Site Amberg
Plants & Products

SIMATIC
PLC - Programmable Logic Controller
DP - Decentral Periphery
HMI - Human Machine Interface

Contactors
Circuit board assembly/
Electronic Products

SIRIUS
Push buttons and
signal columns

Production metal parts
and assembly groups

DF FA MF EWA
DF CP MF GWA
EWA development Industrie 1.0 to 4.0

Industrie 1.0/2.0
- Mechanical production lines
- Mass production
- Manual drawings

Industrie 3.0
- Automated production
- Lean production
- Intranet and Internet

On the way to Industrie 4.0
- Digital Product Lifecycle
- Horizontal and vertical integration
- Identification and history for all elements

1966
1995
2015
Only a holistic automation approach…
…can cover all Industrie 4.0 requirements
The Totally Integrated Automation portfolio for factory automation

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**Enterprise Level**
- ERP
- PLM

**Management Level**
- MES

**Operator Level**
- SCADA

**Control Level**
- SIMATIC Controllers
- SIMATIC HMI

**Field Level**
- SIRIUS Industrial Controls
- SIMATIC IDENT Industrial Identification
- SIMATIC Distributed I/O
- SINAMICS Drive Systems
- TIA PORTAL Engineering Framework for Automation Tasks

**Other Components**
- NX Product Development
- TEAMCENTER Collaborative PDM
- TECNOMATIX Digital Manufacturing
- SIMATIC WinCC SCADA System
- TECHMOMATIX Digital Manufacturing
- TEAMCENTER Collaborative PDM
- TIA PORTAL Engineering Framework for Automation Tasks
- PLM
- MES
- SCADA
Perfection for Our Customers

MF Vision and Strategy 2020
EWA & SEWC

Drive Digital Enterprise
Social Responsibility and Culture
Global Value Add Structures
Highest Quality and Efficiency

World Class Products
Strategic Holistic Partnerships
A maximum of transparency for logistics and quality

Record big data and push smart data

Identification of all objects and process
- All products, parts,…
- All machines, adapters
- All programs, data, …

Record of all process values
- Soldering temperature
- Pass or fail
- Torque …

Autonomous process analysis
- Real-time
- All employees
- All processes
Electronics Works Amberg
Consistency from design to production

- PLM Software (Siemens NX)
- NC-program-generator
- Legacy Systems
- MES Software (Simatic IT)
- Routing
- ERP
- Teamcenter
- Supplier
- Customer
- Relevant product data information
- Templates: SMT, SPI, AOI, ICT / FP
- X-Ray, THT, Labels, IFT, Inspection
- Delivery
- Material forecast
- Automatic order
- Production order
- Capacity
- Inventory Mgmt.

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Siemens: Realizing our own Digital Enterprise
Electronic Works Amberg: Reducing time-to-market

Reducing time-to-market

- Shorter innovation cycles
- More complex products
- Bigger but smarter data volumes

- ~ 5000 work plan changes per year (> 20% due to component discontinuation)
- > 120 variations are built per day based on 75% automation
- ~ 50 mill. process & product items entered in SIMATIC IT per day
Siemens: Realizing our own Digital Enterprise
Electronic Works Amberg: Enhancing flexibility

Enhancing flexibility

- Mass customization
- Volatile markets
- Highest productivity

- ~ 350 changeovers per day to handle 1000 different products
- > 99.5% delivery reliability to assure 24h delivery time
- ± 20% personal capacity flexibility to meet customer demand on time
Siemens: Realizing our own Digital Enterprise
Electronic Works Amberg: Increasing efficiency

Increasing efficiency

- Optimal capacity utilization
- Highest quality standards
- Efficient resource utilization

- > 75% line utilization (+ 20% flexibility) to serve 60,000 customers
- ~ 11 dpm equals 99.9989% built in quality
- ~ nine-fold of shop floor utilization till start of production (1990) equals 1 pc./ sec.
Success through quality

Perfection for our customers
Success through logistics performance

Highest Quality and Efficiency

Delivery items [mio.]
Logistic performance [1. BLT]
Perfection and Productivity through Automation @ EWA

More than 75% Automation
- Production
- Material- and
- Information flow

More than 1,000 SIMATIC applications
Our employees are integrated into the Digital Factory

Fully digital supported work

- Product provision
- Scanning
- Selection: CV, Test instruction
  - Check & collect
  - History check
  - Monitoring packing list
- Conditions satisfied
- Label Printing
- Entry in history

Processes:
- Test instruction/Data Collection
- History
- Scanning
- Monitoring Pack parts
- Product provision
- Label Printing
- Packaging
Thank You!