1847
A small garage startup in Berlin, Germany

Employees 10
Start-up capital 6,842 thalers
1st year revenue 3,420 thalers
Today
Leading position in Electrification, Automation and Digitalization.

Employees
377,000+

Revenue
€82.9 billion

Net Income\(^1\)
€6.1 billion

Profit margin Ind. Business
11.2%

Key figures as of Oct 2017 1 Strategic Unit
Customer demands drive our business

New business models

- Speed
- Flexibility
- Quality
- Efficiency
- Security
Technological forces transforming industry

Changing the way products come to life
- Generative design
- Intelligent models

Changing the way products are realized
- Intelligent automation
- Additive manufacturing

Changing the way products evolve
- Cloud ecosystems
- Knowledge automation
- Advanced robotics
- Big data analytics
Manufacturers must embrace the technologies and transform their business into a digital enterprise.
What is needed?
Is an integrated approach across the complete value chain

1. Product design
2. Production planning
3. Production engineering
4. Production execution
5. Services
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Digitalization is key to achieving next level productivity

> 10 billion investment

12,700 Software engineers are shaping the digital transformation

Virtual world
Software

Real world
Automation

Selection of acquisitions

Automation #1

Industrial software #1

Mentor Graphics

1 Cooperation
Expertise of integrating virtual and real worlds provides unique competitive advantage to customers.
The Digital Enterprise for discrete industries
The Digital Enterprise for discrete industries

- **Digital Twin Product**
- **Digital Twin Production**
- **Digital Twin Performance**

Cyber Security

**Insights from performance with MindSphere**

- Virtual product
- Virtual production
- Real production
- Real product

**Continuous improvement**

Collaboration platform Teamcenter

Ideal delivery
The Digital Enterprise for process industries

Cyber Security

Digital Twin Product

Digital Twin Production

Digital Twin Performance

Virtual product

Virtual production

Real production

Automation

Performance data

Optimization

Real product

Collaboration platform Teamcenter

Ideal delivery

Siemens
Ingenuity for life
End-to-end solutions for all industries

Process Industries
- Chemicals
- Marine
- Glass
- Food and Beverage
- Electronics
- Aerospace
- Automotive
- Water and Wastewater
- Minerals
- Pharmaceuticals
- Batteries
- Wind
- Machine Building
- Intralogistics
- Oil and Gas
- Power and Utilities
- Fiber
- Tire
- Additive Manufacturing
- Cranes
- Robotics
- Hybrid Industries
- Oil and Gas
- Power and Utilities
- Fiber
- Tire
- Additive Manufacturing
- Cranes
- Robotics
Where does AI fit into this?
Adaptive User Interface

Collect data while the user interacts with the system and use this data as a steady source of training data

- **Tailor the interface to show different levels of complexity** for different levels of user as determined by the learning process
- **Provide best choice or set of choices**, as based upon what the user has done in the past and from the knowledge in the knowledge base
- **Serve up one or more choices in correct order** that will be more suited for the current task as determined by their success in the past
Flexible grasping using artificial intelligence

Artificial intelligence makes it possible to grasp arbitrarily shaped and positioned objects.
Artificial Intelligence module for Simatic S7-1500

**Highlights**
- Neural Compute Engine with on-device deep neural networks
- Powerful vision / imaging processing onboard

**Potential use-cases**
- Robotics learning
- Visual quality inspection
- Anomaly detection / Condition monitoring
- Additive manufacturing

**Benefits**
- Use AI to optimize the PLC process
- No separate IPC needed
- Direct communication to PLC reduces engineering effort
The Digital Enterprise powered by AI

- **Digital Twin Product**
- **Digital Twin Production**
- **Digital Twin Performance**

- **Insights from performance with MindSphere**
- **Collaboration platform Teamcenter**

- **Virtual product**
- **Virtual production**
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- **Continuous improvement**

- **Real product**

- **Cyber Security**

- **AI**
Siemens Digital Enterprise

➢ Get ready to be disrupted
➢ Listen to your customer needs
➢ Understand the technologies
➢ Implementation roadmap needs to be end to end integrated....
Thank you.