

ACHEMA 2018
June 11-15
Hall 11/C3
Frankfurt/Main

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Ingenuity for life

Accelerate the digital transformation From Integrated Engineering to Integrated Operations

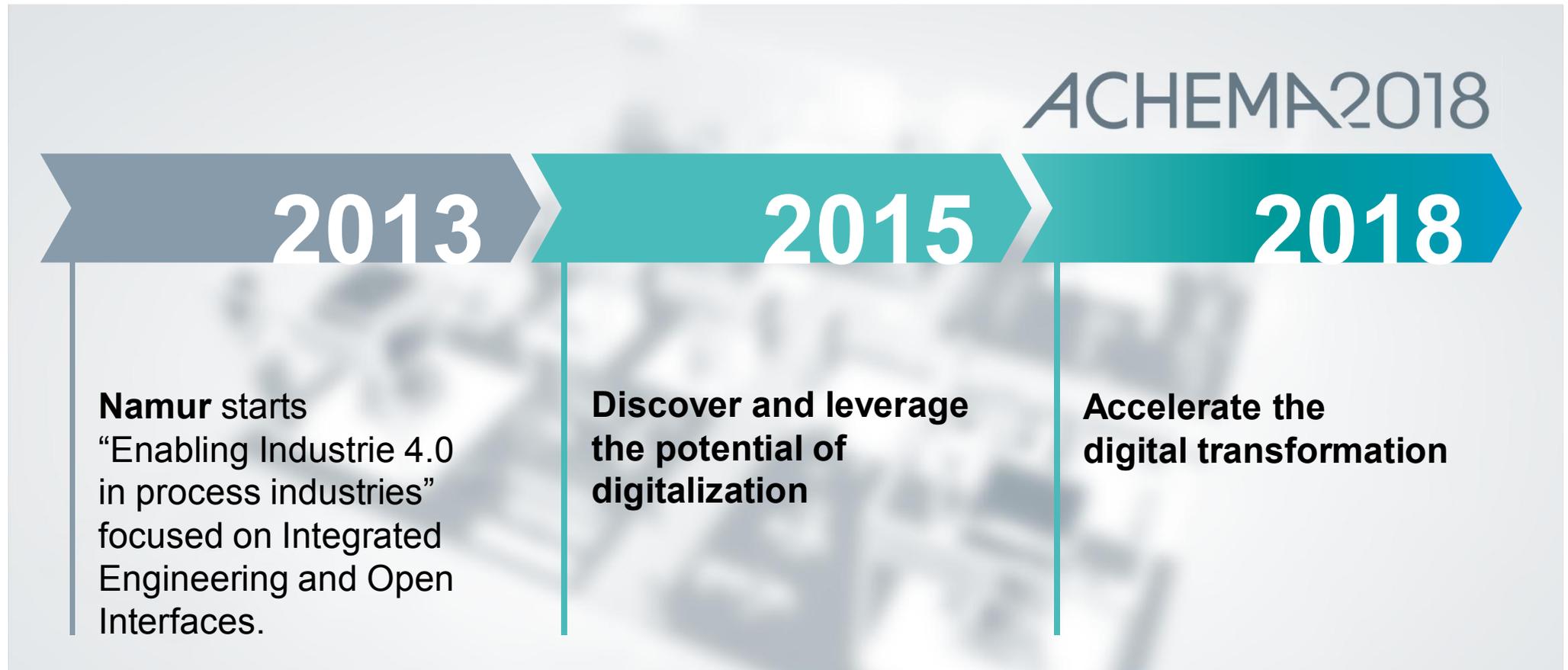
Dr. Jürgen Brandes, CEO Process Industries and Drives
Eckard Eberle, CEO Process Automation

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[siemens.com/achema](https://www.siemens.com/achema)

At ACHEMA Siemens demonstrates on-going development of the Digital Enterprise and the Digital Twin

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Siemens expertise in electrification, automation and digitalization unleashes new business values in process industries



Computing Power
Connectivity
Sensors
Cloud computing
Data analysis
Data driven services



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Digitalization



Create
batch size 1



Automation



Conquer
new markets



Electrification



Establish new
business models

Time to market

Flexibility

Quality

Efficiency

Security

Digitalization and Industrie 4.0 are continuously in the headlines and already creating down-to-earth benefits for pace makers

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Advanced automation and digitalization allowed us to design a paint production process which can consistently deliver the highest quality paint, faster than ever before and with a flexibility that permits incredible market responsiveness.

K. P. Worrell, Project Director DuluxGroup Australia

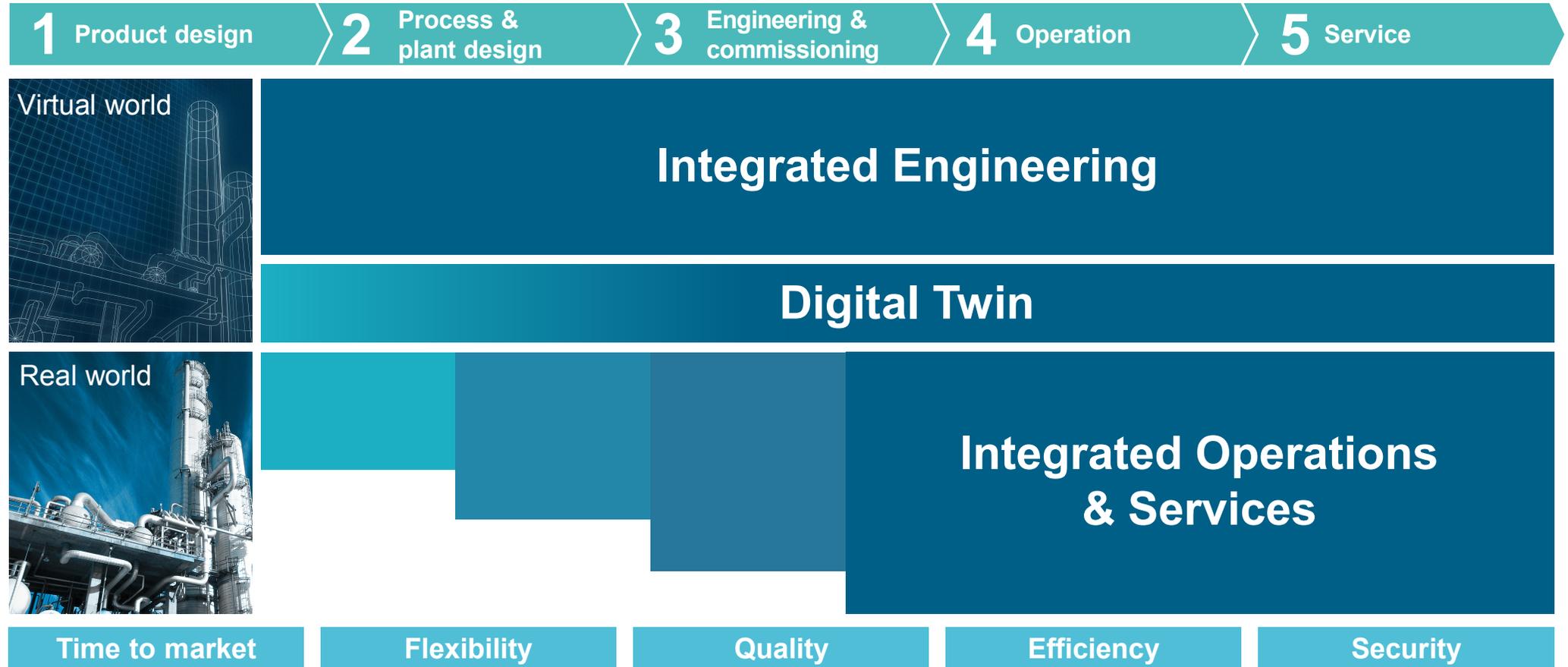
Continuous Manufacturing Technology is the first step towards a fully automatized production.

M. Becker, Global Engineering, Pfizer Germany

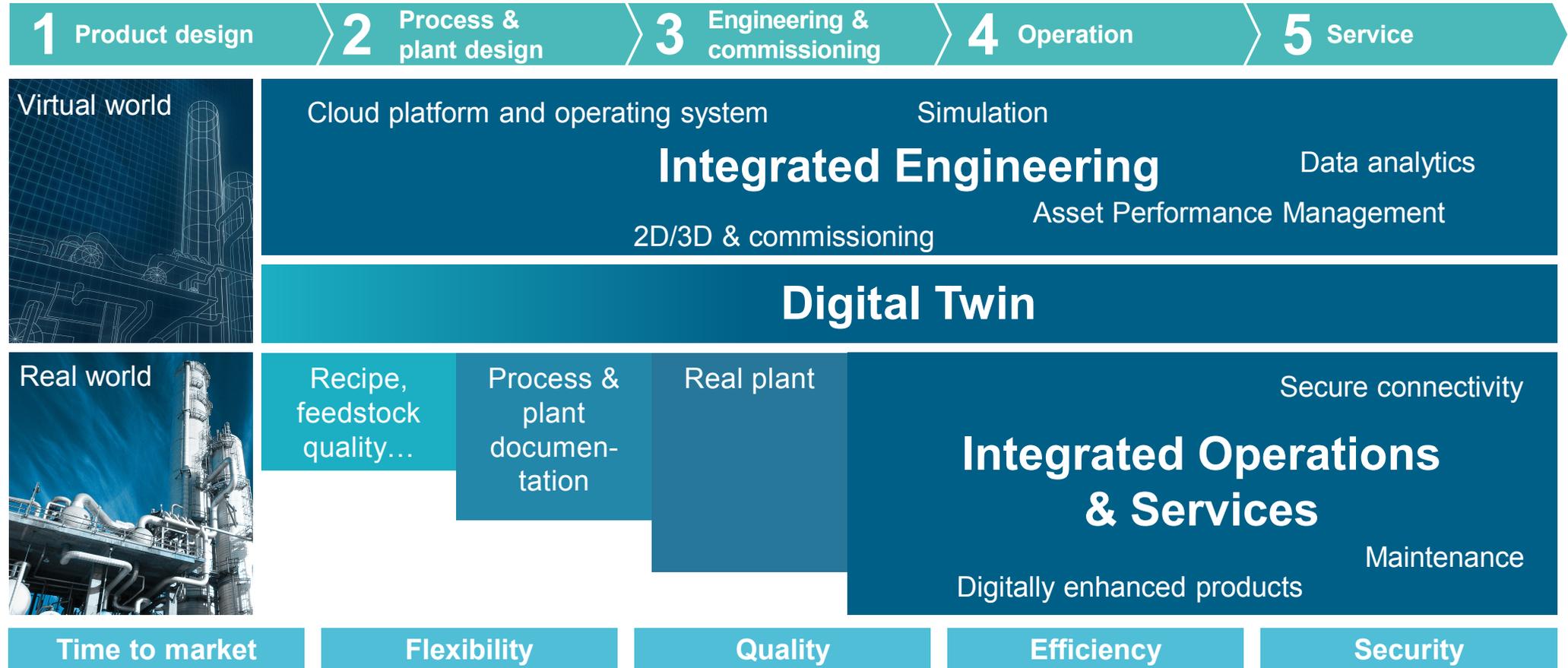
Data is the raw material for the interesting business models of the future.

A. Birkenfeld, Automation Engineering, Kaeser Kompressoren SE, Germany

We offer digital solutions from Integrated Engineering to Integrated Operations & Services built around the Digital Twin



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Accelerate the digital transformation The Digital Enterprise in the chemical industry

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Dulux

Before



Now



Engineering

Plants can only produce paint batches in **large quantities (> 5,000 liters)**

Operation

Data documentation on paper, **manual** plant resetting and **time-consuming** test processes

Service

Retroactive **repairs** and maintenance **after** faults have occurred

Greater flexibility in responding to demand for **small batch sizes up to 100 liters** using plant simulation and digital optimization

Data documentation of formulas and production processes completely digitalized (Digital Twin) for flexible plant resetting

Data analysis of process data and **preemptive fault detection** in production lines

DuluxGroup, Australia

Chemical Industry – New level of flexibility to personalize mass paint production

SIMATIC PCS 7

COMOS Walkinside

SIMIT

SIMATIC PCS 7 Process Historian

SIMATIC IT eBR

Greater customization

100 ltrs instead of >5,000 ltrs

>50% less time from testing to paint production

8x faster production process

Fewer downtimes

due to predictive maintenance

Jinyu Bio-technology Co. Ltd., China



Pharma Industry – Intelligent manufacturing for China's leading animal vaccine producer

SIMATIC
PCS 7

COMOS
Platform

SIPAT

XHQ
Operations
Intelligence
Software

SIMATIC
IT eBR

Linking all equipment and production lines into a
connected plant

**End-to-end material tracking
and control** from raw materials
all the way to the finished product

Collect and manage production, operation and
maintenance data in one centralized system
for permanent improvements

Pfizer, Germany

Pharma Industry – Continuous, fast, and flexible tablet manufacture

**SIMATIC
IT**

**Continuous
Manufacturing
Technology
(CMT)**

**Manufacturing
Execution
System (MES)**

**SIMATIC
WinCC**

Shorter time to market

thanks to real-time release

Faster and more flexible production

for adapting to new market
situations in a matter of minutes

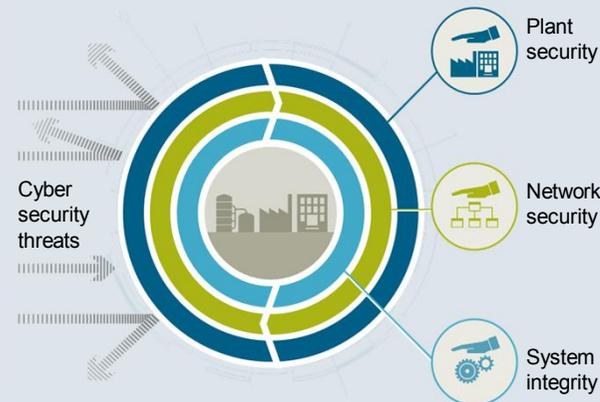
Higher quality due to higher data
transparency



DowChemical R&D center, Middle East

Cybersecurity – Central protection of distributed systems

Defense-in-Depth

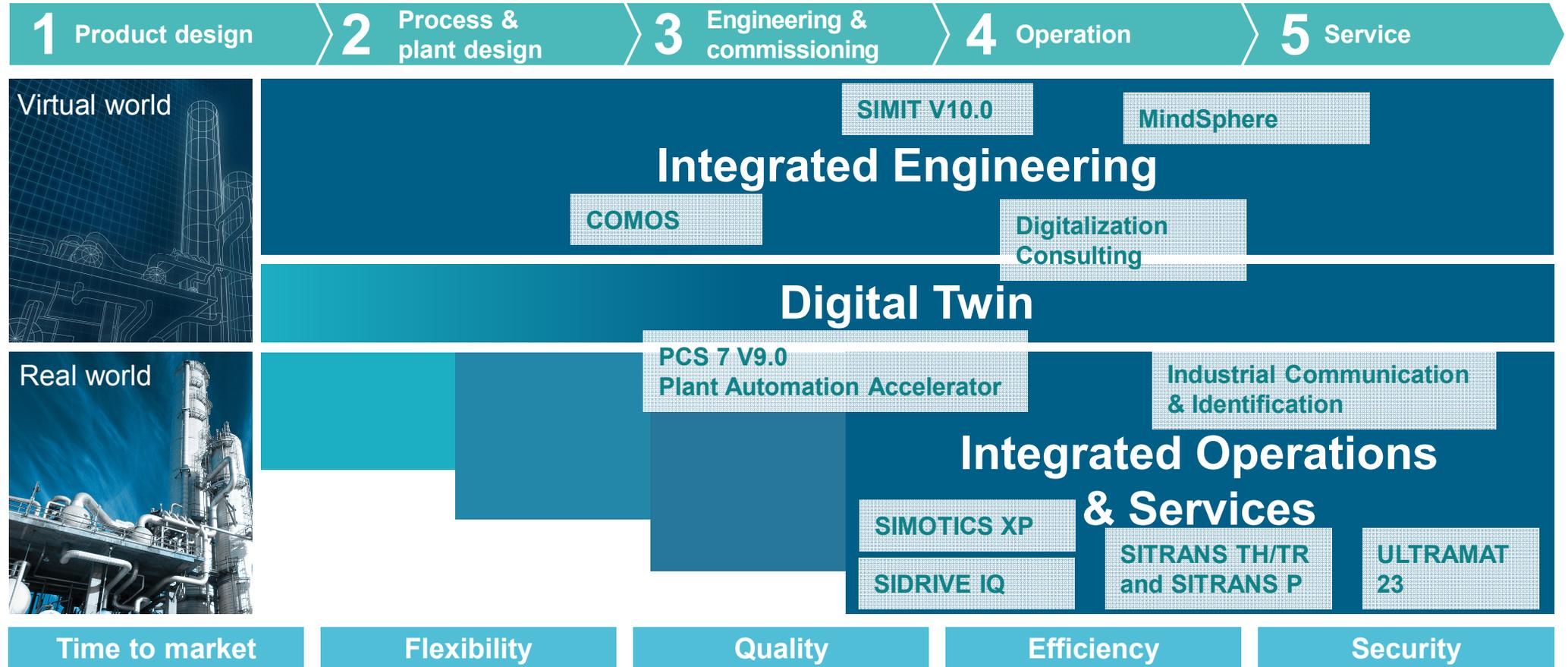


Comprehensive **risk analysis
and related tests**

Keep the **process control
system safe from hackers**
with compatible anti-virus and whitelist software

Fast installation with
minimum downtime

We offer digital solutions from Integrated Engineering to Integrated Operations & Services built around the Digital Twin



Accelerate the digital transformation



Digitalization Consulting

Your specific digitalization roadmap



MindSphere

The cloud-based, open IoT operating system from Siemens



COMOS

Increase the value of your data with modularized engineering



PCS 7 V9.0 Plant Automation Accelerator

Integrated engineering via "plug and play"



SIMIT V10.0

Simulation for different project sizes and requirements



ACHEMA 2018 – Experience our highlights!

Industrial Communication & Identification

Industrial Communication Networks & SIMATIC RTLS



SITRANS TH/TR and SITRANS P

Next generation of instruments



ULTRAMAT 23

Long-term emission monitoring solution



SIMOTICS XP CHEMSTAR

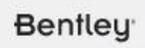
New standard for explosion protected motors



SIDRIVE IQ

Intelligence for the optimal performance of drive systems



 SIWA Optim	 Valve Monitoring	 Control Performance Analytics	 Drive Train Analytics	 Smart Pumping	 SIPAPER Drive Performance Analytics	 Oil Production Monitoring	 Digital Lifecycle Services	 DCS Health
 Anomaly Detection For ESP	 Bentley - Digitalizing the Brownfield	 COMOS in the cloud	 SISHIP EcoMAIN	 Axit - AX4 mobile	 XHQ Launch (Mobile)	 Control in the Cloud (Workbench)	 Control in the Cloud (Video)	 Data & Security Gateway
 Burst Detection in Water Distribution Systems	 PAT cloud connect	 EPA - Equipment Predictive Analytics	 Disruptive process control for Pharma	 Digital Terminal (TankFarm Workflow Management)	 Process Event Analytics	 Pump Monitoring	 SISHIP eSIPOD Condition Monitoring	 Zero Engineering
			 Smart Mine	 Digital Pipeline Inspection: Depth of Cover	<h1>Applications for process industries</h1> <p>Created according to customer requirements</p>			

We take new ways of innovation together with our customers and partners



Co-creating with customers...



BILFINGER
Engineering platform COMOS



Cloud-based asset performance analytics



Asset lifecycle data model



Automation platform SIMATIC

... and cooperating with implementation partners



Wristband for always-on authentication



Automated guided vehicles



Advanced process modelling and simulation



2D/3D Engineering



Cloud-based logistics solution



Serialization / Track&Trace



IT solutions cyber security

Functional Namur Open Architecture (NOA) demonstrator Live at ACHEMA

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Source: Namur and atp

**Second Data Channel,
separated from Core Process**
NOA Connectors
NOA IT/OT Switch
NOA Access Point

Smart IoT field devices
SIMOTICS Connect400
RTU3030C
SITRANS MAG8000

Application Platform
Smart Device Dashboard
Valve Monitoring Application

SIMATIC PCS 7 V9.0

Room for new perspectives

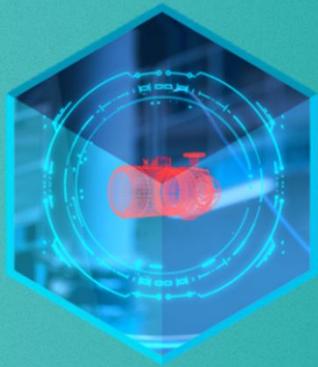
End users strive for reduced **complexity and customization** in automation projects and lifecycle management.

SIMATIC PCS 7 V9.0 opens up new opportunities with its new hardware platform based on PROFINET standard:

- Extremely small footprint
- Single point configurable I/O
- Plug-and-Produce
- New generation of high-available remote I/O
- A fresh approach to commissioning field devices

The result: Digitalization down to the field level –
and a way towards future innovation!

Starting to “reThink” process automation



reThink Usability

Assume interaction with the system will take place clearly and easily via a highly intuitive user interface – to focus on what really matters for the business.



reThink Digitalization

Envision a system that enables plant design and engineering, simulation and automation seamlessly.

reThink Scalability

Whether supplying small units or managing an entire production site – imagine a system that can be seamlessly upgraded and expanded during operation.



reThink Collaboration

Think to count relying on a system that enables a secure connection of all users and external suppliers at the same time.

reThink Mobility

Imagine experts have immediate access to engineering projects and operation processes from anywhere using only one secure web connection.



Accelerate the digital transformation in process industries by implementing the Digital Enterprise now!

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