

Press conference prior to Hannover Messe 2016



Agenda

Ingenuity for life – Driving the Digital Enterprise

Anton S. Huber

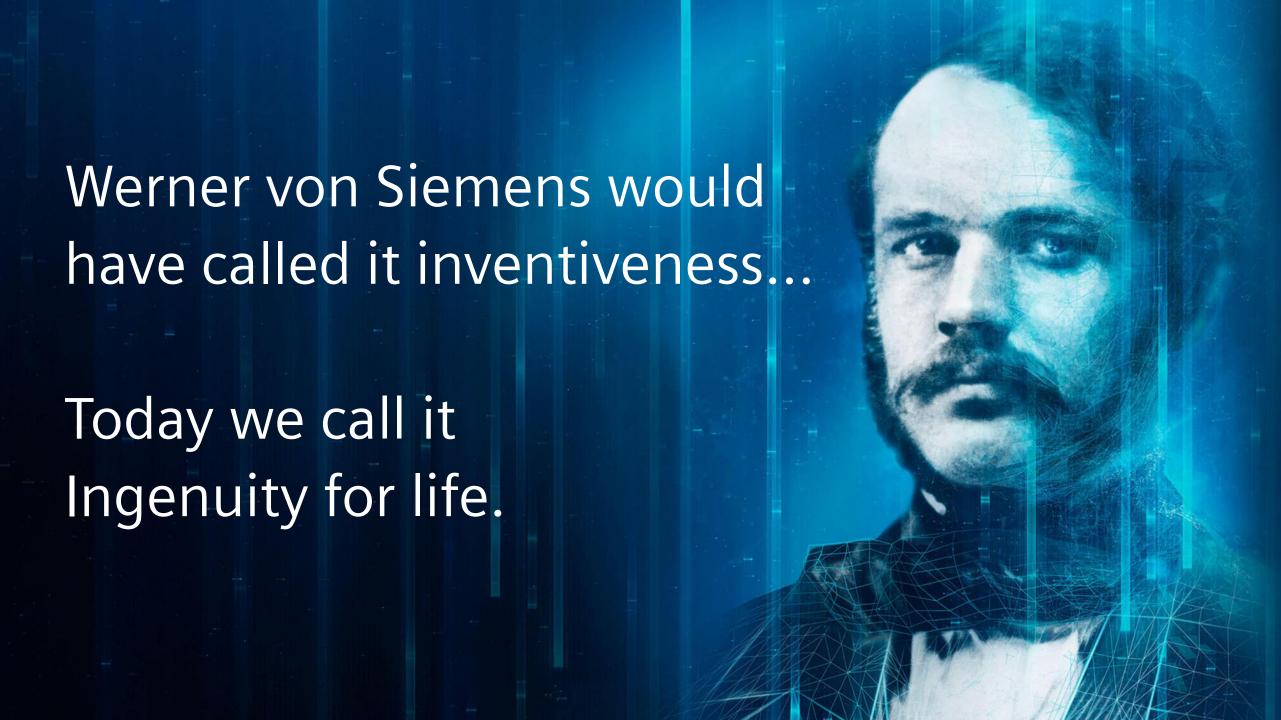
The Digital Enterprise in the process industry

Dr. Jürgen Brandes

Power supply within the Digital Enterprise

Ralf Christian







The Internet is revolutionizing the business world and creates major challenges for manufacturing companies





In order to remain competitive manufacturing companies need to achieve enormous improvements in their processes



Reducing the time to market



- Shorter innovation cycles
- More complex products
- Larger data volumes

Product and production integrated

Enhancing flexibility



- Individualized mass production
- Volatile markets
- High productivity

Flexible production

Increasing Quality



- Closed loop quality processes
- Traceability and integrated genealogy

Full process transparency

Increasing efficiency

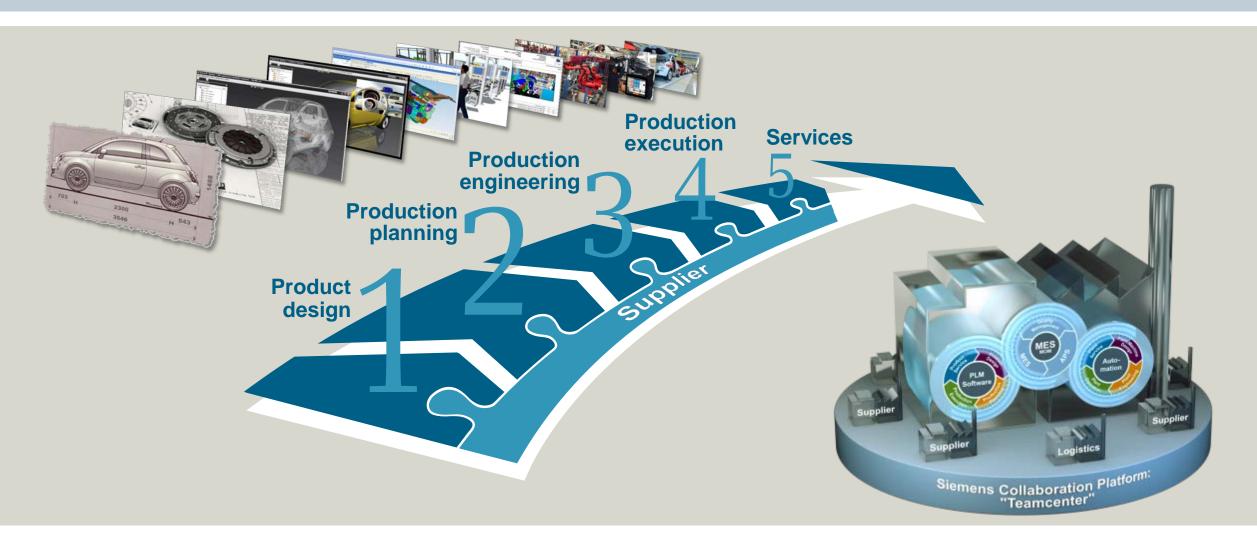


 Energy efficiency and resource efficiency as key competitive factors

Optimized production resources

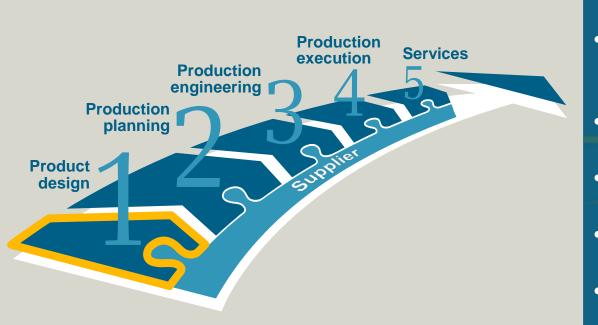
Only a holistic approach improving all processes along the entire value chain will fulfill the targets



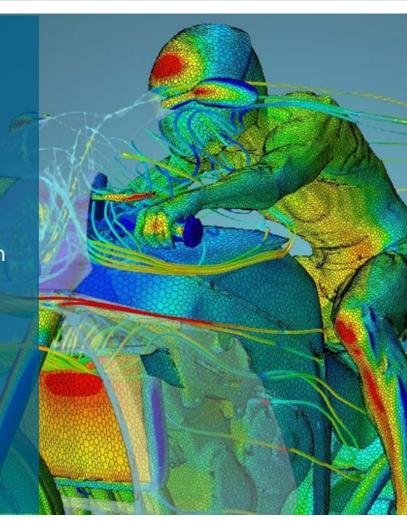




CD-adapco – strengthens the Siemens simulation software portfolio

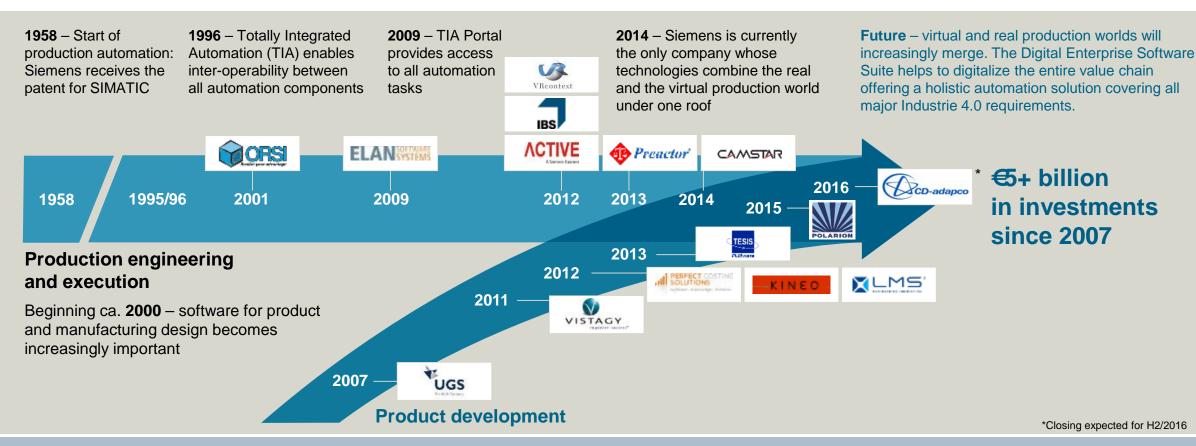


- Siemens continues to complete its industrial software portfolio
- Global leader in simulation software solutions
- Expands/strengthens industry software
- Further enhancesDigital Twin
- Part of world-class simulation portfolio



Shaping the Future of Manufacturing – A history of systematic portfolio expansion through acquisitions





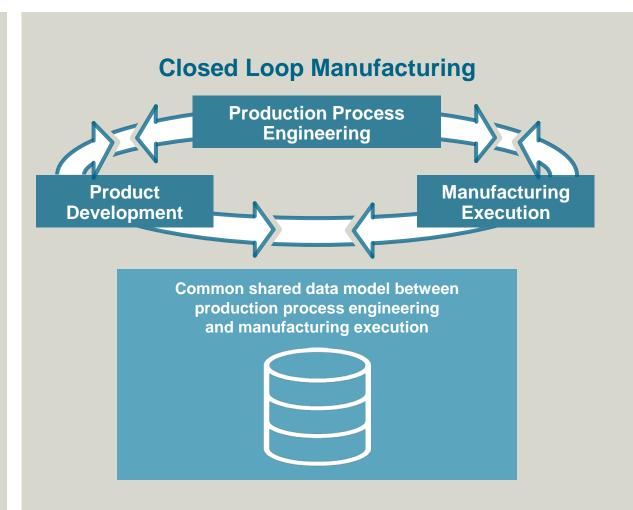
From Vision to Reality – with a holistic portfolio of PLM software, Manufacturing Execution System and automation technology.



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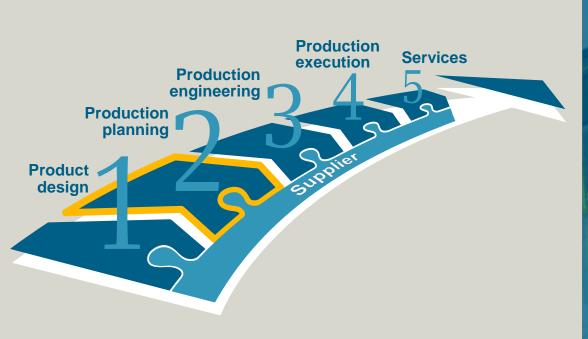
High investment in software integration and organic growth

Integrated Mechatronics Engineering Mechanical **Electrical & Automation** Design Design **PLM Software Automation** NX **SIMATIC Automation** e.g., Line Designer Designer **Simulation & Validation Teamcenter Data Backbone**





Virtual Commissioning

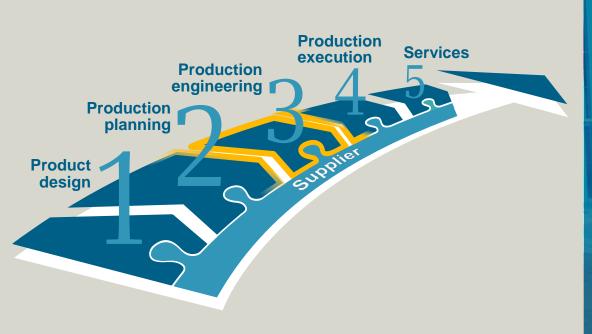


- Combined simulation of mechanics (process simulate) and automation
- PLCSIM advanced as a virtual PLC controller for production machines and plants
- HiL simulation for virtual commissioning of machine tools





TIA Portal V14 – The gateway to automation in the Digital Enterprise

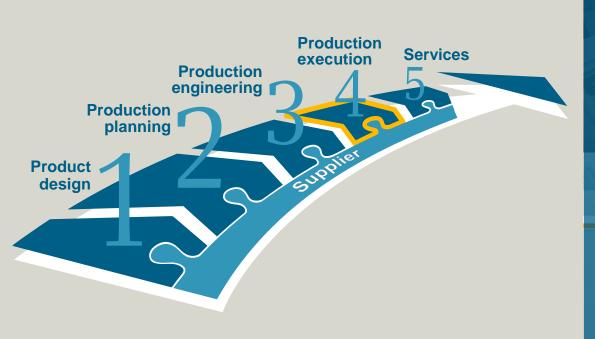


- Providing higher productivity, shorter time-to-market and higher flexibility
- Extended features in the field of Digital Workflow, Integrated Engineering and Transparent Operation, like
 - Connection to Teamcenter
 - Cloud based engineering
- Multi User for a coordinated team engineering
- Energy Suite for a simple energy management





Motion control becomes integral part of TIA Portal

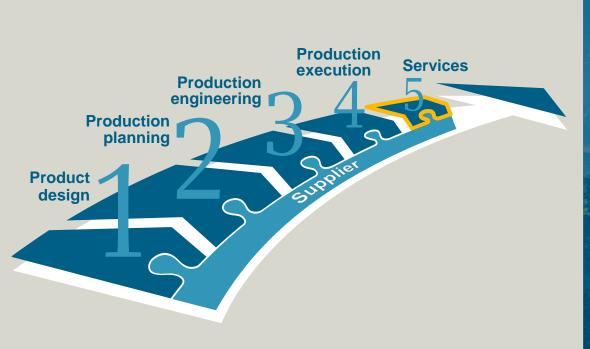


- SIMATIC S7-1500 T-CPU and SINAMICS V90 servo drive system with PROFINET for mid-range applications
- Motion Control and Failsafe on one PLC
- Scalable motion functions within Advanced Controller S7-1500 CPU portfolio





MindSphere – Siemens Cloud for Industry



- Open cloud platform for Industrial Internet of Things (IIoT) and big data analytics
- Enabling new service orientated business models
- "Out of the box" visual analytics with easy connectivity of Siemens and third-party equipment (e.g. OPC).
 Transparent pay-per-use pricing model

SIMATIC IOT2000



Siemens at Hannover Messe 2016 Explaining the complex world of digitalization

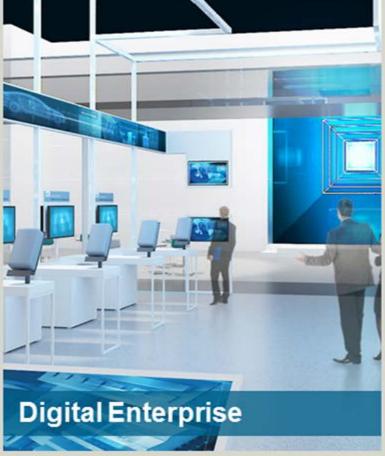




Siemens at Hannover Messe 2016 Highlights and Proofpoints for the Digital Enterprise











The digital plant – from Integrated Engineering to Integrated Operations: "Ingenuity for life"



Optimizing engineering and lifecycle management

- Integrated engineering tools
- Simulation
- Common data model

Improving productivity and flexibility

- Cloud-enable services and analytics
- Next generation of control
- Digitalization of field level
- Reliable connectivity



The Fiber Industry Cube will be demonstrating examples of how our customers are already profiting from digitalization today





Through our comprehensive product portfolio, long years of process expertise and digitalization, we are able to secure a sharper competitive edge for our customers.

- Smart end-to-end process automation solutions in conjunction with integrated and efficient drive systems
- Standardized data models and a seamless flow of project-relevant data across every project phase
- Integrated engineering solutions and virtual plant simulation

For greater flexibility, efficiency and consistently high quality.

How can we create materials to fulfill the dreams of consumers? Digitalization in the fiber industry





Customized production in

inquiry in real time.

response to every customer

Continuity
across
every process step

Ingenuity for life



Integration from the engineering stage through to servicing with **SIPAPER**

COMOS data platform for a seamless data flow across the entire plant life cycle

Embedding of drive systems into process automation using **SIMATIC PCS 7**

Ideally matching **drive systems** – from the converter through the motor to the gear

The Albert Friedrich KG (FRIPA) paper mill: Tissue Production line, jointly developed and implemented by OEM Voith and Siemens





How can we achieve personalized, safe but affordable medicine? Digitalization in the pharmaceutical industry





SIMATIC IT eBR

Support for the implementation of electronic prescription management.

Adherence to statutory requirements

Minimization of risks and increased transparency

Reduced production cycles, optimized use of resources

Control, regulation, monitoring and optimization of production steps through to batch release



Digitalization enables the economical production of personalized cancer immunotherapy





How to reconcile plant availability and cost efficiency with protection of our environment? Digitalization in the chemical industry





Asset Performance
Management and
Operational
Excellence



Ingenuity for life

Intelligent use of engineering and operational data

Efficient plant planning through consistent data management, standardized data specification and cohesive documentation

COMOS as an integrated software solution concept

Virtual commissioning with **SIMIT**

Increased reliability, fewer unscheduled outages and maintenance costs and less time lost



Solvay/Butachimie chemical plant, France – factory of the future unites digitalization and automation technology from Siemens

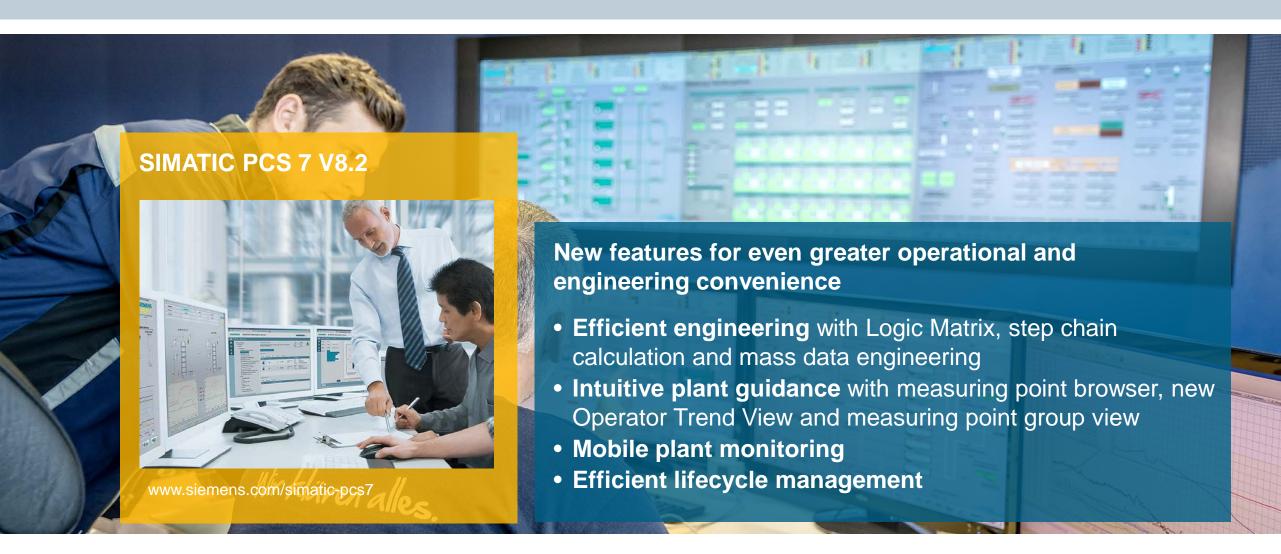




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Siemens at Hannover Messe 2016 Highlights and Innovations





Siemens at Hannover Messe 2016 Highlights and Innovations





Siemens at Hannover Messe 2016 Highlights and Innovations





Siemens at Hannover Messe 2016 Future-proof products and solutions for the process industry



Step by step towards the digital plant

Using

- Integrated software solutions
- Fast, reliable communication networks
- Data security
- Smart services to analyze data generated
- Industry-specific process expertise and innovative drives and automation technology

for

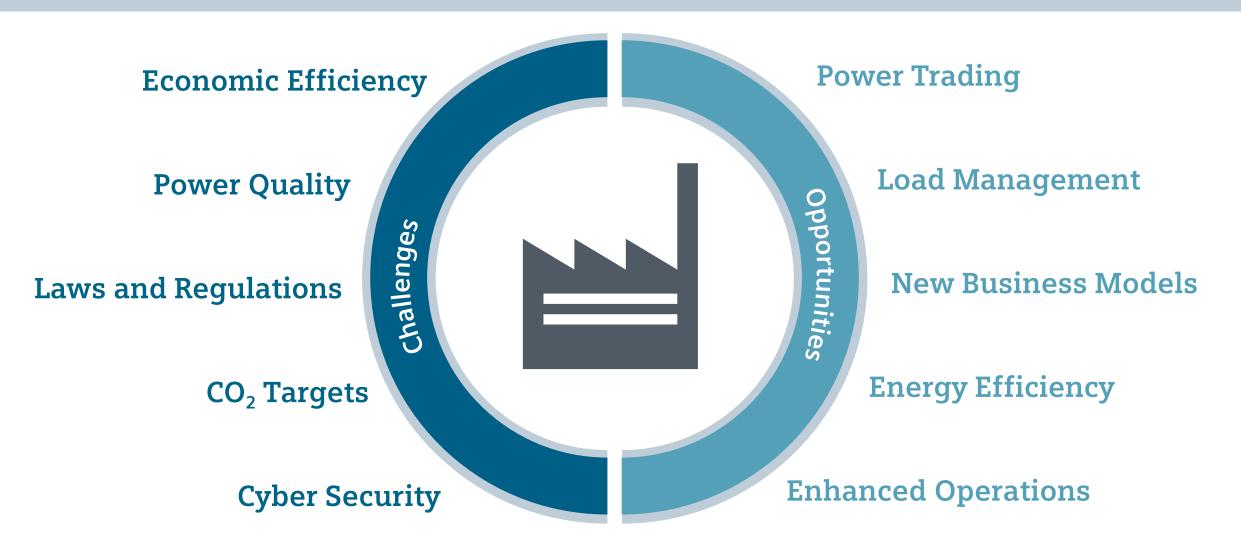
- A shorter time-to-market
- More flexibility
- Higher efficiency
- Better quality





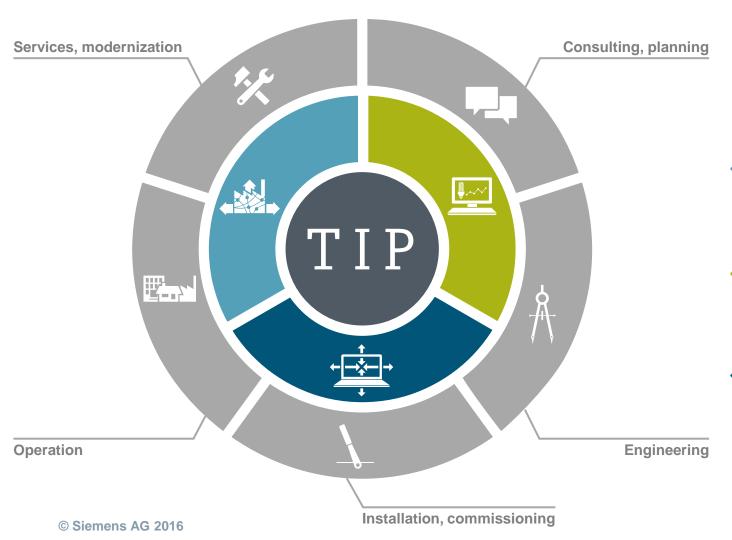


Challenges and Opportunities for industrial power supply



Totally Integrated Power (TIP): reliable, safe and efficient power supply for industries





TIP is Siemens' concept for a holistic power supply for industrial plants and buildings

Integration into industrial automation

Integration into holistic energy efficiency concepts

Integration into automated engineering processes

Entire lifecycle management

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Reliable and efficient power supply is the basis of the Digital Enterprise

Using the full potential of TIP through Digitalization

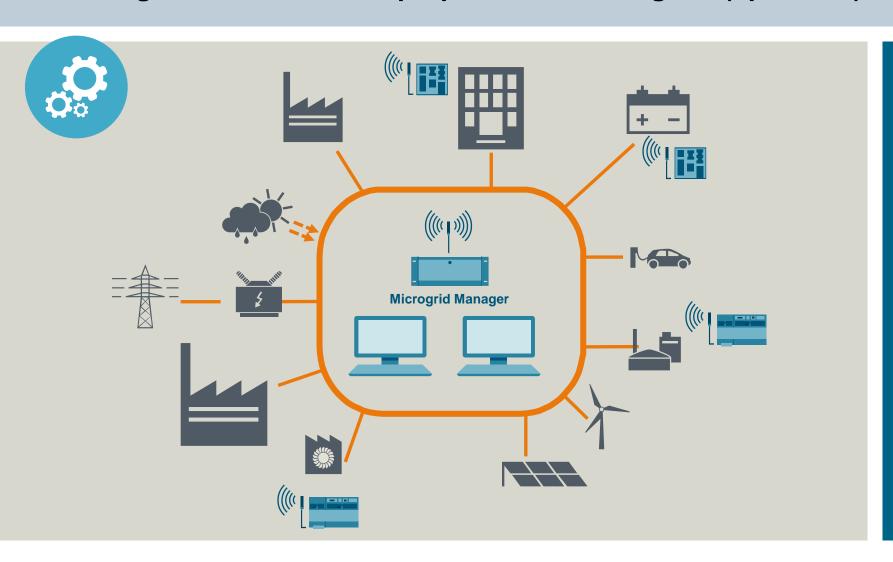






Digitalization within power supply: management of industrial properties via Microgrids (operation)



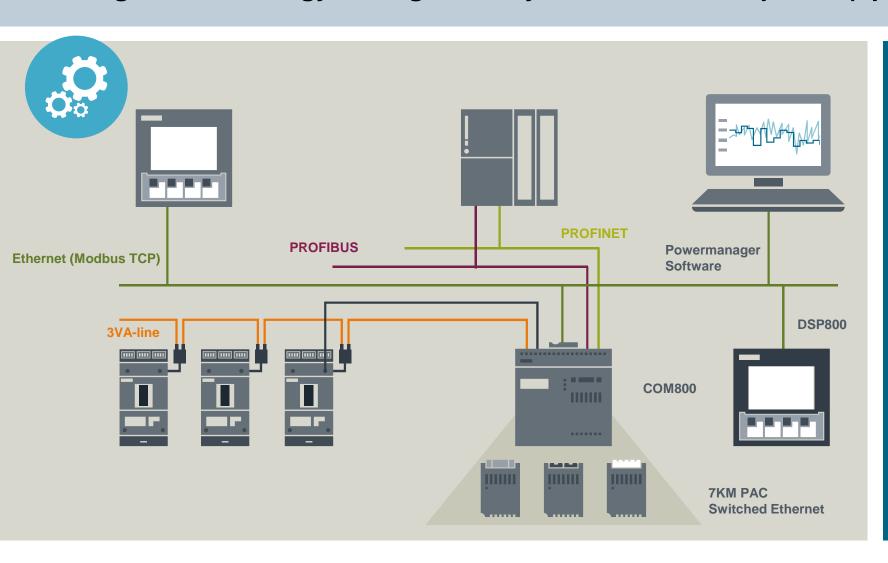


Microgrid Manager:

- Data management of all energy consumers and producers
- High power quality and security of supply
- Cost-effective operation, thanks to extensive optimization possibilities
- Low environmental impact due to resource-efficient operation
- Highest efficiency through the joint optimization of district heating and electricity

Digitalization within power supply: integration of energy management systems into entire plants (operation)





- Molded circuit breaker with measuring capabilities (3VA2)
- Standardized communication channels
- Holistic energy management system
- New law: EDL-G (Energie-Dienstleistungsgesetz)

Digitalization within power supply: integration of power distribution into TIA Portal (engineering)





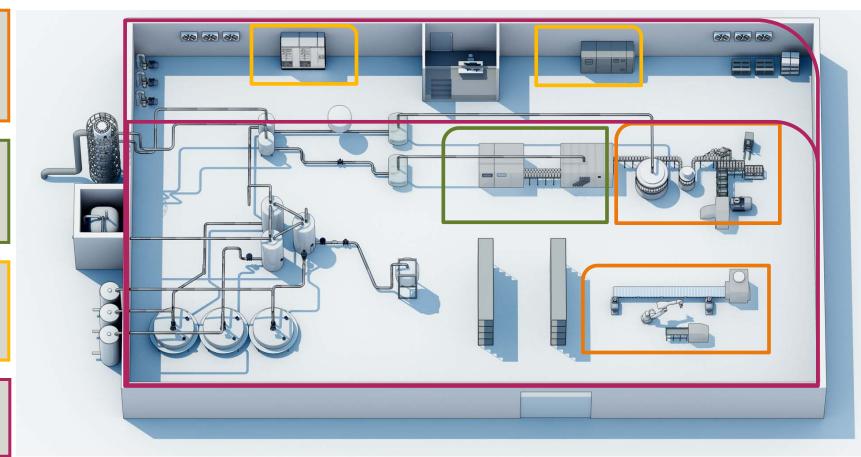
Components at machine level: drives, converters, switching devices etc.

Automation components at machine level: control systems, decentral periphery etc.

Components in energy distribution: circuit breakers, measuring devices

Energy and data flow of the industry application within the TIA portal

Electrification meets Automation

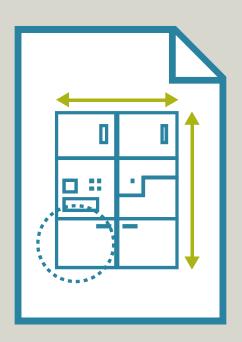


Digitalization within power supply: low effort and accurate switchboard engineering (planning)

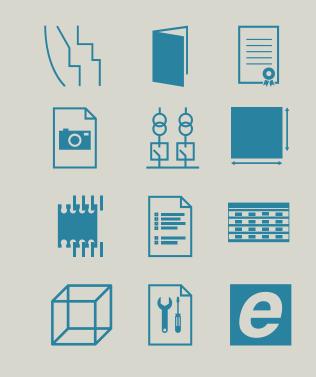


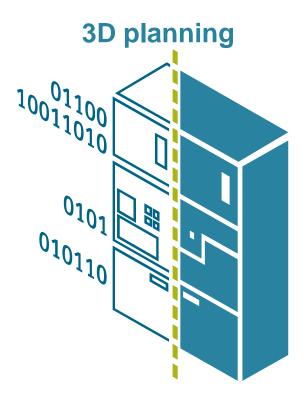


2D planning

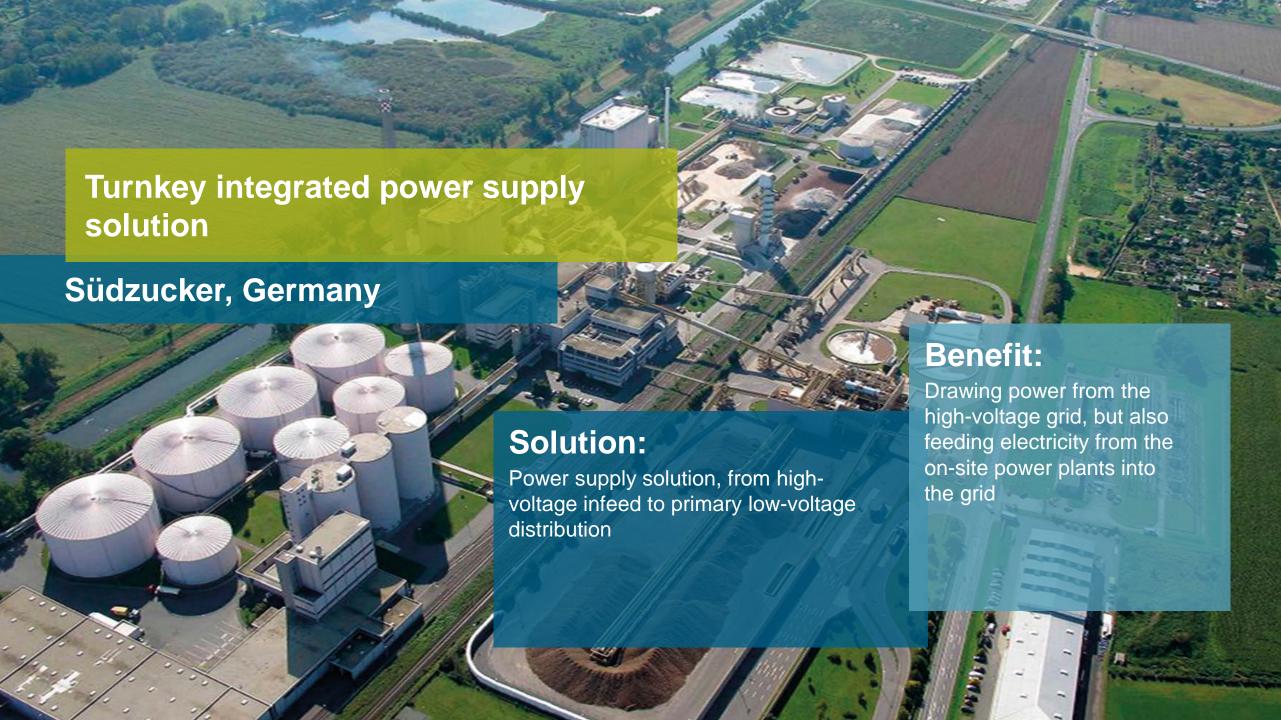


Available data types











Our Solution for industrial power supply: "Energy for Industry" at Hannover Messe 2016





Set up

Showing industry park within the energy landscape – with all aspects:

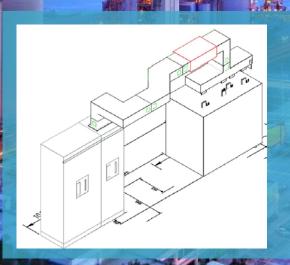
- building
- production area
- energy recovery and storage
- decentralized power generation



Innovation highlights

Molded circuit breaker 3VA

- New: complies with UL standards
- New: 1000A version for IEC market



Doppelschienensystem SIVACON 8PS (System LI)

- Integration into energy management solutions via intelligent switching and measuring devices
- High planning reliability
- High flexibility in planning and operation



Innovation highlights

7KT PAC 1200

- Multichannel current measuring system for small and medium-sized companies
- Measures energy consumption of up to 96 consumers
- Displays data graphically via web application



SIESTORAGE

- Modular, stationary energy storage system based on lithium-ion battery
- Grid stabilization (frequency, voltage)
- Intelligent load peak management (energy management system)

Press conference prior to Hannover Messe 2016 Organizational topics



Digital press kit to today's press conference www.siemens.com/press/hm16

International press conference at Hannover Messe Monday, April 25, Room 1A of the Convention Center Doors open at 6:00 p.m. for a 6.30 p.m. start

Media Round Table "Financing the Future of Manufacturing – comparing approaches in Germany and USA" (only in English)

Monday, April 25, Room 105/106 of the Convention Center Start at 2:00 p.m.

Siemens PLM Software press breakfast (only in German)
Tuesday, April 26, at Room 11 of the Convention Center
Start at 9:00 a.m

Siemens at Hannover Messe 2015 www.siemens.com/hannovermesse



