

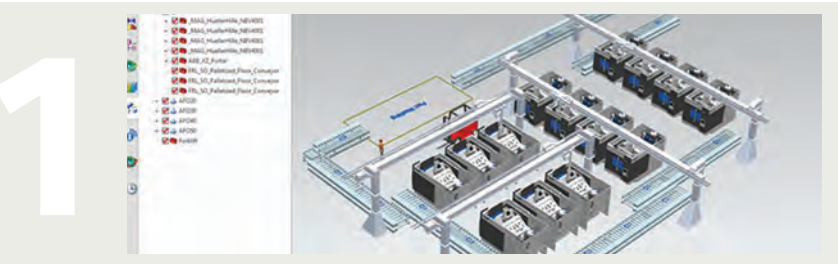
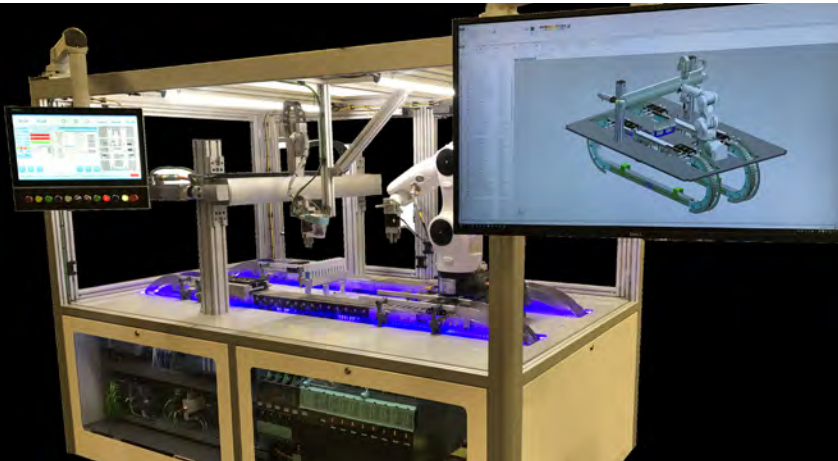


SIEMENS
Ingenuity for life

Digitalization Showcase

usa.siemens.com/digitalization

Digital Demo Highlights



1 Production Planning



2 Machine Engineering



3 Machine Commissioning



4 Machine Operation



5 Machine Service

Enhance your experience

Access interactive content using the QR scans in this guide with your smartphone.



Search your device app store for "QR Free"

3



4



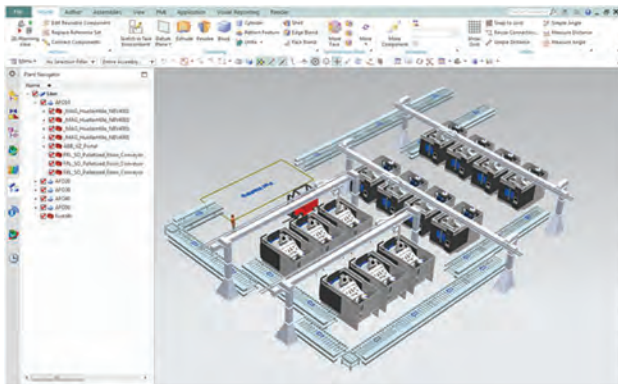
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Production Planning

Siemens Production Digital Twin helps you convey your proposed concepts to your customers.

The same Digital Twin provides your customer the confidence the production system your machine is part of, will deliver the production rate required, at an effective cost.



Benefits

- Deliver persuasive visual proposals, helping your customers envision your machines in their production
- Back up your proposals with a predictive simulation, providing your customer the confidence the production line your machine is part of, will deliver the through put required



1 Production Planning



2 Machine Engineering



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Learn More



Design complete production layouts in a single system



Model and simulate production systems and their processes.



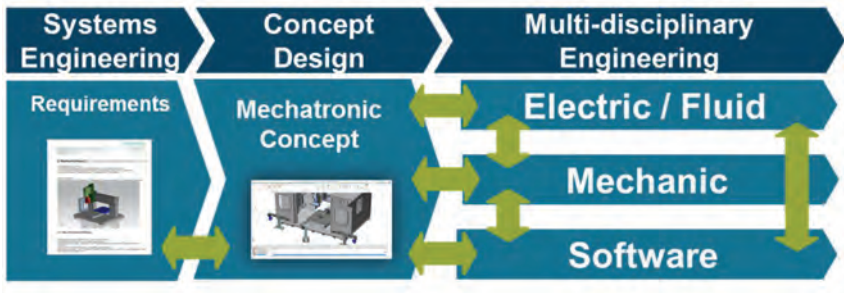
- Throughput increased by 40%
- Costs reduced by 30%

Machine Engineering

Accelerate development with the Product Digital Twin



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



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



1 Production Planning



2 Machine Engineering



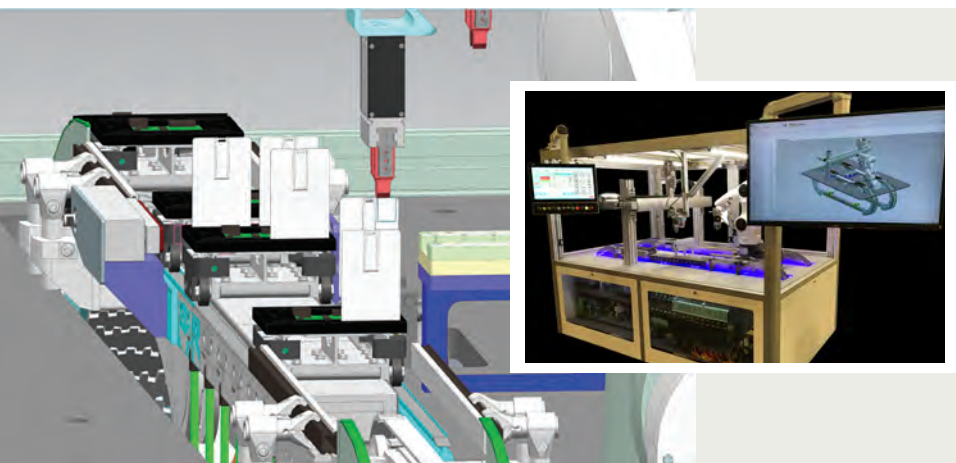
3 Machine Commissioning



4 Machine Operation



5 Machine Service



Siemens supports the development of industrial machines with a full suite of CAD/CAM/CAE solutions and the worlds most widely used PLM system.

Get the Digital Twin

STEP 1: Install the JT2Go free app for your device.



iTunes



Andoid



Microsoft



JT File

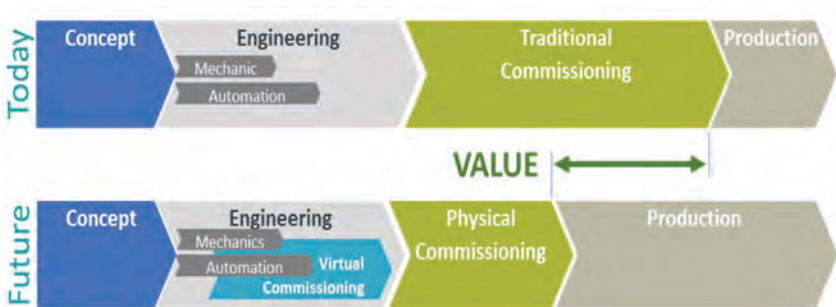


STEP 2: Scan this link to download the JT file.

STEP 3: Select "Open in JT2Go" .

Machine Commissioning

Through the use of a Digital Twin a virtual representation of the machine can be used to reduce the commissioning time and accidents on site, evaluate different automation concepts in the early phase of a project, and even assist with advanced training for machine operators.



Benefits

- Verify operation sequencing and improve quality via optimizing the controller programming and machine functionality in a virtual environment via a Digital Twin
- Reduce time to market via parallel operation of mechanical and automation engineering
- Reduced costs and scrappage because of reduced commissioning time with fewer faults



1 Production Planning



2 Machine Engineering



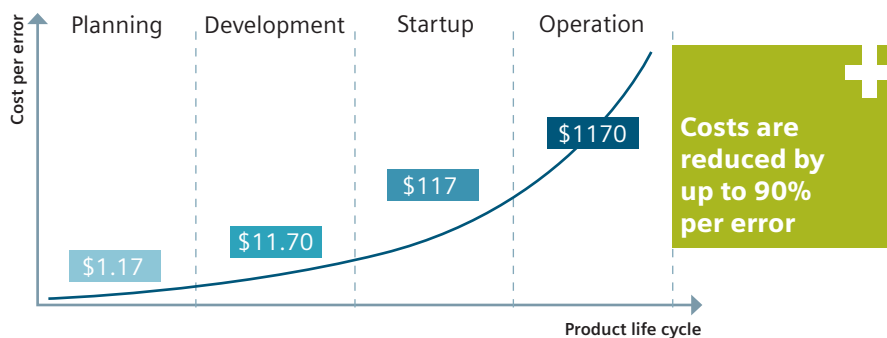
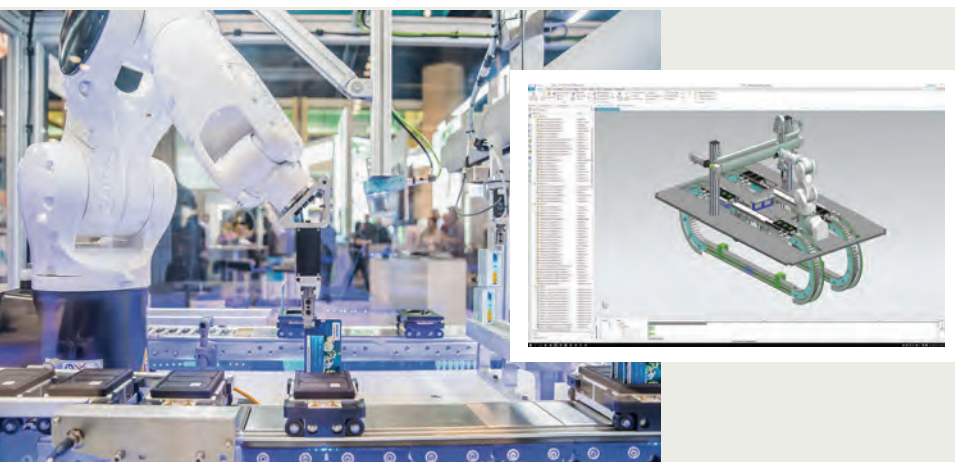
3 Machine Commissioning



4 Machine Operation



5 Machine Service



Six Sigma/Quality
Rule of tens



Realize significant cost savings
by identifying issues earlier

NX
Mechatronics
Concept
Designer

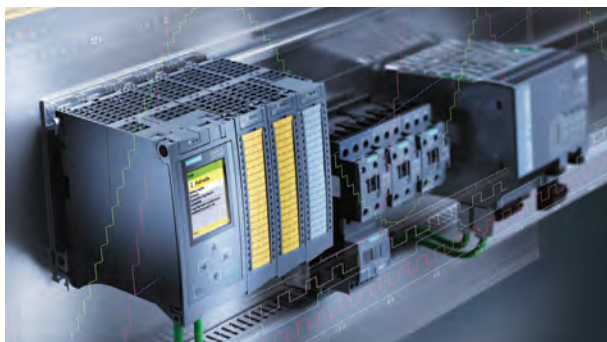


TIA Portal and
PLCSim
Advanced



Machine Operation

Operate your machines in an efficient and transparent manner with Siemens Totally Integrated Automation components. Based on consistent data management, global standards, and uniform hardware and software interfaces, these shared characteristics minimize engineering time. The result: lower costs, reduced time to market, and greater flexibility.



S7-1500
Controller



Benefits

- Reduce engineering development time with the TIA Portal – One engineering framework for PLCs, HMIs, Drives, Safety, Remote I/O and Network configuration
- Increase machine through put for demanding applications with high performance S71500 controllers
- Comprehensive security concept protects your investment against unauthorized access



1 Production
Planning



2 Machine
Engineering



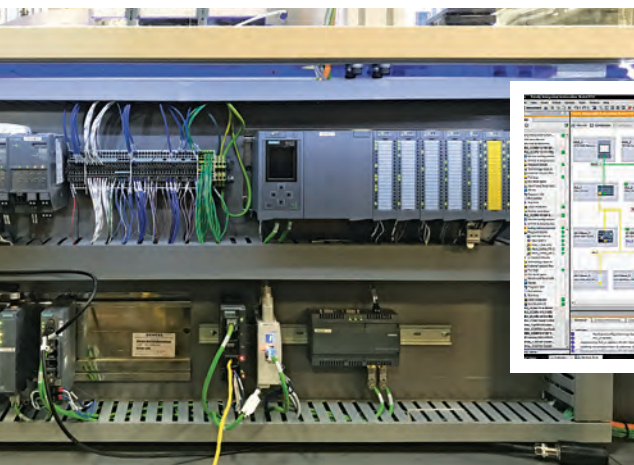
3 Machine
Commissioning



4 Machine
Operation



5 Machine
Service



Operations



SCADA System

Totally Integrated Automation Portal



Engineering Framework



Energy Management

Control



Controller



HMI



IPC



Industrial Communication



Motion Control



CNC

Field



Power Supply and Distribution



Industrial Identification



Distributed I/O



Drive Systems



Industrial Controls

TIA Portal



Totally Integrated Automation



Machine Service

MindSphere, the cloud-based, open IoT operating system from Siemens enables industrial OEMs to link their machines and physical infrastructure to the digital world easily, quickly, and economically. They can harness data from virtually any number of intelligent connected devices, enterprise systems and databases to analyze and uncover transformational insights, enhance their offerings, and launch new business models.



Benefits

- **Optimize asset utilization**, to ensure maximum uptime and availability
- **Increase maintenance efficiencies**, implementing predictive maintenance practices
- **Boost operational visibility**, with condition-based monitoring
- **Leverage data transparency and centralized KPIs**, for greater operational insights and accountability
- **Make possible new machine capabilities**, combining data analytics and asset fleet monitoring



1 Production Planning



2 Machine Engineering



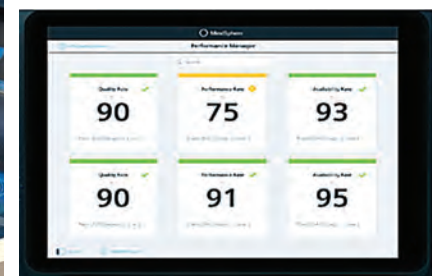
3 Machine Commissioning



4 Machine Operation



5 Machine Service



Learn more about MindSphere and five critical ways it differs from other IoT solution specifically for Machine Builders.



3%

Siemens estimates that only three percent of the world's plant machines are fully monitored due to outdated infrastructure, limited digital electronics, or communications.

By connecting legacy or new industrial assets to MindSphere, OEMs can take advantage of how data drawn from the IoT will transform manufacturing.

Digital Enterprise Solutions

Siemens is the only company in the world that can offer the portfolio breadth of products and solutions enabling the Digital Enterprise.

1 Production Planning

- NX Line Designer
- Tecnomatix Plant Simulation
- Technomatix Process Simulation
- Teamcenter Manufacturing Planning

2 Machine Engineering

- NX CAD & MCD
- Tecnomatix Plant Simulation
- Teamcenter PLM – Requirements Program, Costing, BOM and CAD Mgt.
- NX CAE

3 Machine Commissioning

- NX Mechatronics Concept Designer
- TIA Portal
- PLCSim Advanced
- TIA Portal Openness

4 Machine Operation

- TIA Portal
- Hardware – S71500 PLCs, IPCs, HMIs, ET200 SP I/O, Drives
- Profinet Networking

5 Machine Service

- MindSphere IIOT Platform
- MindConnect
- Simatic MindApps

Digital Factory Product Portfolio

Factory Automation

• Controllers

- Basic and Advanced controllers
- Safety Integrated Controllers, TUV approved
- Distributed Controllers
- Software controllers for PC-based Automation



• PC-based Automation

- Industrial PCs – Rack, Box, Panel
- Industrial Monitors and Thin Clients
- PC-based Controllers
- Embedded Controllers
- Embedded Bundles / Software Package



• Distributed I/O

- In-Cabinet, IP20
- Out-of-Cabinet, Machine Mount IP65/67



• HMI Panels

- Standard/Outdoor/Stainless-Steel Panel
- Complete IP65-Protected Panel
- Mobile Panel
- Key Panels



Drives, Motors and Motion Control

• Variable Speed Drive Technologies

- General Purpose Drives
- Vector and Servo Drives
- DC Drives
- Enclosed (Cabinet Drives)



Siemens PL



Siemens FA



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Siemens Industry, Inc.
100 Technology Dr.
Alpharetta, GA 30005

For more information, please contact our
Customer Support Center.

Phone: 1-800-241-4453
E-mail: info.hmi.us@siemens.com
info.ipc.us@siemens.com

usa.siemens.com/digitalization

Order No.: AMBR-DIGSC-1020

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