How future factories operate
How to become a digitalization winner?
Zagreb, May 29th 2017

Megatrends – Challenges that are transforming our world

Digitalization

In the future, we’ll be living in a world that’s increasingly interconnected by complex and heterogeneous systems. By 2020, the amount of data stored worldwide will have grown to 44 zettabytes. Around 50 billion devices will be linked online.

Digitalization is changing the world …

The next trillion dollars will be earned with data – for our customers and for our industries.
M. Dell, founder of Dell Inc.

Data will be the resource of the future.
A. Merkel, German Chancellor

Data is a gold mine for a wide range of business areas.
S. Gabriel, German Foreign Minister

>50% of the world’s data was created last year …
but less than 0.5% was analyzed or used
Amazing transformations
A lot can happen in a day

5.5 million new “things” get connected every day, and 50 billion by 2020

Digitalization changes everything
Driving the Digital Enterprise for Process Industries
How Digital Masters think?

23 % have a digitalization team or a Chief Digital Officer (CDO)

84% The vast majority of digital leaders are also very satisfied or satisfied with their sales figures

63% For six out of ten companies, is digitalization matter for the top management

Anyone who has not tackled the digital transformation should start now. Anyone who waits is in danger of being left behind.
Generating customer benefits is our key priority

Industry trends

- Efficiency
  - Resource and energy efficiency
  - Demanded product/quantity
- Flexibility
  - Individualized mass production
  - Volatile markets
- Quality
  - Closed-loop quality
  - Traceability
- Time-to-market
  - Fast innovation
  - More complex products
  - Lifecycle Management

Security

HSSE – Health & Safety | Environment | Regulations/Standard | …
Bioethanol
Process Optimization

- Implemented DCS and MES solution at a Bioethanol & Starch Plant
- Identified optimization potential for different raw material input

Customer benefit
- Analyzing the process
- Creation of a mathematical model in strong collaboration with the customer and CT on Digital Twin
- Implementation of an Advanced Process Controls + SIPAT solution – Input from various systems to create Process OEE and closed loop controls
- Continuous optimization of the process reacting on different raw material quality
- OEE KPI's for the entire process

Process Analytical Technology for Modelling, Monitoring and Control

1. Process
2. Choice of sensors
3. Soft Sensorics
4. Sensor System
5. Data Capturing
6. Measurement System
7. Variable Selection
8. Process Modelling
9. Process Monitoring
10. Process Control

Vision: Fully Monitored and Controlled Processes
Optimized performance of assets, energy and resource consumption, maintenance, services …

MindSphere – Siemens Cloud for Industry offers our customers a solid foundation for new, data-based business models

MindApps
- Asset transparency and analytical insights, e.g., predictive maintenance
- Subscription based pricing model
- Fleet management

MindSphere
- Open interface for development of customer specific apps (MindApps)
- Various cloud infrastructures: Public, private or on-premise

MindConnect
- Open standards (e.g. OPC UA) for connectivity (also to 3rd party products)
- Plug and pay connection of Siemens products
How future factories operate

- Wood and fiber
- Energy storage and conversion
- Energy distribution
- Digitalization
- Paper production process
- Drive systems
- Process control and automation
- Plant construction / PLM
- Industrial services
- Drive systems
- Energy distribution
- Digitalization
- Paper production process
- Energy storage and conversion
- Wood and fiber
Traditional companies are under pressure!
Enterprises in many areas are still at the beginning of the digital transformation.

Customer relationships, productivity and business models, as well as IT security, offer high optimization potential.
There is nothing to stop the goal of digital transformation:
Companies want their competitiveness in the long term especially in an ever more international environment.
In many markets, companies no longer compete with the known competitors for customers and sales.
New competitors show up and attack with technology-driven digital Business models.

Questions
& answers