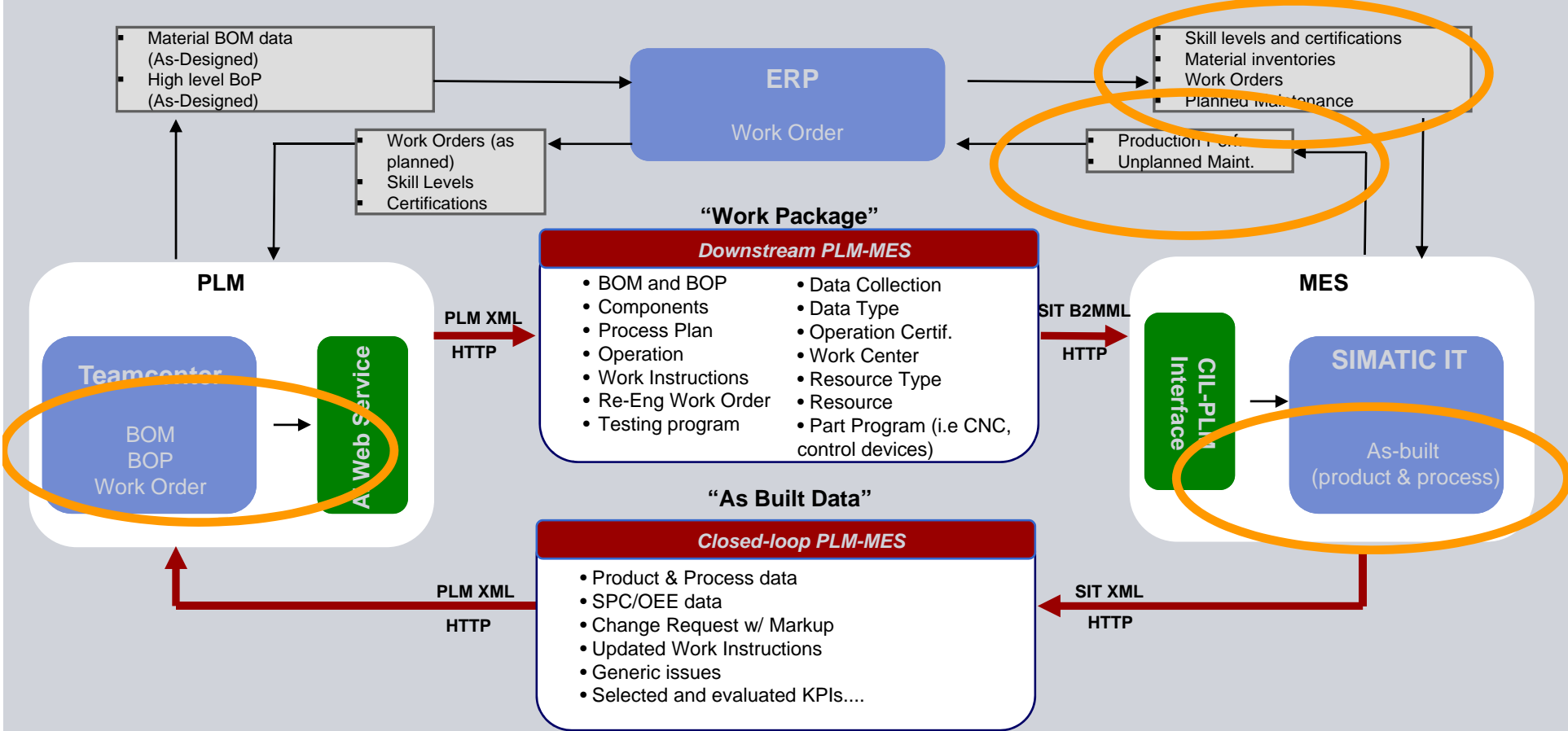
“Early collaboration between Engineering Design, Electronics and Robot Programming means time-critical conversion phases can be implemented on time. This gives us time benefits of up to 30 percent compared with the traditional process.” - Alexander Schmeh, Managing Partner , EBZ SysTec GmbH

Reduced risk and increased speed by

- Defining systems virtually
- Planning systems virtually
- Validating systems virtually
- Optimizing system virtually and
- Documenting systems virtually before starting production

PLM and Manufacturing Execution System (MES)

Tighter integration among PLM, MES and ERP



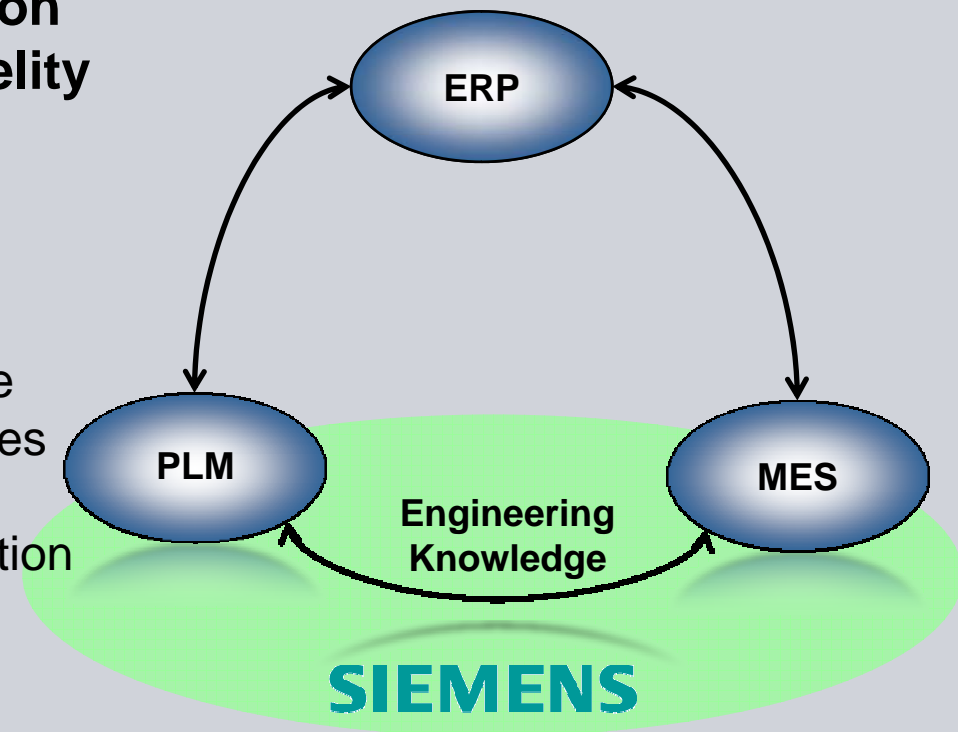
PLM and MES Integration

Benefits of the Integrated Solution

SIEMENS

Improve engineering planning, production ramp-up and production runtime by providing a higher fidelity of information flow between PLM, MES and ERP

- Increase productivity by enabling engineering to validate changes on the engineering floor and reuse experiences from production floor
- Improve ramp to value through simulation prior to physical commissioning
- Ensure higher quality by validating as-planned (PLM) versus as-built (MES)
- Ensure production orders (ERP) are executed (MES) to the proper bill of process (PLM)



Benefits of PLM and MES Integration

Rolls-Royce

SIEMENS

Higher engine quality and lower costs from a highly available global solution

- Enhance manufacturing engineering productivity
- Minimize scrap by eliminating incorrect WIPs/ routes
- Improve product quality and repeatability
- Easier to comply with regulations
- Streamline change process

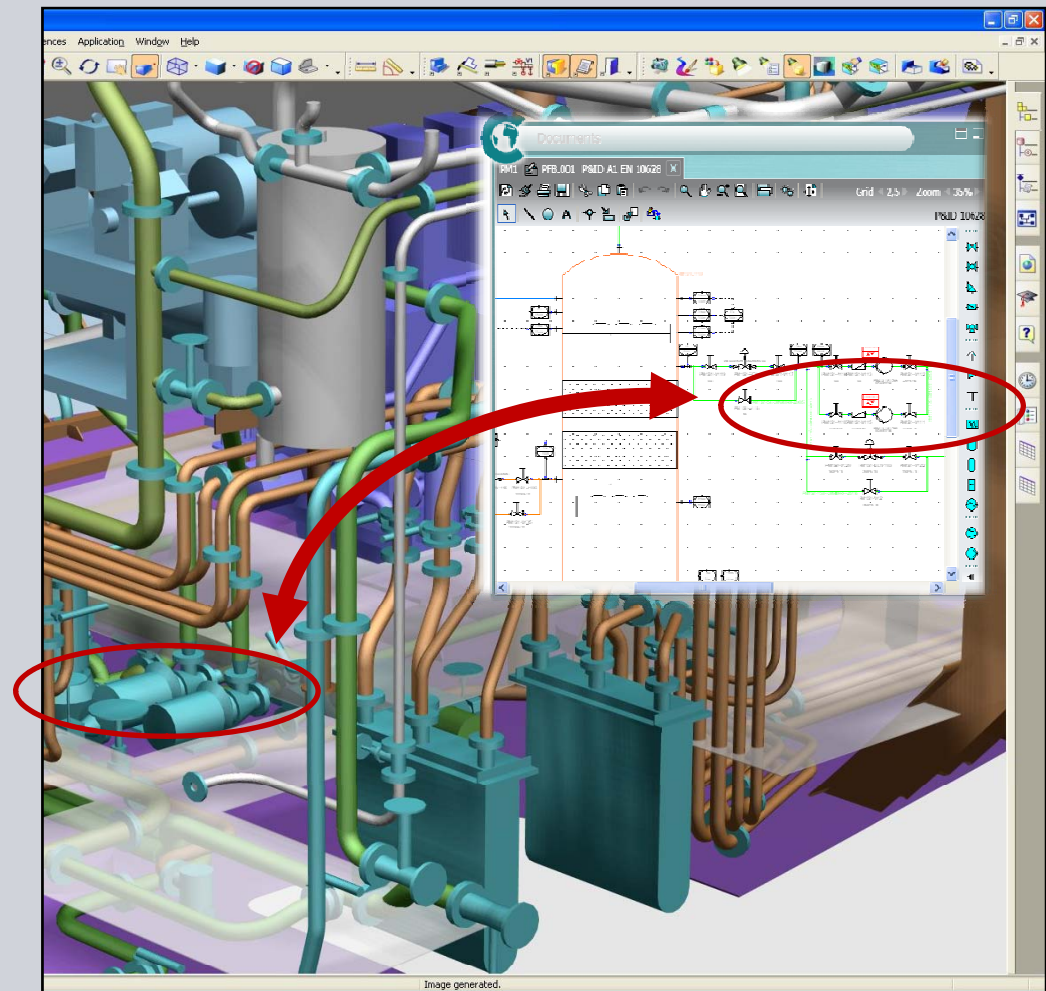


Comos and PLM

Integration of product and process lifecycle



- The only comprehensive solution that spans product, equipment and process design, automation engineering, and operations management
- Management of the entire product and process lifecycle
- Seamless integration between process simulation and automation design solutions



Comos and PLM

Benefits of the integrated solution

- Faster time to plant operations through concurrent engineering with product, equipment, and plant design; automation and simulation
- Highest quality throughout the plant lifecycle ensured by single source of the most up-to-date information for engineering, automation and operations
- Increased reuse of plant and process knowledge





Navigator

RUN_POSITION

NPS

DESCRIPT

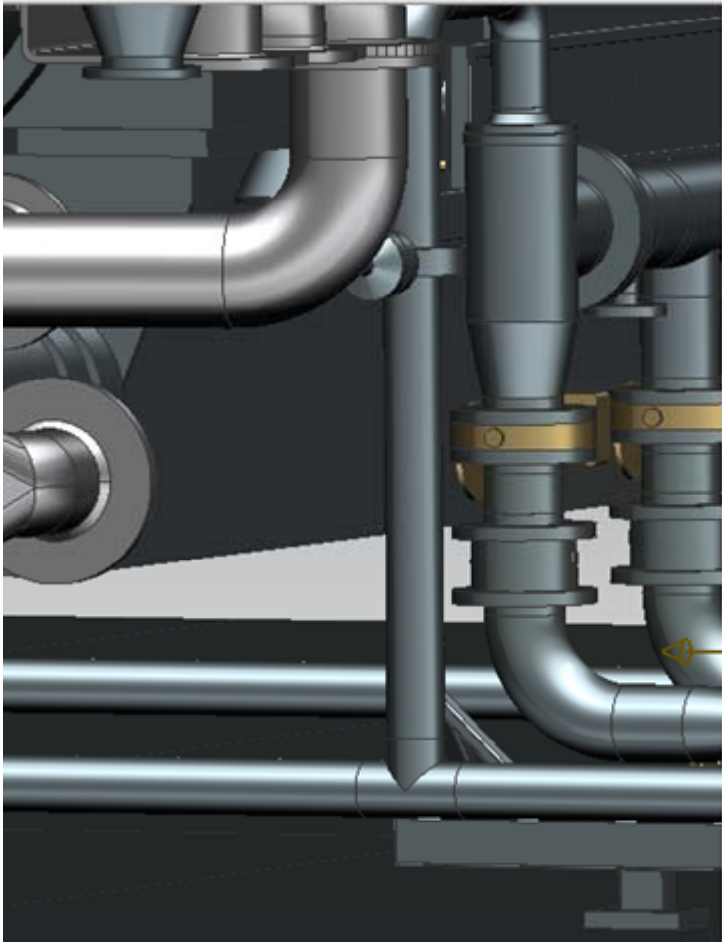
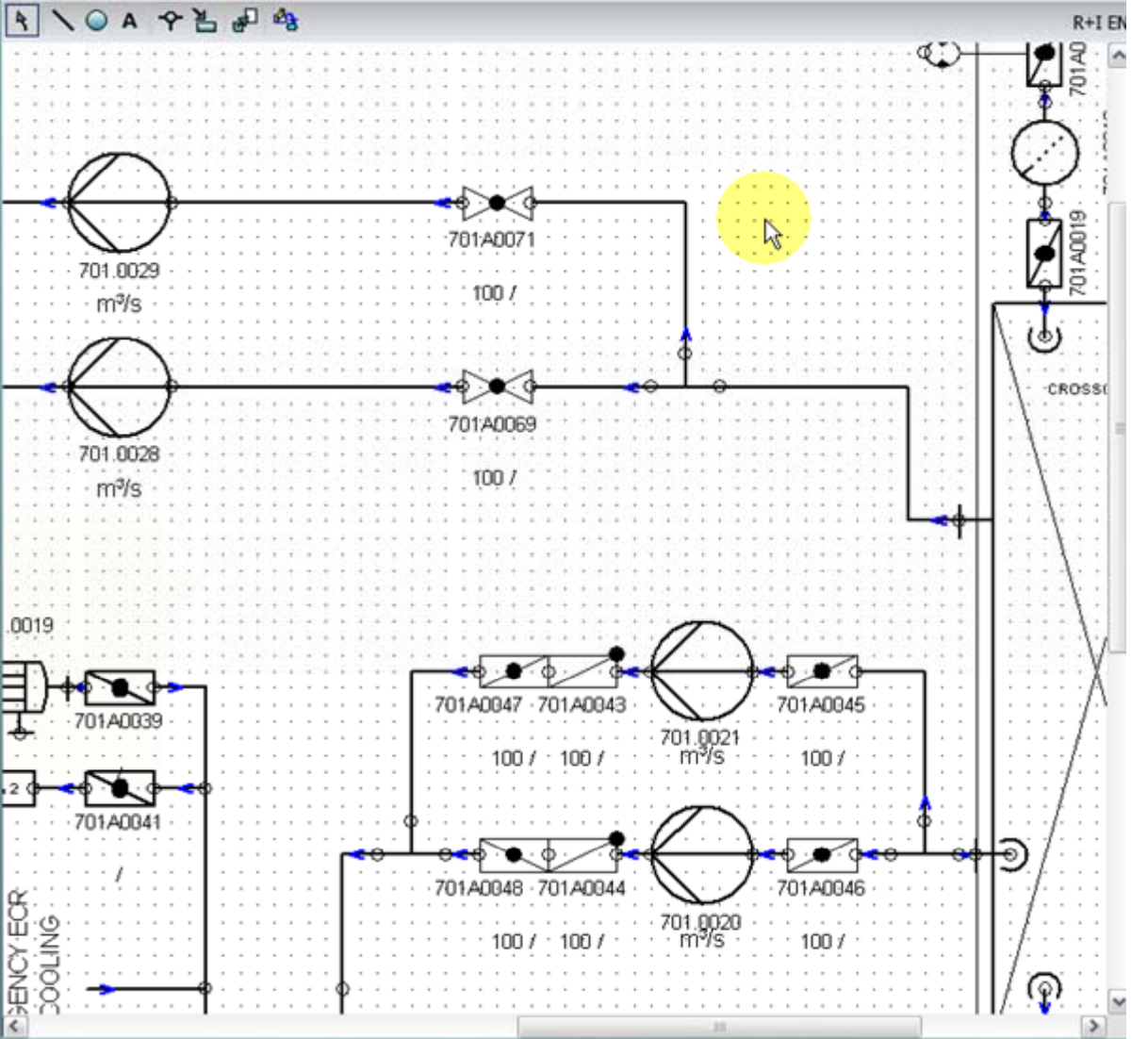


Comps

770701.1000 001 Principle Diagram (Overflow) A3 X



Grid < 2,5 > Zoom < 1 >



The Virtual Machine

Integration of software and physical controller

Siemens PLM Software:

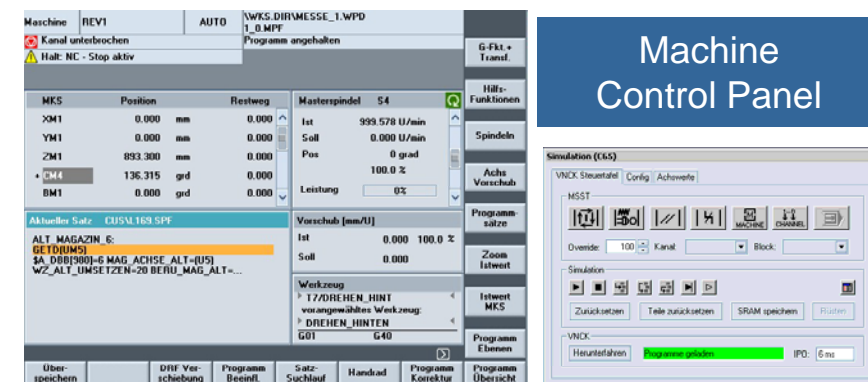
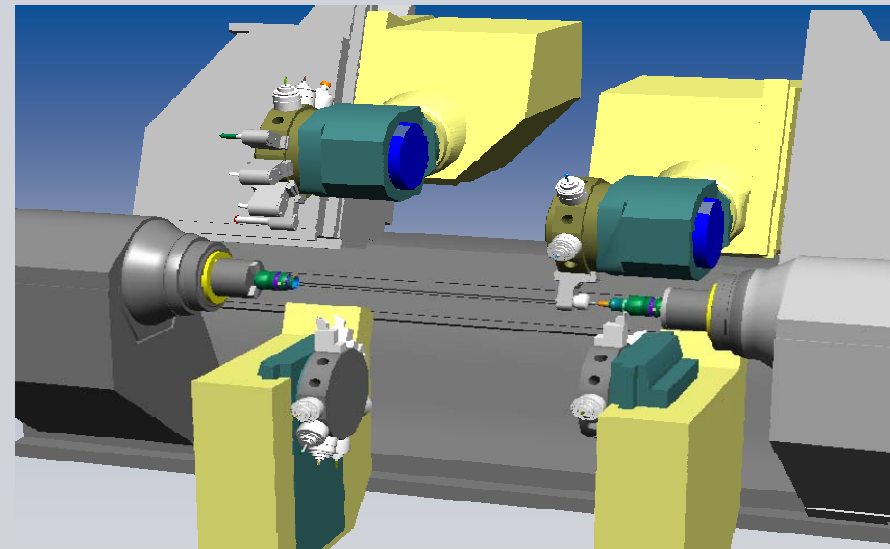
- 3D machine tool simulation software

Siemens Motion Control:

- Sinumerik controller software from MC including Core (kernel) – the “VNCK” and Control panel user interface

Virtual Machine:

- Software based integration of physical controller and 3D machine tool simulation software
- Configured and calibrated to mimic a customer’s exact machine tool



Virtual Machine

Benefits of the integrated solution

Increase speed and productivity:

- Reduce set up time on the real machine by up to 90%

Reduce risk:

- Validate programs from any source (CAM or hand edited) before executing
- Identify collisions virtually, significantly reducing risk of machine damage

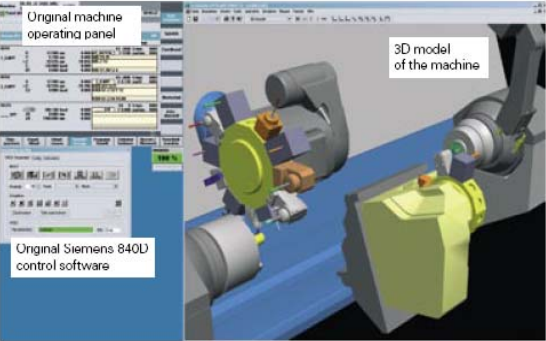
Reduce cost:

- Train operators virtually reducing cost, non-productive machine time and risk of damage
- Enable OEMs to “demo” a new machine - virtually

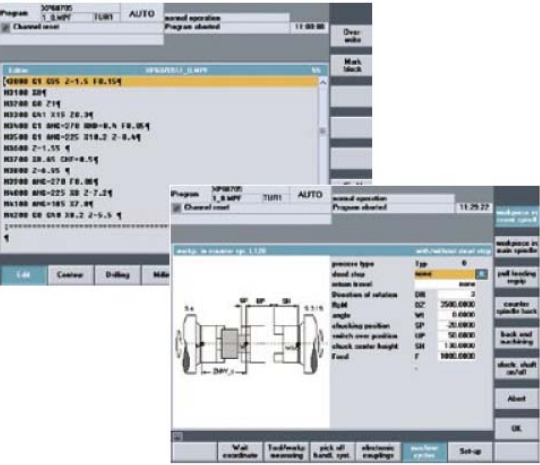


The Virtual Machine at INDEX

A solid base for your success

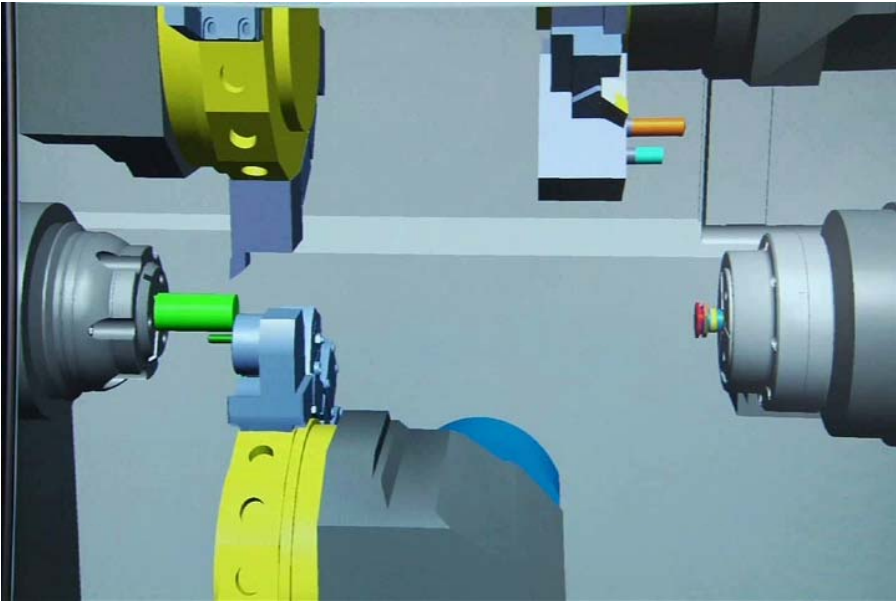


If you know the real machine, you also know the Virtual Machine



Increase the productivity of your real machines

1. Shorter changeover times
2. Avoiding a risk of collision
3. Optimization of parts programs
4. For use in teaching and training



Siemens Industry Automation Offers all Core Elements of the Global Industry Software Market



Industry Software in 2009: € 16.9 Billion market with 5 year CAGR of 9%*

CAx	cPDM	DM
Computer-aided design and engineering	Collaborative product data management	Digital manufacturing
		
NX, SOLID EDGE	TEAMCENTER	TECNOMATIX

IA is integrating and expanding its software offerings

Plant Design	Manufacturing execution
From engineering to operations	Manufacturing efficiency and productivity
	
COMOS	SIMATIC IT

UNMATCHED COMPETITIVE DIFFERENTIATION

Industry Software core offerings

Product & Production Lifecycle Management

SIEMENS

Summary:

- ☑ Each element of the portfolio generates today significant value for our customers
- ☑ Siemens Industry Software is adding value through integrations with Siemens capabilities
- ☑ Merging virtual with real world enables new advances in productivity, efficiency, flexibility and sustainability
- ☑ Siemens Industry Software brings a unique set of software capabilities to the market



Vielen Dank!

Siemens PLM Software
“We never let a customer fail”