

World trends of industrial digitalization @HANNOVER MESSE 2018 (23. - 27. April)



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Deutsche Messe

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introduction digitalization / smart manufacturing

1. digitalization / smart manufacturing is one of the defining themes of our time, the trend is to network all participants along the value chain
2. digitalization of manufacturing means to connect all processes of the production line of a factory
3. the goal is increasing productivity, creating individualized products and new business models to remain competitive
4. in Germany, the digitalization of the economy under the keyword Industrie 4.0 has become a central subject of public political debates
5. the term “Industrie 4.0” was created in 2011 at HANNOVER MESSE

some examples of digitalization / smart manufacturing

virtual power plants bundle electricity from numerous small generators and feed it into the power grid in precise amounts that were pre-negotiated. Think of a digital control center that monitors the network and distributes power based on contractual agreements. Virtual power plants can meet peak electricity demands at short notice and replace conventional power plants while improving efficiency and flexibility



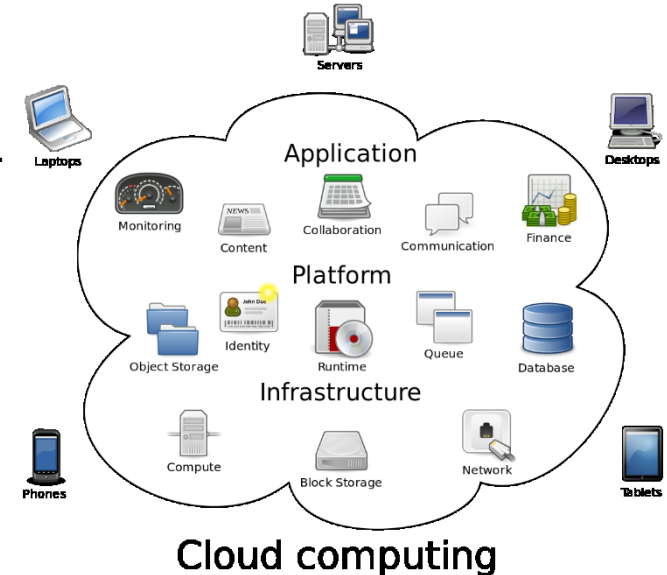
some examples of digitalization / smart manufacturing

augmented reality and virtual reality connect the worker with the factory so that he can work more efficiently or remotely. For example, using special glasses and a direct virtual connection to the factory floor, service technicians can diagnose and correct a problem with a machine or device without leaving their workplace. This saves time and travel costs



some examples of digitalization / smart manufacturing

collecting and analyzing data in the cloud makes it possible to develop additional, internet-based services. With predictive maintenance, for instance, software and sensors evaluate machinery continuously or at specified intervals to determine the optimal time for maintenance – when a pre-set performance indicator reaches its limit but before failure. This form of data collection and analysis enables machinery manufacturers to offer service contracts that provide more value to customers



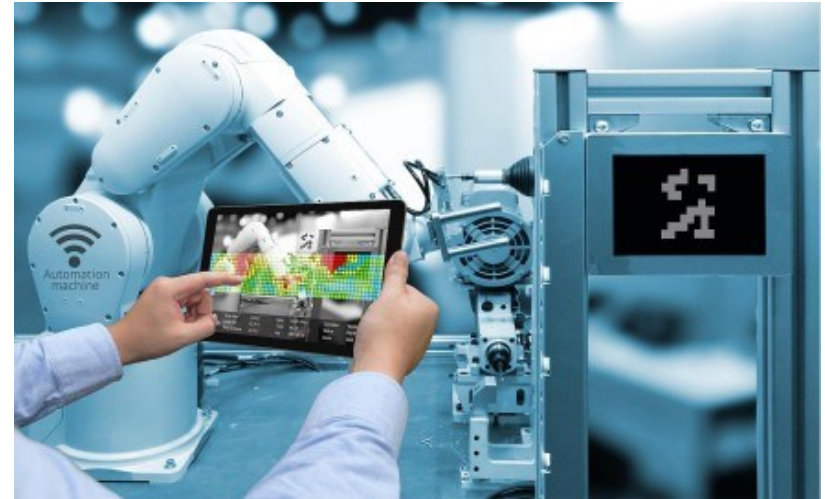
Source: wikipedia

what are the challenges of digitalization / smart manufacturing?

1. in order to produce smart, components of the production plant have to become connectable and intelligent
2. digitalization / smart manufacturing creates big data
3. platforms for data management need to be created, the keywords are platform economics and cloud solutions
4. while using platforms and cloud solutions, companies increasingly need to protect themselves against hacking and cyber attacks, because the communication data often will be transferred into a cloud outside the company, the keyword is IT Security

Digital Twin – one of the ten major trends to keep in eye for 2018

The IoT industry happens twice - the first forecasts for 2018 are already available. In addition to artificial intelligence and augmented / virtual reality, Gartner, one of the worlds leading research and advisory company, counts the Digital Twins as one of the ten major trends to keep an eye on in 2018. According to the analysts, digital modeling of complete value chains will be in use in half of the major industrial companies by 2021, with an increase in effectiveness of 10%.



Source: Gartner

what national digitalization initiatives are there worldwide – a selection

Made in China 2025



Pro Mexico



Plattform Industrie 4.0



Basque Industry 4.0



Industrial Internet Consortium



Alliance Industrie du Futur



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Integrated Industry – Connect & Collaborate



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HANNOVER MESSE

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Leading Trade Show for Integrated Automation, Industrial IT, Power Transmission and Control (Halls 8, 9, 11, 12, 14–17, 22, 23)
- **Digital Factory**
Leading Trade Show for Integrated Processes and IT Solutions (Halls 6–8)
- **Energy**
Leading Trade Show for Integrated Energy Systems and Mobility (Halls 11–13, 27, FG)
- **Industrial Supply**
Leading Trade Show for Innovative Subcontracting Solutions and Lightweight Construction (Halls 3–5)
- **Research & Technology**
Leading Trade Show for Research, Development and Technology Transfer (Hall 2)

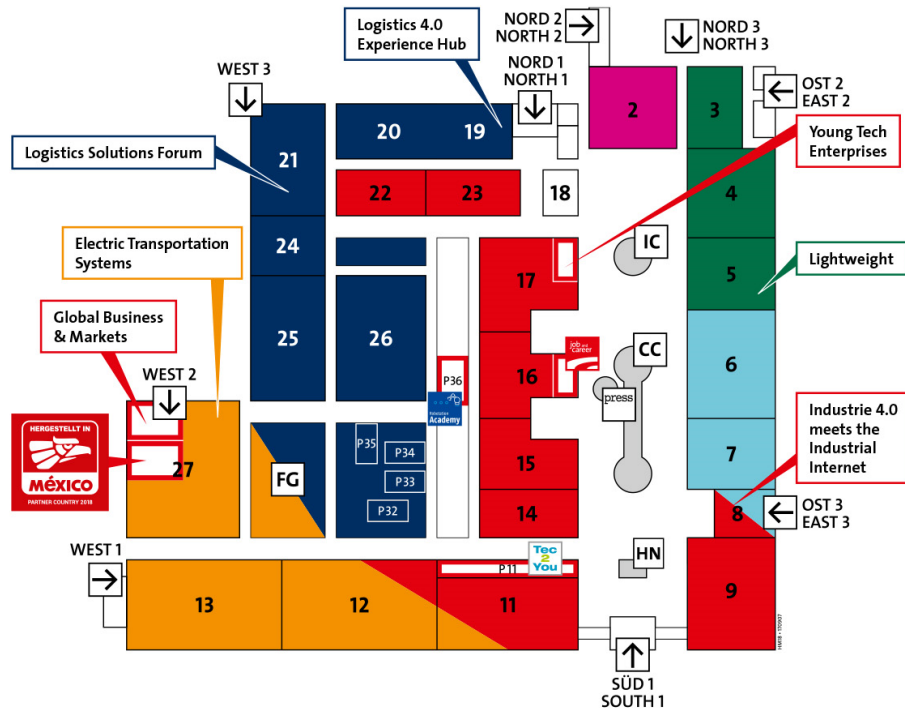


CeMAT

World's leading trade show for intralogistics & supply chain management (Halls 19–21, 24, 25, 26 FG, Pavilions 32–35)



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job and career
(Halle/Hall 16)



Tec2You
(Pavillon/Pavilion 11)



Robotation Academy
(Pavillon/Pavilion 36)



Eingang
Entrance



IC
Informations-Centrum
Information Center



CC
Convention Center



HN
Haus der Nationen
House of Nations



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