DIEFFENBACHER - presses and more

Foundation: 1873
Headquarters: Eppingen, Germany
Shareholders: 100 % family owned
Employees: 1740 employees
Turnover: 469 million Euro
Equity ratio: > 30 %
DIEFFENBACHER - presses and more

Complete production lines for the wood-based panel industry

Presses, lines and process technology for (carbon) fiber-reinforced plastics components and hybrid components
IT security at industrial factory automation

CONFIDENTIALITY

INTEGRITY

AVAILABILITY

Very often the productivity of the production line is the most important aspect
What is Industry 4.0?

From Industry 1.0 to Industry 4.0: Towards the 4th Industrial Revolution
What is Industry 4.0?
What is Industry 4.0? – Sample Statements!

The product as an agent affects its environment.

The product carries information across the complete supply chain and its lifecycle.

The product controls its production by a proactive M2M communication.

The product as an observer monitors itself and its environment.

SMART FACTORY
is based on bidirectional CONNECTIVITY
Typical automation system 1990

CPU and I/O

Extended I/O

serial Peer to Peer e.g. 3964R

Backplane extender
Typical automation system 2010
State-of-the-art automation concept – ready for Industry 4.0

- Data mining and knowledge discovery
- Horizontal and vertical communication
- Comprehensive networking of all components with almost unlimited bandwidth
- Fully digital communication to all smart devices

Networks:
- Ethernet
- DRIVE-CLiQ
- Digital linked sensor
- Database
- Visualization (HMI)
- Actuator
- ERP

Components:
- Energy meter
- Drives
- Distributed I/O
- Motors
- Standard sensor
- Digitally linked sensor
- Intelligent measurement device

Communication types:
- Horizontal and vertical communication
- Data mining and knowledge discovery
- Fully digital communication to all smart devices

Technologies:
- Ethernet
- DRIVE-CLiQ
- Digital linked sensor
- Database
- Visualization (HMI)
- Actuator
- ERP

Devices:
- Energy meter
- Drives
- Distributed I/O
- Motors
- Standard sensor
- Digitally linked sensor
- Intelligent measurement device
- Actuator
- ERP

Network Protocols:
- Ethernet
- DRIVE-CLiQ
- Digital linked sensor
- Database
- Visualization (HMI)
- Actuator
- ERP

Integration:
- Horizontal and vertical communication
- Data mining and knowledge discovery
- Fully digital communication to all smart devices

Benefits:
- Comprehensive networking
- Almost unlimited bandwidth
- Fully digital communication
- Data mining and knowledge discovery
State-of-the-art automation concept – ready for IT security?

- IPv4
- Uncontrolled WiFi hotspots
- Complicated configuration
- ERP
- No updates: “never change a running system”
- Standard Ethernet cable not ready for harsh industrial environment
- No or weak authentication mechanisms
- Digitally linked sensor
- Digitally linked actuator
- Standard sensor
IT security at factory automation - concepts

- Managed WiFi
- Managed and engineered networks
- Integrated access protection
- Monitoring of the network topology
- Distributed I/O
- Standard sensor
- Digitally linked sensor
- IO-Link and actuator
- Configuration tools integrated into the “automation framework”
Innovation is in our genes – since 1873
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