

SIEMENS



On the way to Industrie 4.0 - Driving the Digital Enterprise

Dr. Helmut Figalist @ VDMA Informationstag, Industrie 4.0 Konkret - September 2015

The Internet is revolutionizing the business world and creates major challenges for manufacturing companies



Industrie 4.0

Defining the way forward for industry in the Internet age

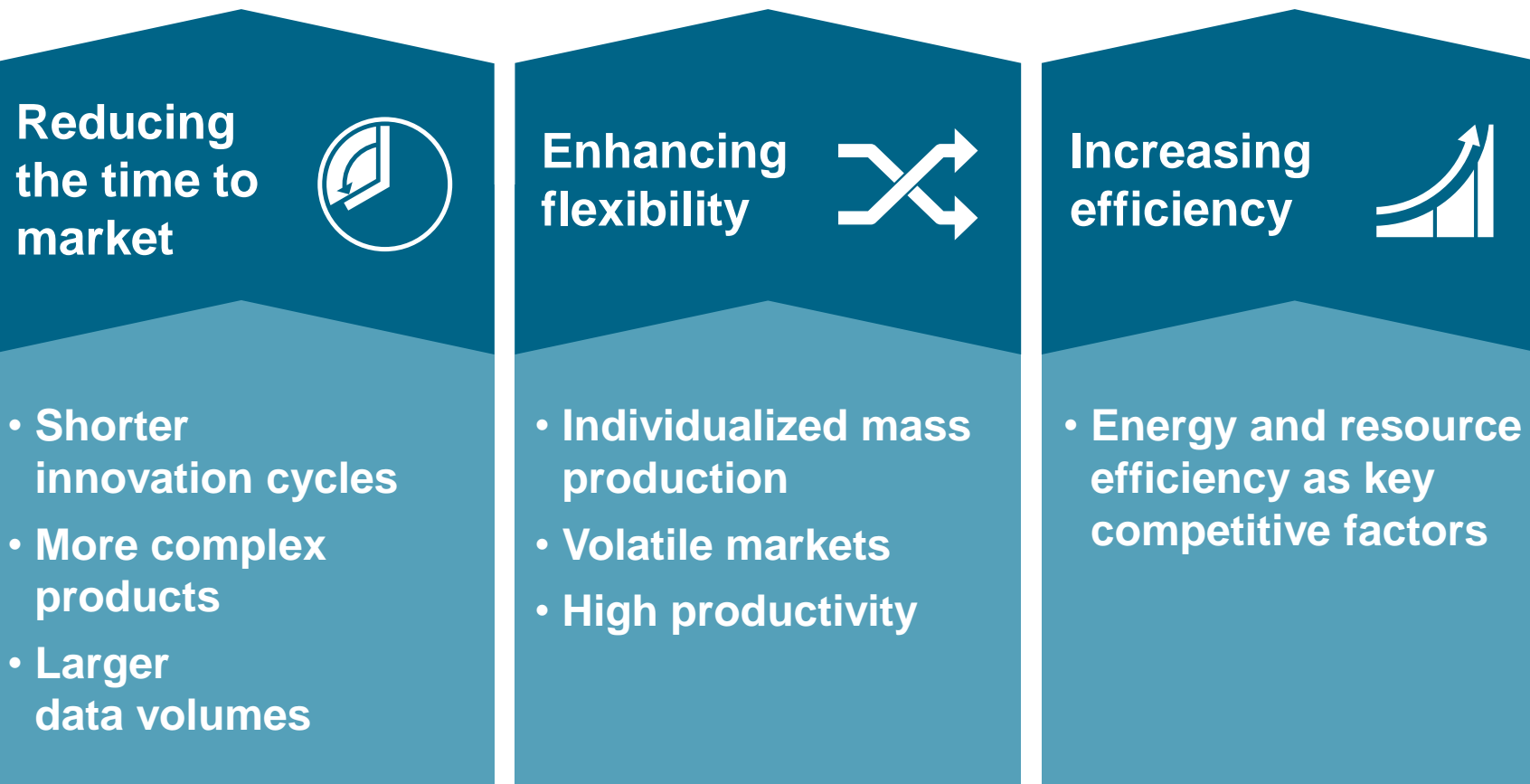


An initiative of the German industry sponsored
by the German Government

Cornerstones of the initiative Industrie 4.0

- Horizontal integration of the value-add networks
- Seamless integration of the engineering
of the entire value-add chain
- Vertical integration and networked production systems

Key areas where an Industrie 4.0 solution will need to provide significant progress



Development Production

In the past:

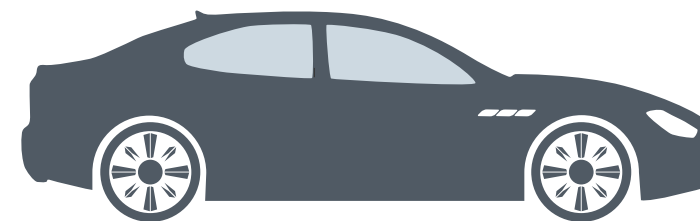
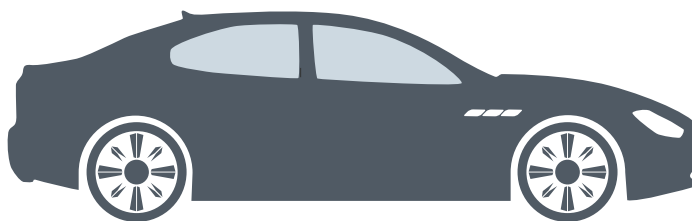
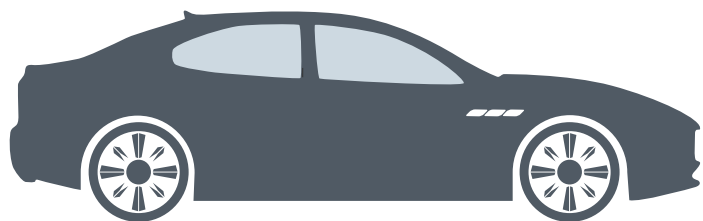
8 Years

11 Years

Now:

3 Years

6-8 Years



Industrial integration:

Company-wide challenges require Holistic Solutions



Internet of Things



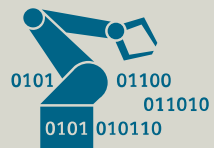
Cloud technology



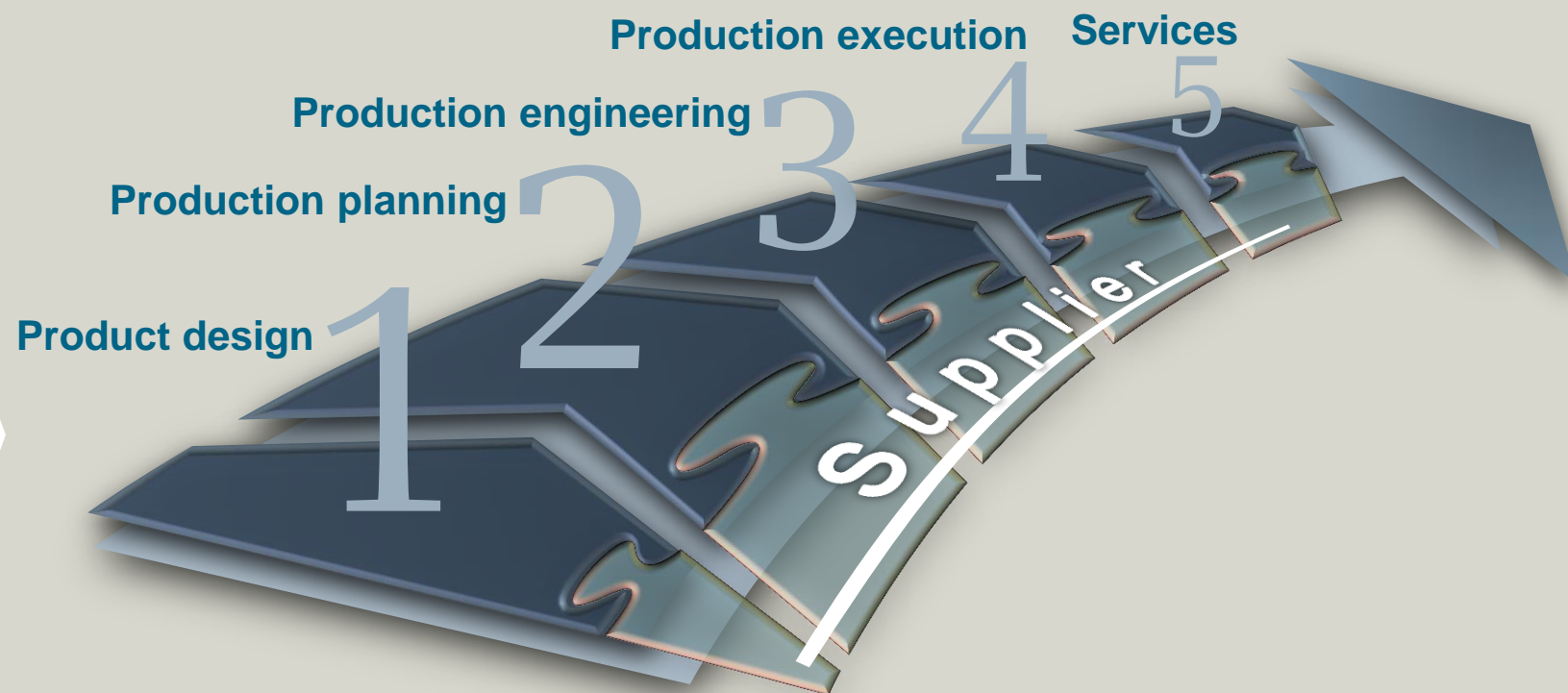
3D printing technology



Knowledge automation

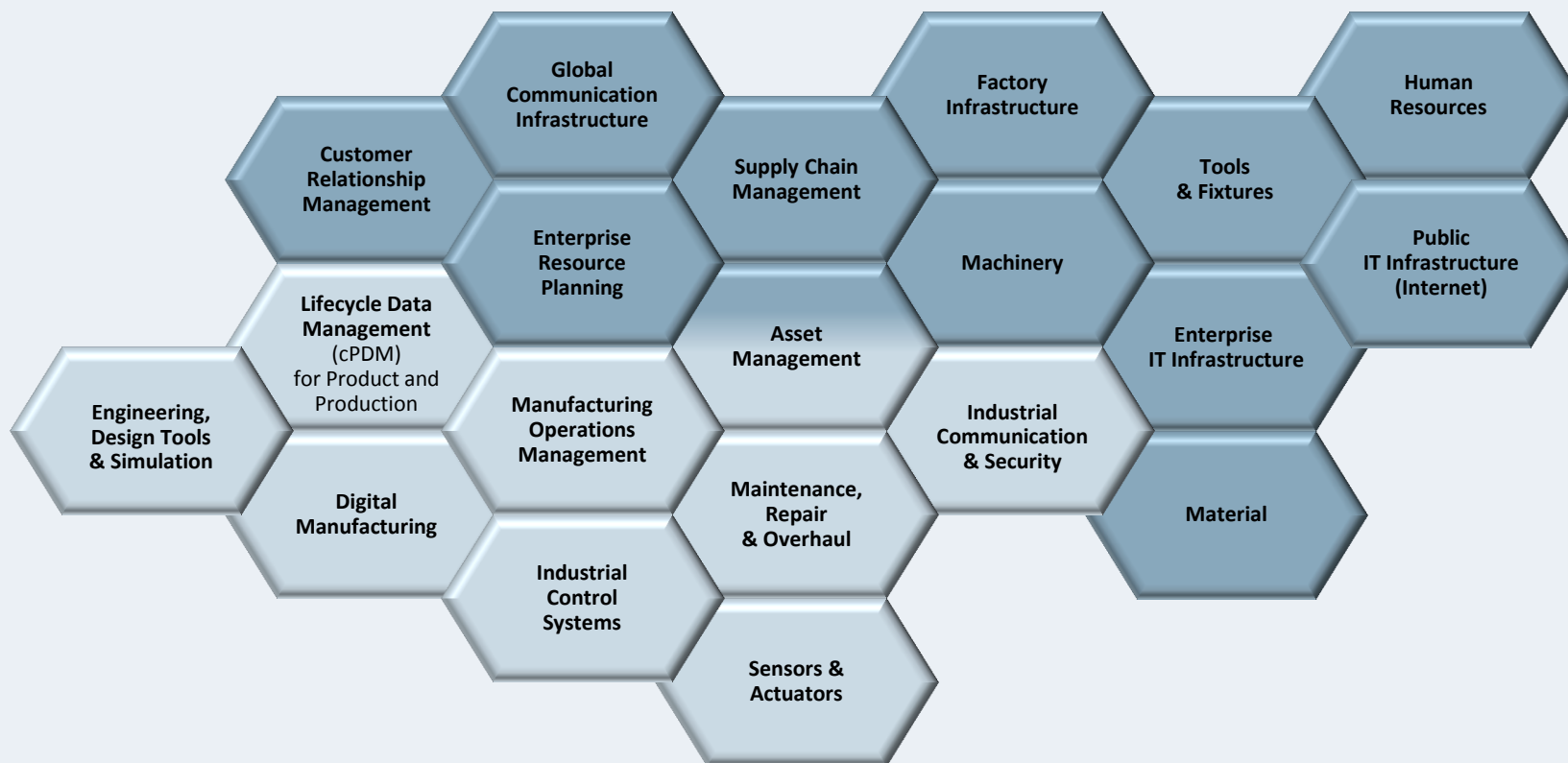


Advanced robotics



Transformational technologies + Integrated Value Chain = maximum results

Industrie 4.0 affects all aspects of the industrial value chain – Siemens focusses on selected domains



Domains covered by Siemens DF and PD portfolios

“Digital Enterprise” Software Suite – The Siemens answer to Industrie 4.0 requirements



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PLM Software Portfolio

- Product Planning, Design, Test and Simulation
- Production Planning, Engineering and Simulation



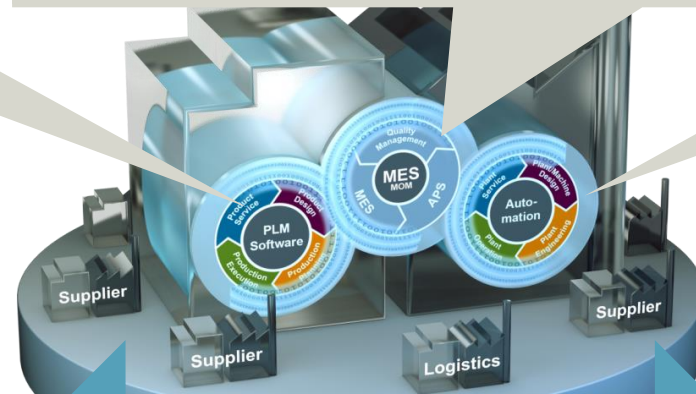
MES/MOM Software Portfolio

- Planning & Scheduling
- Quality Management
- Manufacturing Execution
- Manufacturing Intelligence
- SCADA / HMI



Integrated Automation Portfolio

- Integrated engineering and runtime for controllers, distributed I/O, HMI, drives, motion control and motors
- Industrial Safety and Security



Top-down Product-driven

Seamlessly Integrated

Bottom-up Process-driven

Siemens: Realizing our own Digital Enterprise

Electronic Works Amberg

Manufacturer experiments with "smart factory"

"At a Siemens factory in Amberg, machines have begun to self-replicate. Regulating the ultra-efficient production lines are the very same automation devices ... that are spat out at the end. One line, which operates 24 hours a day, requires no human intervention at all ..." – FT, April 10, 2014

- 1000+** Teamcenter managed product variants shipped to customers worldwide each year
- 60.000+** monthly production of SIMATIC products
- ~1 Million** process items entered in SIMATIC IT each day
- ~50 Million** automation level
- ~75%** automation level
- ~12 dpm** 99.9988% quality rate

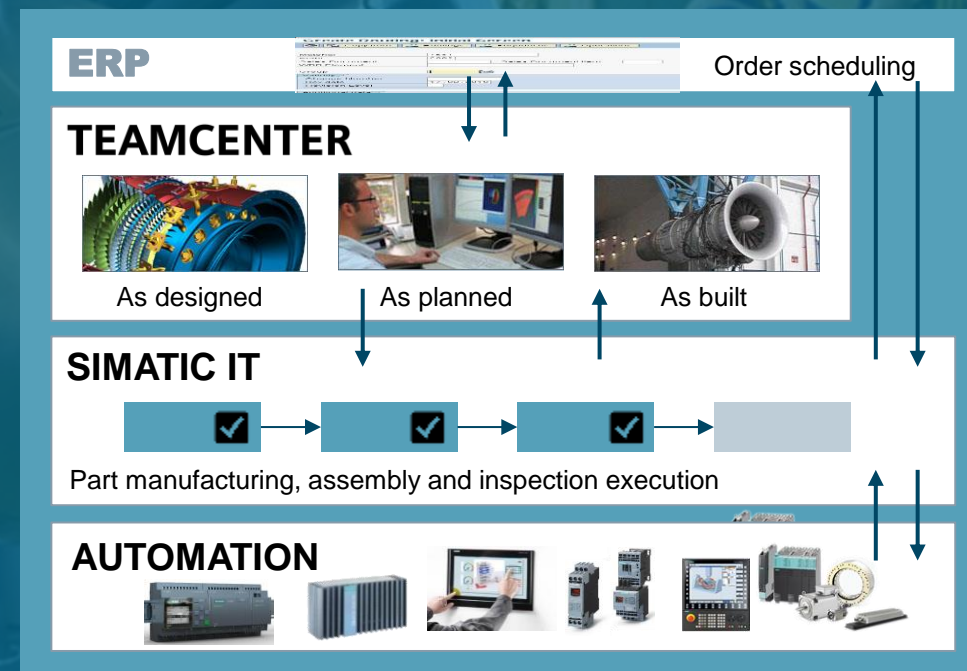


ITP: Digitalizing product, production and automation

Exceeding customer expectations in Quality, Delivery, Cost and Responsiveness

Siemens PLM Software enables integrated design, manufacturing and production lifecycles

Industria de Turbo Propulsores (ITP) has digitalized product/process definition and production execution, with a direct connection and feedback loop between the two worlds.



Maserati: improving competitiveness by digitalizing all its core processes
Italian Passion. Virtually Developed. Efficiently Built.

Digitalization in manufacturing: the Maserati Ghibli

At its new factory in Turin, Maserati proves that high quality and maximum efficiency can be combined. From design to execution planning everything is done digitally. The results: a simplified, streamlined development and manufacturing process that makes the factory more flexible.



Thank you!