

# Digital Industries

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Siemens Capital Market Day | Munich, May 8, 2019



# Notes and forward-looking statements



This document contains statements related to our future business and financial performance and future events or developments involving Siemens that may constitute forward-looking statements. These statements may be identified by words such as "expect," "look forward to," "anticipate" "intend," "plan," "believe," "seek," "estimate," "will," "project" or words of similar meaning. We may also make forward-looking statements in other reports, in presentations, in material delivered to shareholders and in press releases. In addition, our representatives may from time to time make oral forward-looking statements. Such statements are based on the current expectations and certain assumptions of Siemens' management, of which many are beyond Siemens' control. These are subject to a number of risks, uncertainties and factors, including, but not limited to those described in disclosures, in particular in the chapter Risks in the Annual Report. Should one or more of these risks or uncertainties materialize, should decisions, assessments or requirements of regulatory authorities deviate from our expectations, or should underlying expectations not occur or assumptions prove incorrect, actual results, performance or achievements of Siemens may (negatively or positively) vary materially from those described explicitly or implicitly in the relevant forward-looking statement. Siemens neither intends, nor assumes any obligation, to update or revise these forward-looking statements in light of developments which differ from those anticipated.

This document includes – in the applicable financial reporting framework not clearly defined – supplemental financial measures that are or may be alternative performance measures (non-GAAP-measures). These supplemental financial measures should not be viewed in isolation or as alternatives to measures of Siemens' net assets and financial positions or results of operations as presented in accordance with the applicable financial reporting framework in its Consolidated Financial Statements. Other companies that report or describe similarly titled alternative performance measures may calculate them differently.

Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.



Rosendahl Nextrom

**Customer needs drive our business – We support them in leveraging unique growth and profit opportunities**

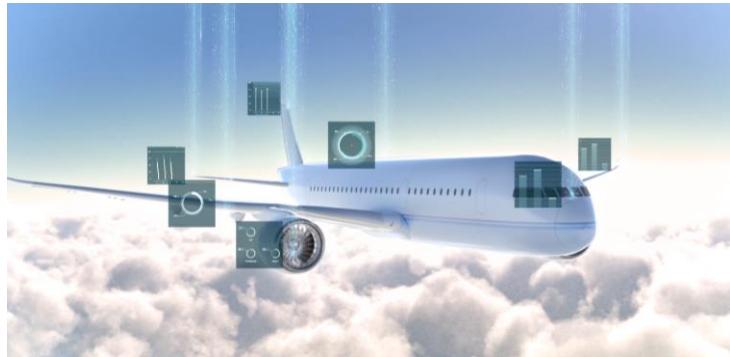
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## Flexibility

## Time to market

## Productivity

**Our comprehensive end-to-end portfolio meets core customer demands**



### Example Chemicals

Individualized color batches of 100 liters instead of 5,000+ liters

### Example Aerospace

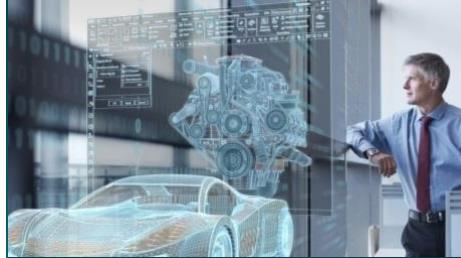
2.5 instead of six years development time for airplanes

### Example Machine Building

Up to 25 percent shorter machine commissioning times

# Market-leading Business Units focus on customer needs – with software, automation and services

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## Software (industrial)

### #1 market position

- Integrated portfolio of industrial software
- Cloud-based, open IoT operating system
- Rapid application development platforms



## Factory Automation

### #1 market position

- Automation products
- Engineering software
- SCADA software
- Systems for production machines
- Industrial Edge



## Motion Control

### #1 market position

- Drives
- Motors
- Machine Tool Systems
- Additive Manufacturing
- Digitalization and Edge Computing for machine tools and drive technology



## Process Automation

### #3 market position

- Automation systems & software for process industries
- Process instrumentation & analytics
- Industrial communication & identification
- Power supply systems



## Customer Services

- Lifecycle services
- Digital services
- Digital Enterprise consulting and integration

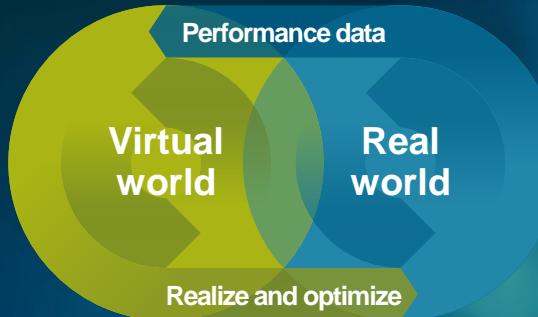
## Solutions for focus Industry Verticals

**Digital Enterprise offering integrates virtual and real worlds –  
leading to unique competitive advantage of our customers**

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# Digital Enterprise

Digital end-to-end solutions for industry



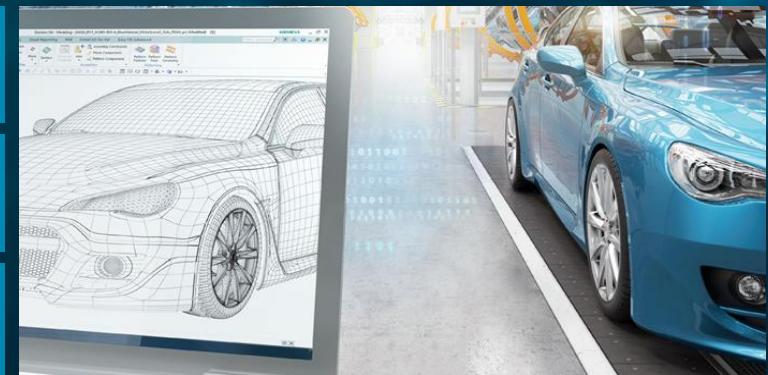
The diagram shows two overlapping circles. The left circle is yellow and labeled 'Virtual world'. The right circle is blue and labeled 'Real world'. The overlapping area is green and labeled 'Performance data'. Below the circles is a green arrow pointing right, labeled 'Realize and optimize'.

## MindSphere

Automation and industrial software for process and discrete industries



**Industrial communication**  
**Industrial security**  
**Industrial services**



A composite image showing a 3D wireframe model of a car on the left and a real blue car on the right, both displayed on a screen, symbolizing the integration of virtual and real worlds.

# Digital Industries is uniquely positioned – with automation and software driving digital transformation



1	Loyal and constantly growing customer base	180,000+ 7,500	customers partners
2	Strong market position of our businesses	#1	in industrial software, factory automation & motion control
3	Ever-expanding global installed base	>10,000	PLCs shipped per day
4	Growing industrial software business	>60%	recurring share in software revenue
5	Unique end-to-end portfolio in software and automation	>10bn >10%	M&A executed R&D investment
6	Global network of domain experts	>12,000 >20,000	industrial software engineers automation engineers

Dedicated sales channel approach has widened customer reach from small and medium enterprises to global corporations

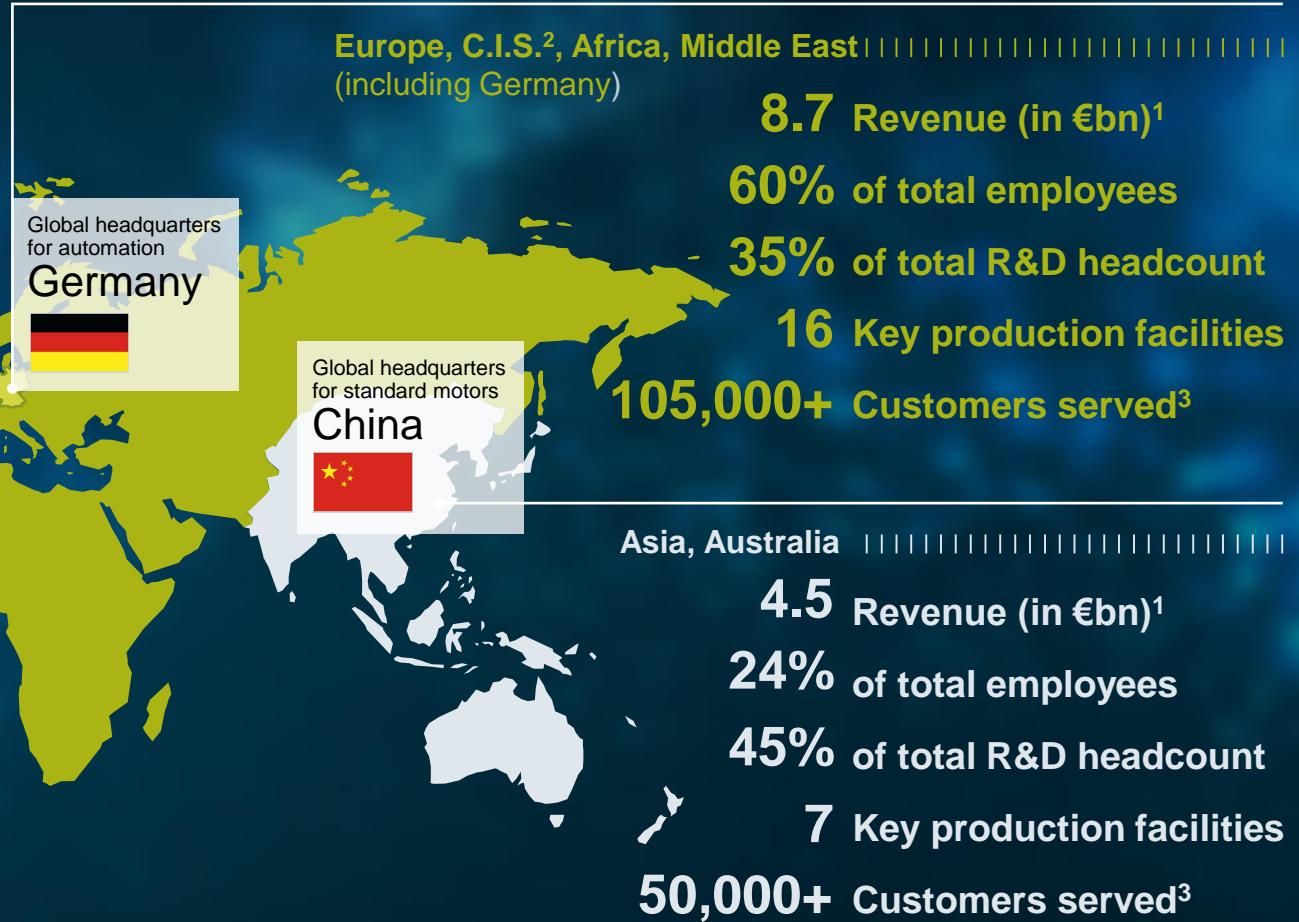
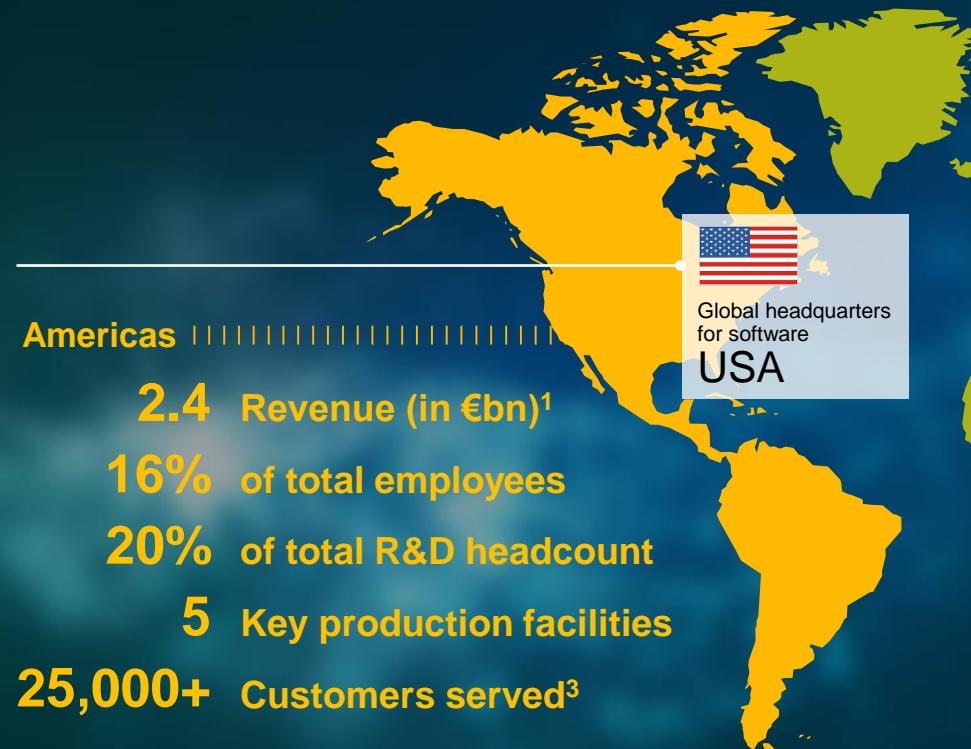
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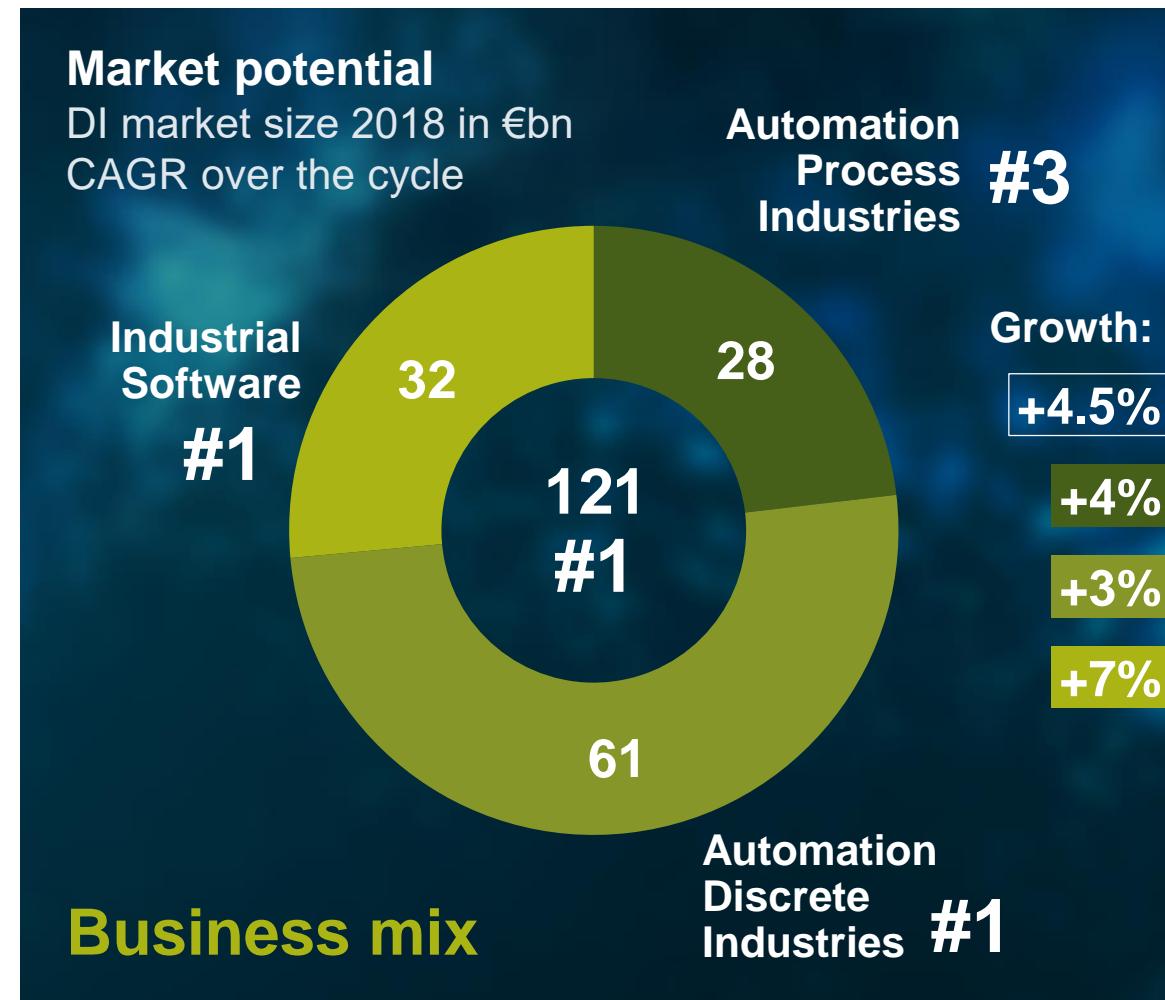
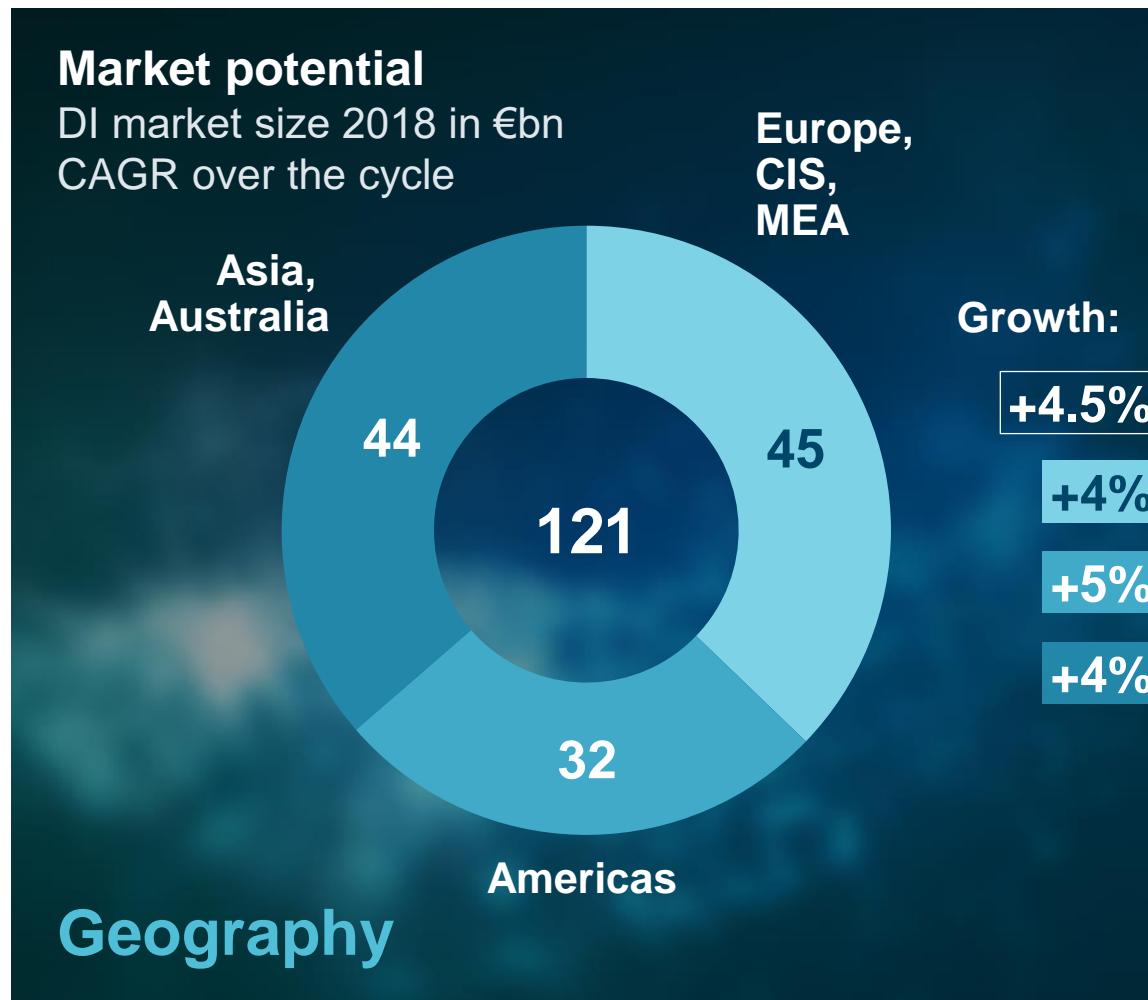
# Close to customers around the globe

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Revenue<sup>1</sup> **€15.6bn** Employees ~**75,000**

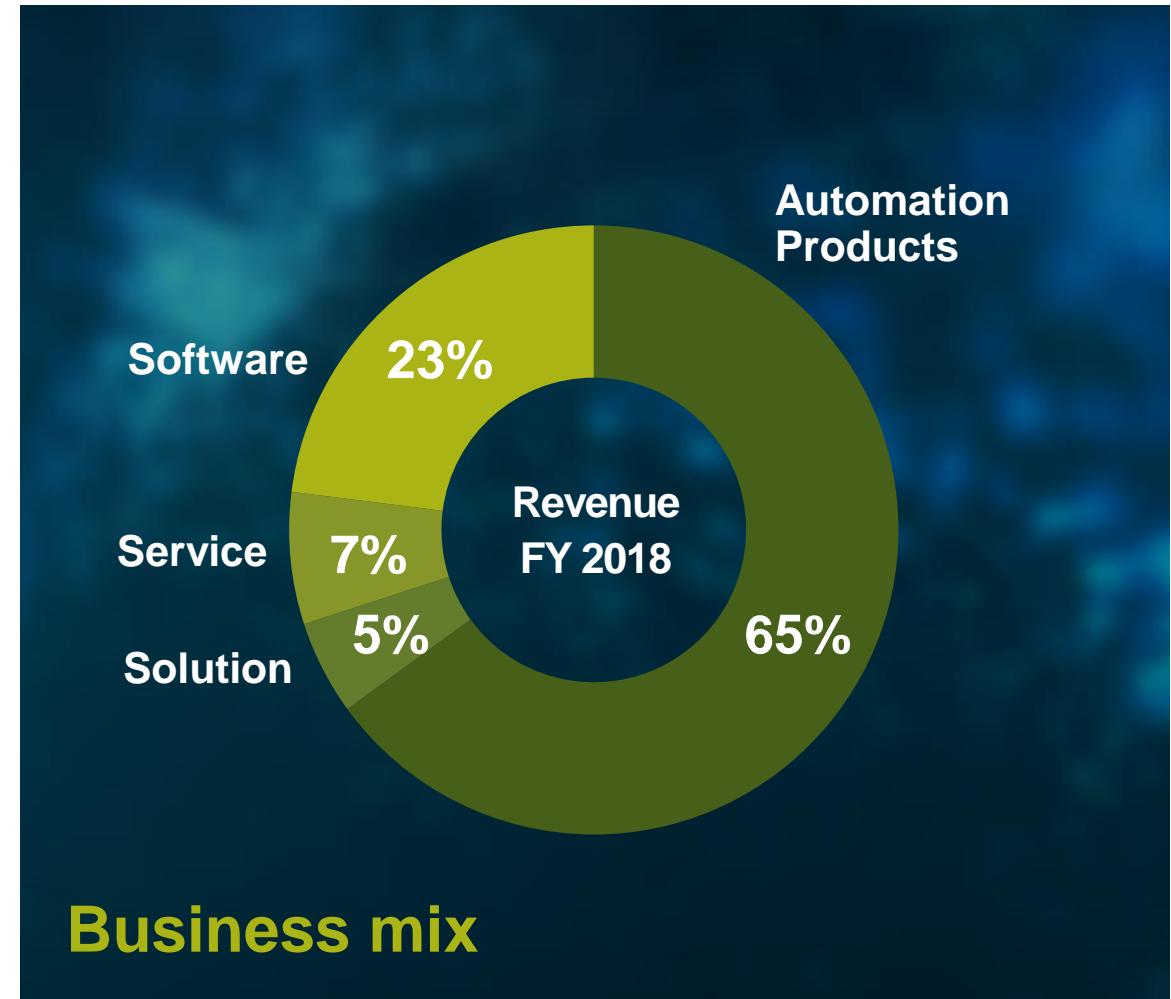
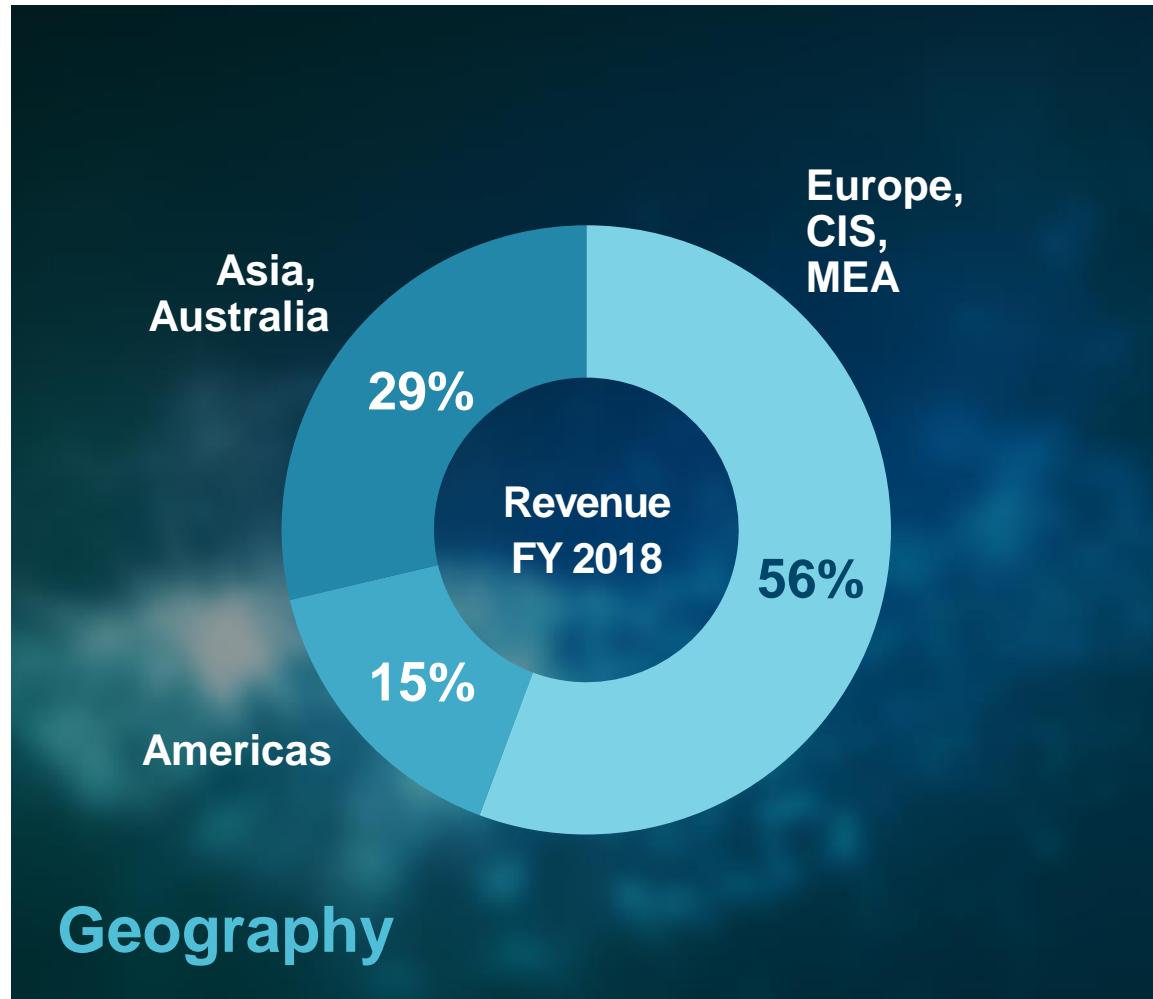


# Focused on fast-growing end-markets

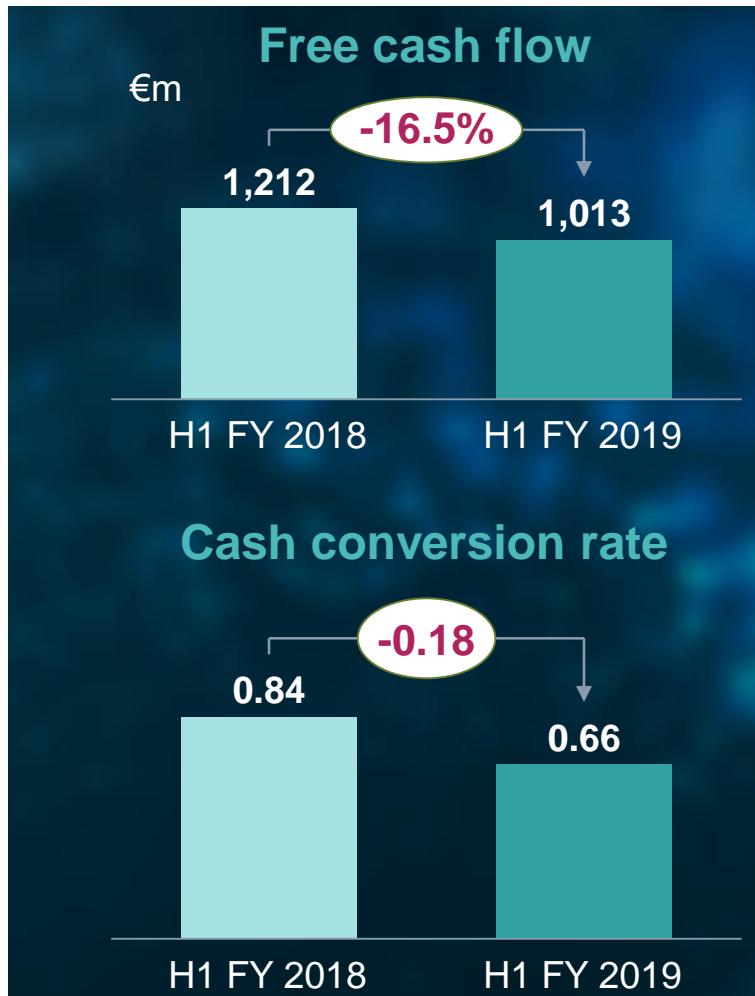
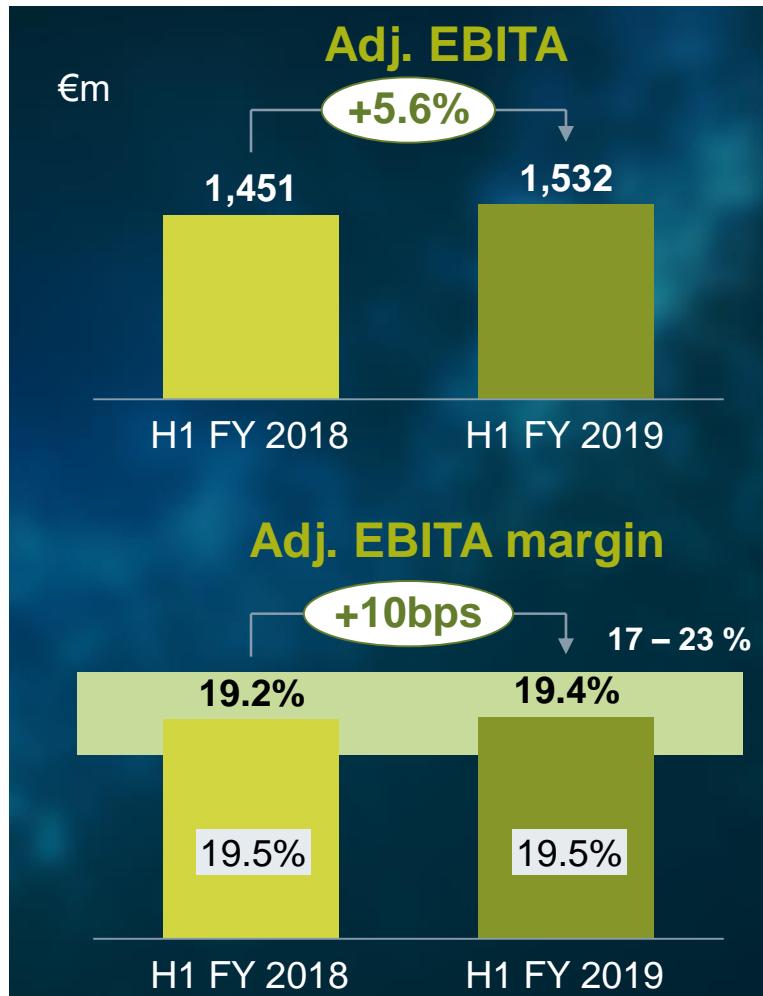
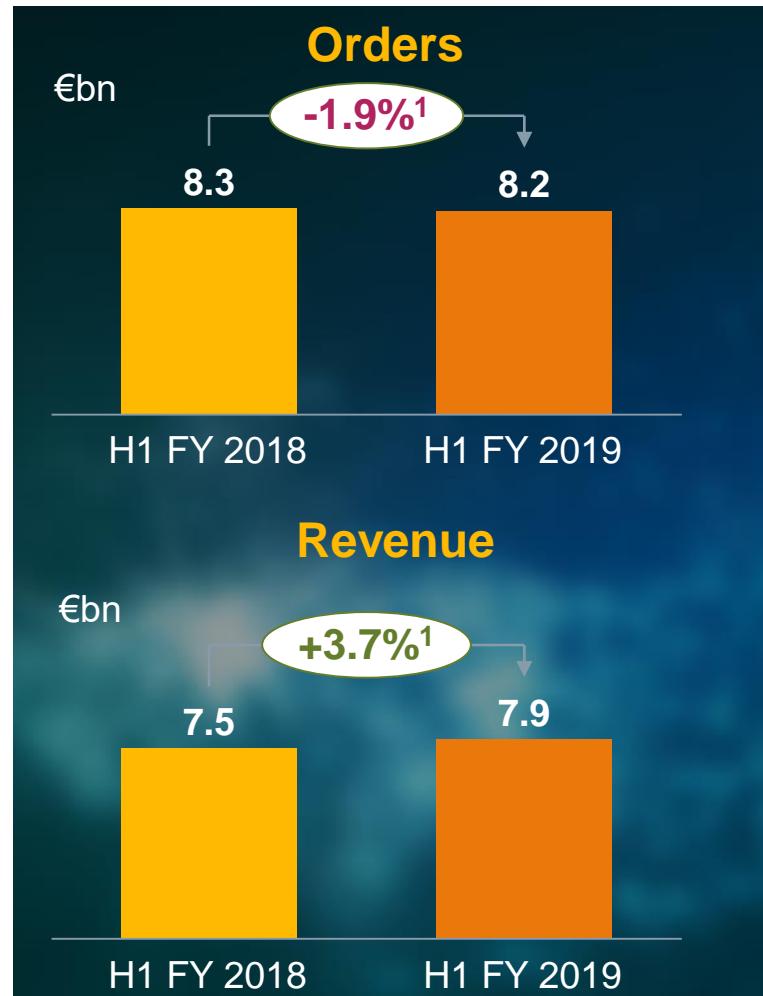


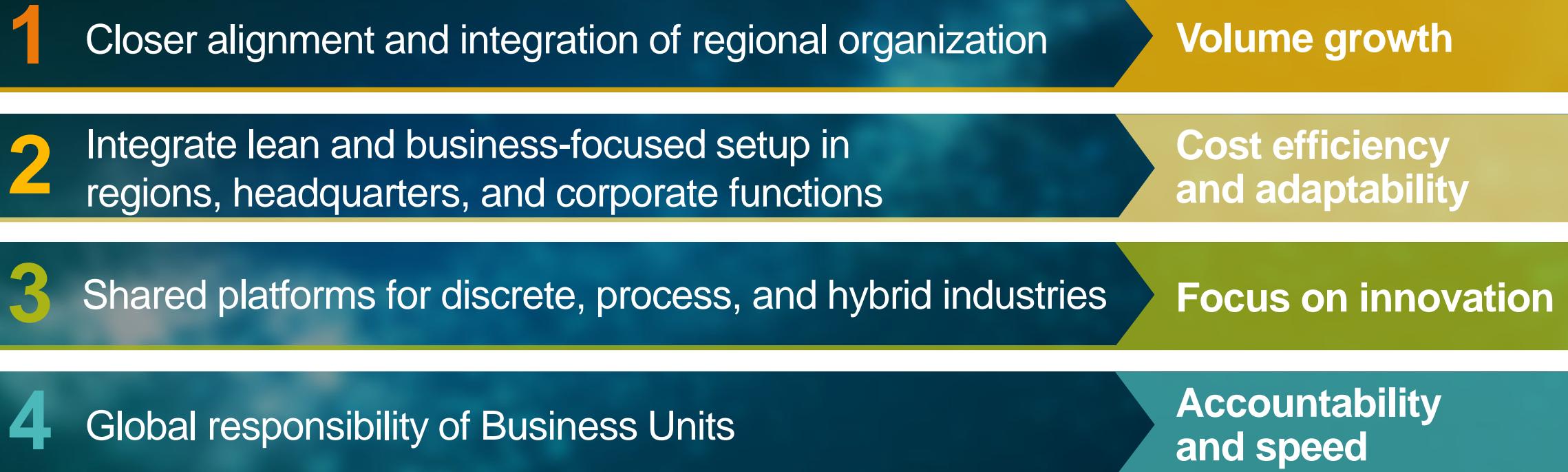
Achieve growth across businesses and regions  
to further increase resilience

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# DI Q2 results show continued proven financial performance



- 
- 1** Closer alignment and integration of regional organization → **Volume growth**
  - 2** Integrate lean and business-focused setup in regions, headquarters, and corporate functions → **Cost efficiency and adaptability**
  - 3** Shared platforms for discrete, process, and hybrid industries → **Focus on innovation**
  - 4** Global responsibility of Business Units → **Accountability and speed**

# Consumer demands and technological development increase challenges for industries

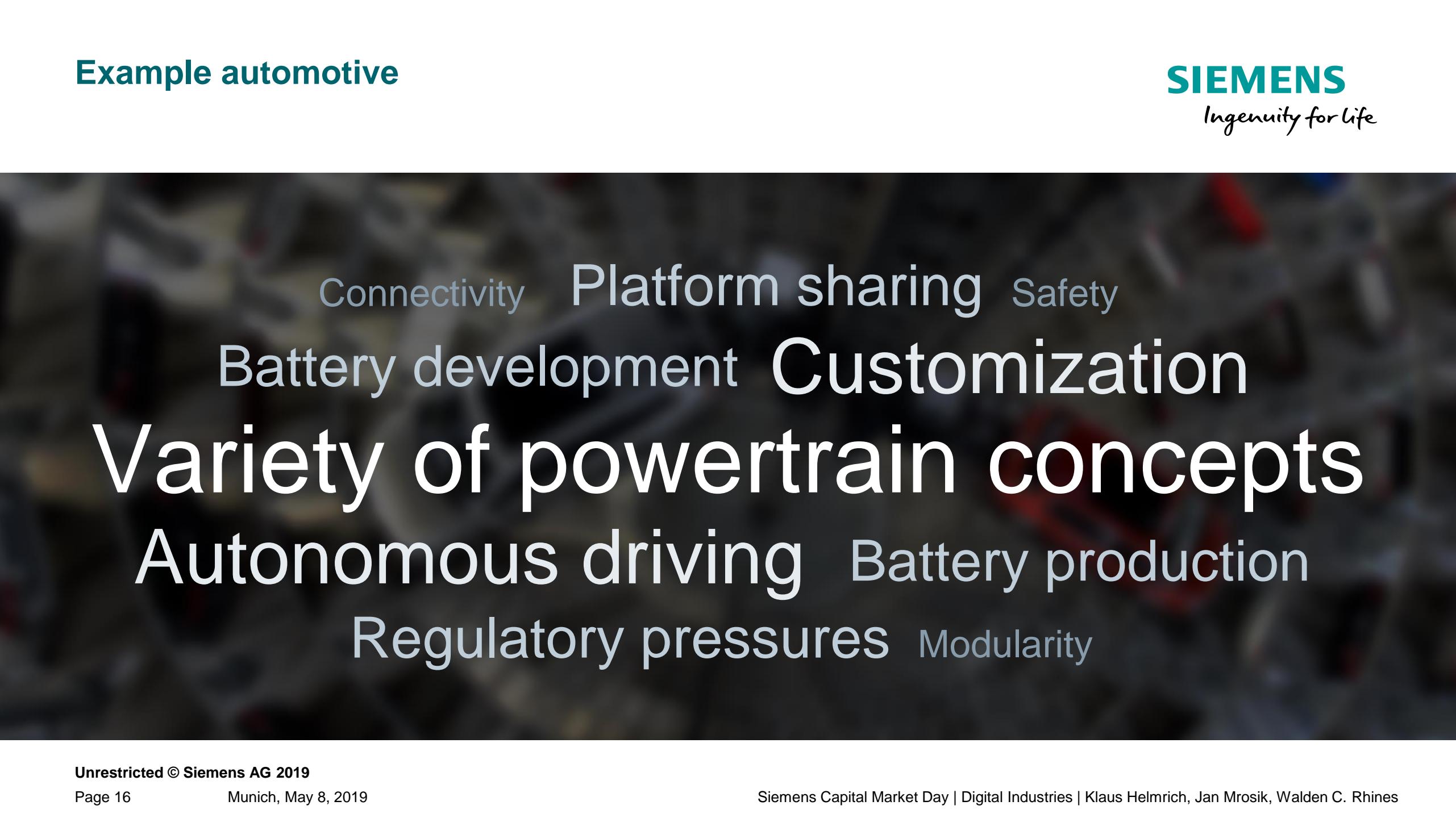
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# Example automotive

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Connectivity   Platform sharing   Safety  
Battery development   Customization  
**Variety of powertrain concepts**  
Autonomous driving   Battery production  
Regulatory pressures   Modularity

# Powerful automation platforms and industrial software already provide first-level benefits



Product design  
CAD and simulation

Production planning  
CAM and simulation

Production  
MOM / MES,  
automation,  
and Edge/IoT

Product  
IoT

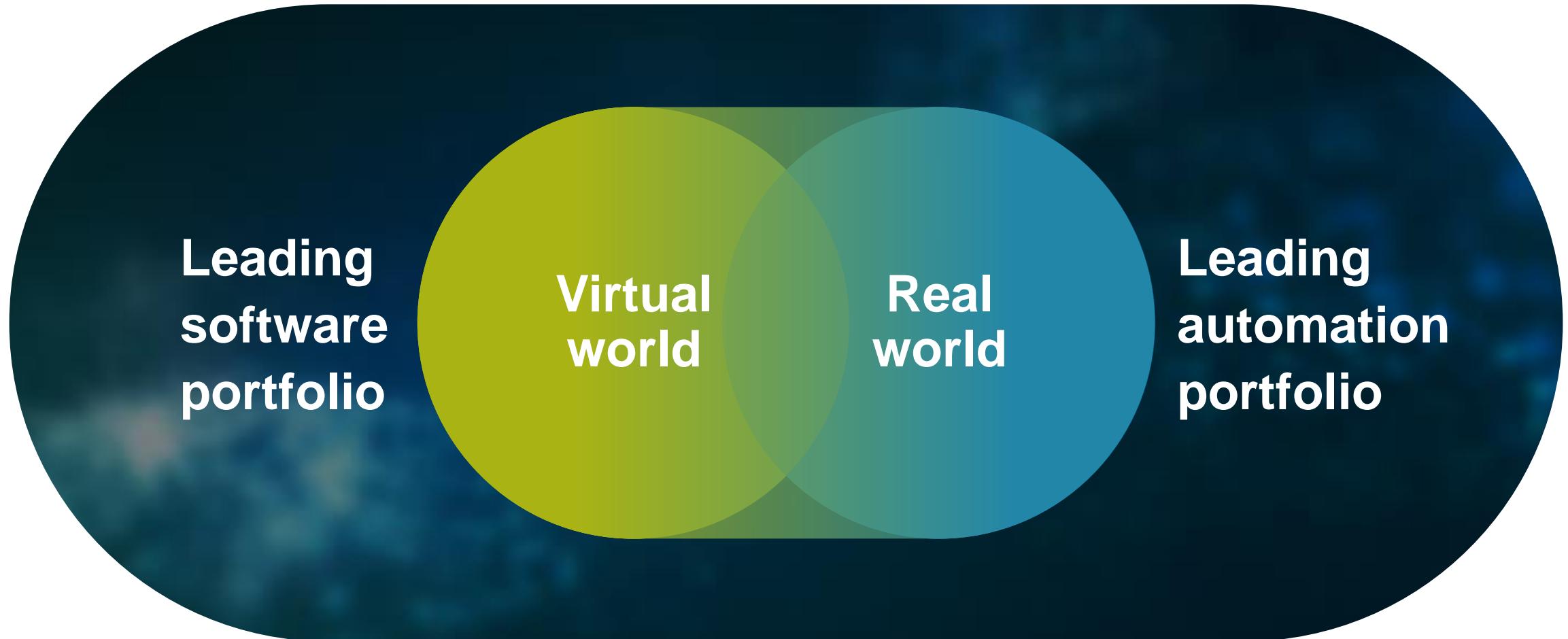
**Maximum benefit of Digital Enterprise is leveraged  
only through integration of the entire value chain**



Seamless integration  
Digital Enterprise

**Digital Enterprise provides unique competitive advantage  
to customers by integrating virtual and real worlds**

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**Systematic expansion of our portfolio:  
>€10bn invested in M&A since 2007**

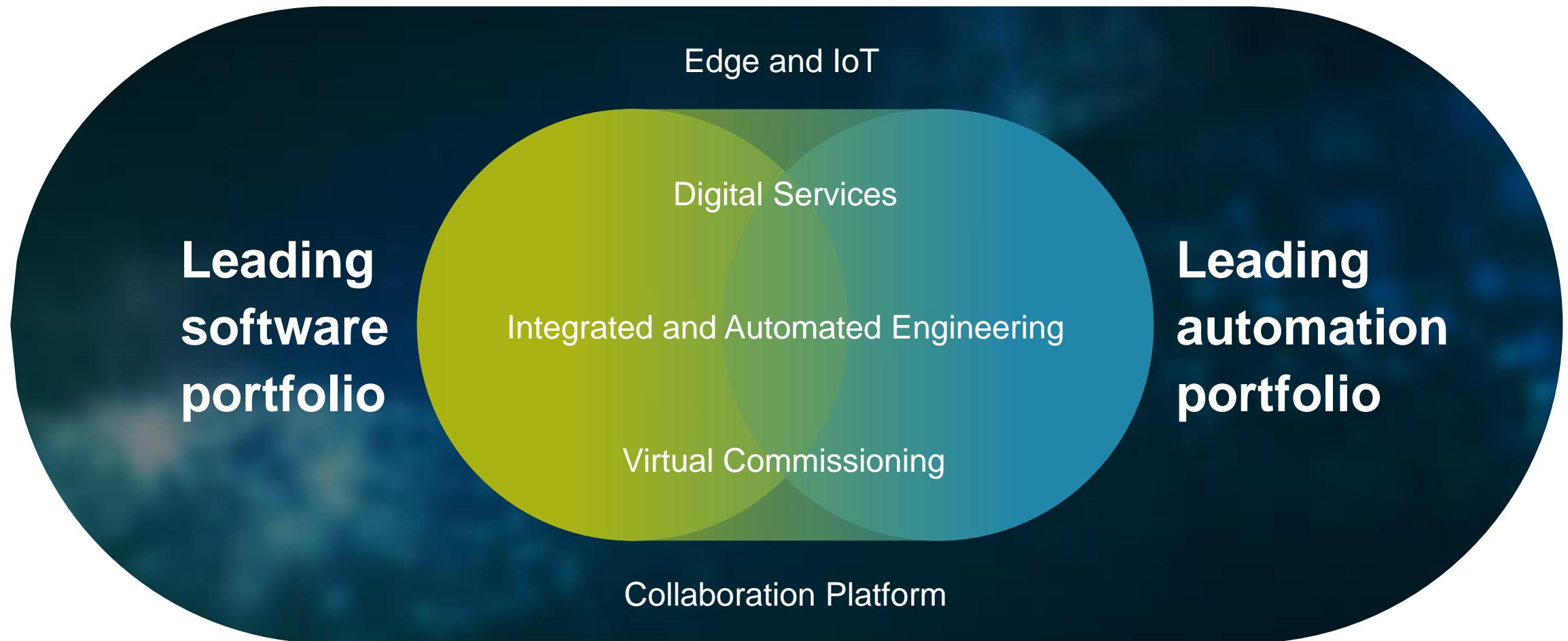
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1 Cooperation

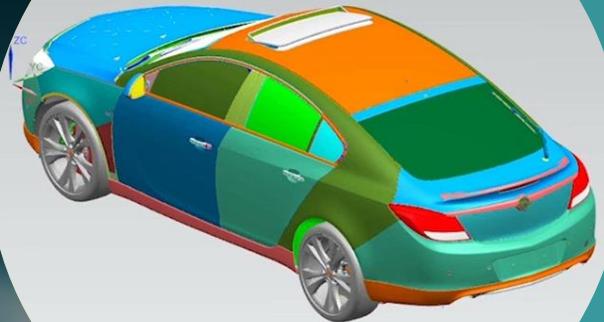
**Innovations through integration of software and automation,  
based on deep domain know-how**

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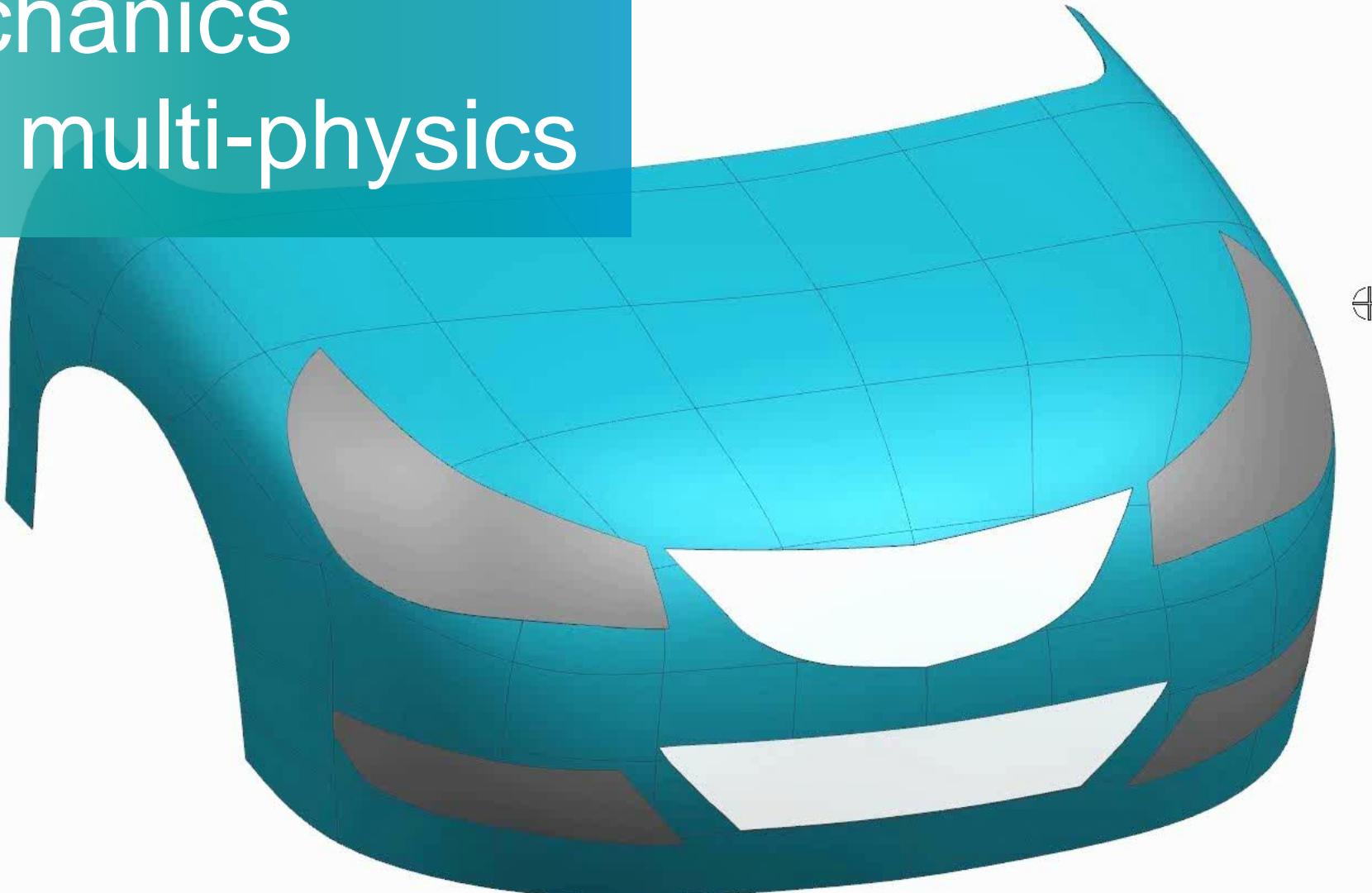


**The Digital Twin of the product  
reduces time to market**

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# Mechanics and multi-physics



Capital HarnessXC

NX 11 - Routing Electrical - [000\_00\_Insignia\_jt.prt (Modified)] SIEMENS

# Electrical systems

File Home Route List Assemblies Curve Analysis View Render Tools Application Find a Command

New Print Save

Automotive Interactive

Build Lists Harness Study - DOOR-LIFT Harness Study - DOOR-RIFT System Designs Wiring Harnesses Harness Designs

- AUDIO-SYSTEM CABIN DOOR-FL
- DOOR-LIFT DOOR-RIFT DOOR\_LF\_BRG ROOF

Diagram1 Nailboard

Harness Design Symbols Parts

DOOR-FL Bundles Nodes Connectors ILC1 ILC2 P64 P65 P66 P67 P68 P69 P70 P71 P72 P73 P74 P75 P76 P77 Clips CL1 CL2 CL3 Assemblies Grommets Splices SP404 SP407 SP449 Devices Wires 2N-SP 4N-FUL 4N-INL 4N-INR 4N-PO 4N-TRI SN-CT SN-CT SN-CT SN-GN SN-GN SN-GN SN-GND-CTSY-LP-2008 SN-GND-CTSY-LP-2675 SN-GND-CTSY-LP-2676 SN-POWER-1-2278 SN-DRV-DOOR-LOCK-202

Mentor® A Siemens Business

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Page 24 Munich, May 8, 2019 Select Count:0 429.16, -310.21 EN

Auto Route by Component Manual Route by Component Create Auto Assign Edit Manual Assign Unroute Connection Route Connection Assign Component Compon... Report Hi... Capital Connect Import/Export

Assembly Navigator Descriptive Part Name Session Component Groups Component Groups in Part

- 000\_00\_Insignia\_jt (Order: Chrono)
- OPD73693\_001\_VPPS\_10\_POWER
- OPD73697\_001\_VPPS\_15\_POWER
- OPD73709\_001\_VPPS\_20\_CHASSIS
- OPD73722\_001\_VPPS\_30\_HVAC
- OPD73728\_001\_VPPS\_40\_INTERIOR
- OPD73738\_001\_VPPS\_50\_BODY
- OPD73702\_001\_VPPS\_55\_BODY
- OPD73706\_001\_VPPS\_60\_EXTERIOR
- OPD73718\_001\_VPPS\_70\_INFORMATION
- OPD73749\_001\_VPPS\_80\_ELECTRONICS
- 00\_000\_01\_Door-Front-Left
- OPG13391\_001\_0005\_IA\_MOTOR
- OPG13384\_001\_0007\_IA\_SWITCH
- OPG13366\_001\_0009\_IA\_SENSOR
- OPG13378\_001\_0008\_IA\_RELAY
- OPG13386\_001\_0012\_IA\_CONTACT
- OPG13367\_001\_0013\_IA\_LIGHT
- OPG13380\_001\_0006\_IA\_CONTROLLER
- OPJ16245\_001\_0005\_IA\_MEMORY
- DOOR-FL\_Harness

000\_00\_Insignia\_jt.prt (Modified)

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The image displays two side-by-side screenshots of Siemens software for automotive engineering. The left screenshot shows the 'Harness XC' interface, which includes a hierarchical tree view of harness components like 'DOOR-FL' and 'Wires', a detailed wiring diagram on a grid, and a parts catalog. The right screenshot shows the 'NX 11' interface, specifically the 'Routing Electrical' module, featuring an assembly navigator, a list of components, and a 3D model of a car (an Opel Insignia) with various body panels colored in green, orange, and blue. The car's interior and door areas are also highlighted in different colors, likely representing different harness routes or assembly stages.



Kevin Smith (kevin)-Organization/Core Design &amp; Release Engineer-Latest Working

Owner: Me

Select Type



# 002052/A;1-DISPLAY UNIT DI007v1 Requirements

Owner: Kevin Smith (kevin)-Organization/Core Design & Release Engineer-Latest Working | Last Update Date: 2019-05-08 | Release Date: 2019-05-08 | Total Requirement Specification Revision



002052/A;1-DISPLAY UNIT DI007v1 Requirements &gt;



Display Information ...

REQ-000001

Revision: A

**Overview**

Viewer

Architecture

Attachments

History

Relations

**Properties**

ID: 002052

Revision: A

Revision Name: DISPLAY UNIT DI007v1 Requirements

Description:

Occurrence Name:

Type: Requirement Specification Revision

Sequence:

Release Status:

Date Released:

Effectivity:

Owner: Kevin Smith (kevin)

Group ID: Organization

Last Modifying User: Kevin Smith (kevin)

Parent:

Number Of Children: 1

**Ratings**

Your Rating:



Average Ratings: 0.0

**Classification Properties****Preview****DISPLAY UNIT DI007v1 Requirements****Display Information - DI007V1**

Display unit shall show all the information needed for safe driving conditions to the customer. This shall include but not limited to the following information to the customer:

&gt; Trip Data - Miles lapse, Time lapse

&gt; Fuel gauge:

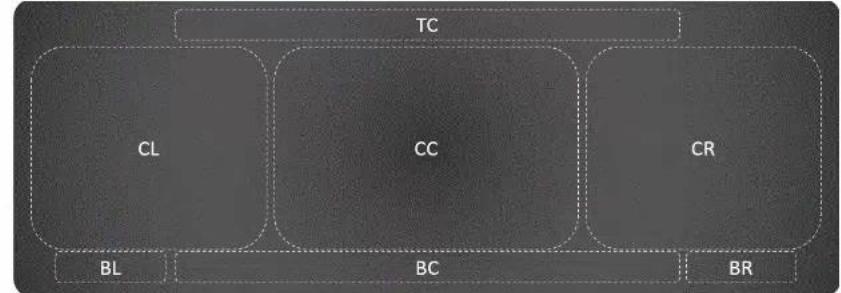
&gt; Speedometer: MPH or KPH

&gt; Tacometer:

&gt; Odometer:

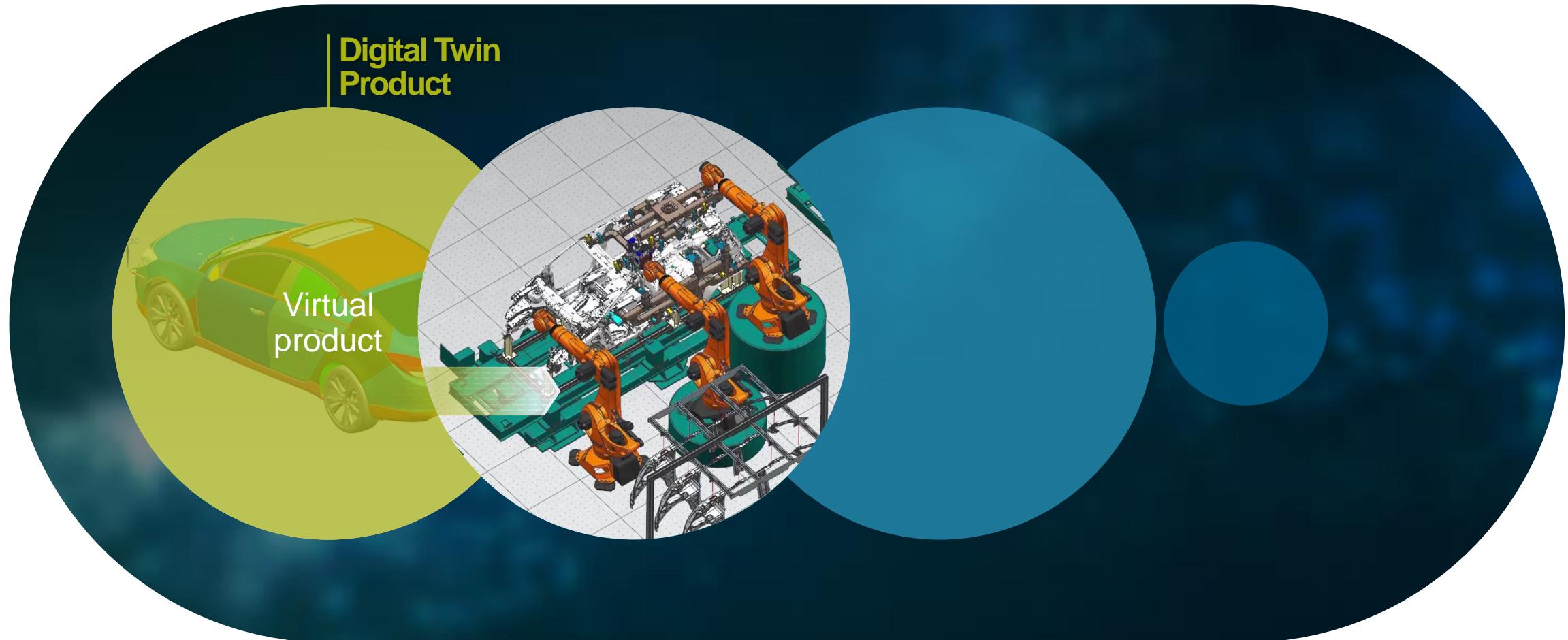
&gt; Warnings: Engine, Oil, Seatbelt minder, Tire pressure, Lane Keeping

&gt; Infotainment current information

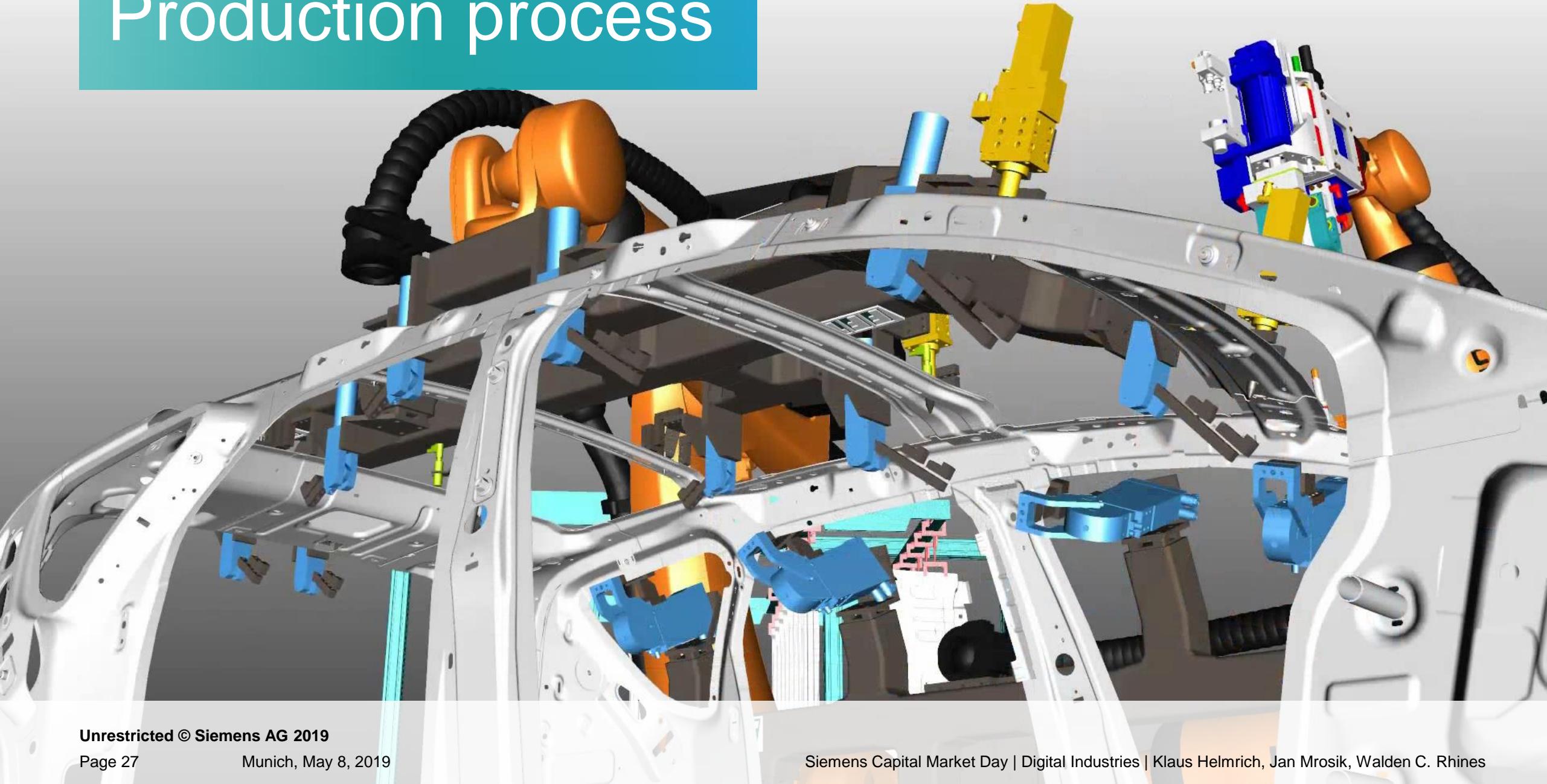


# The Digital Twin of the production accelerates planning, setup, and optimization

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# Production process



NX SIEMENS

File Home View Application Visual Reporting

2D Planning View Edit Reuse Replace Connect Disconnect Move Reference Line Set Displayed Component

Menu No Selection Filter

Plant Navigator

Name	Type	Description
Line v6	Workset	006246//
PLANT	Subset	PLANT
KR210_R2700_EXTRA	Resource In...	KR210_R
KR270_R2700_ULTRA	Resource In...	KR270_R
KR270_R2700_ULTRA	Resource In...	KR270_R
MTR COMPT ZONE	Production ...	LINE_00C
COWL SUB ASM	Production ...	ZONE_00
DASH SUB ASM	Production ...	ZONE_00
GUARDING	Production ...	ZONE_00
STATION C010	Production ...	STATION
STATION C020	Production ...	STATION
STATION C030	Production ...	STATION
STATION C040	Production ...	STATION
STATION C050	Production ...	STATION
STATION C060	Production ...	STATION
STATION C070	Production ...	STATION
STATION C080	Production ...	STATION
STATION C090	Production ...	STATION
STATION C100	Production ...	STATION
STATION C105	Production ...	STATION
STATION C110	Production ...	STATION
STATION C120	Production ...	STATION

Create New Parent + Pattern Component Create New Mirror Assembly Show Grid Snap to Grid Resize Connectors... Simple Distance Simple Angle Measure Distance Measure Angle

NX 10 - Line Designer - [PLANT (Modified) in Assembly 006246/A;1-Line v6]

Find a Command

Production line

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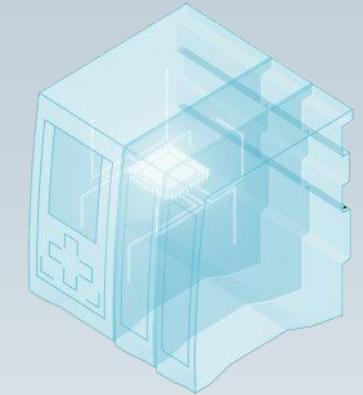
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# Entire factory

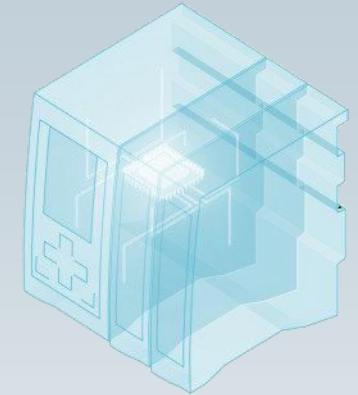
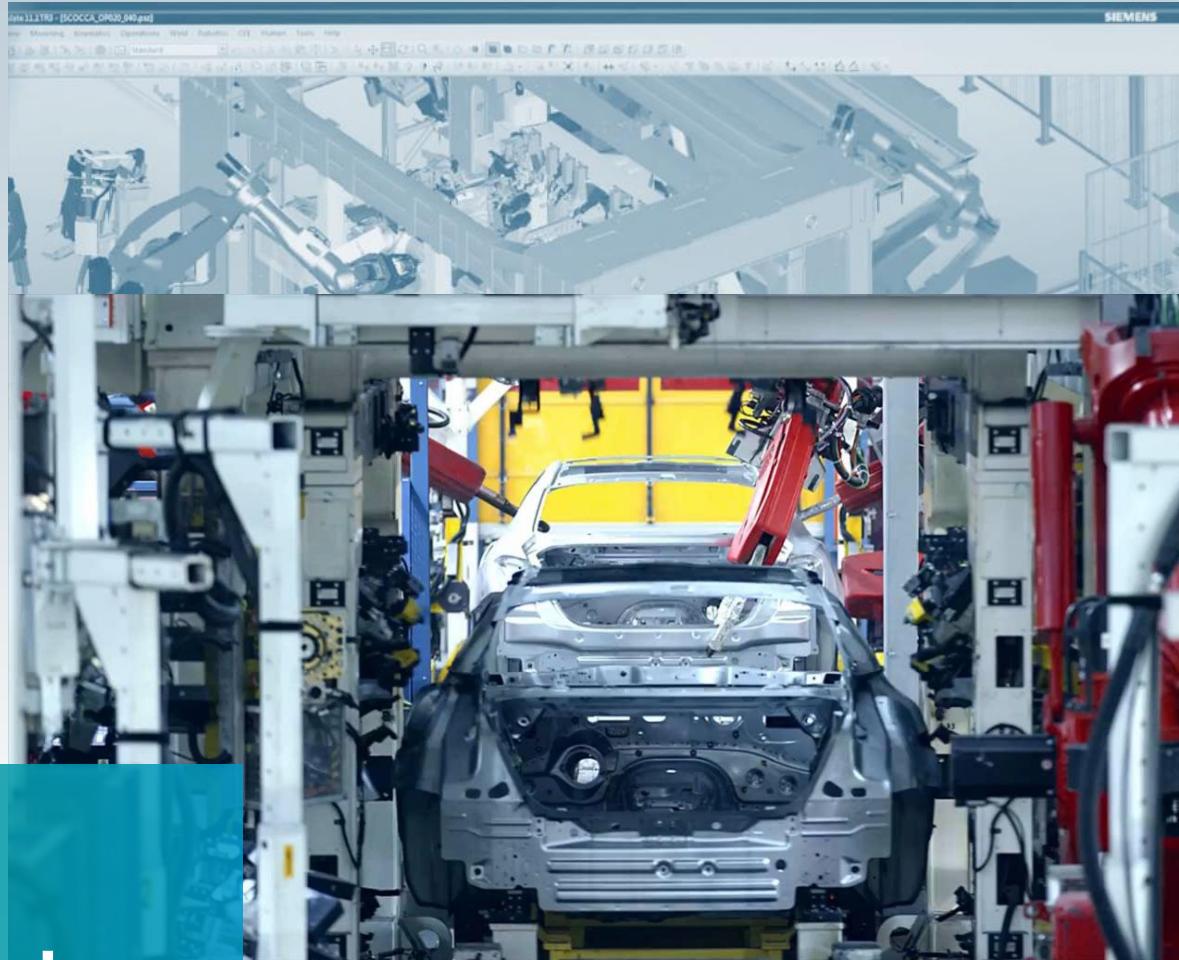


# Virtual Commissioning



Digital Twin  
of SIMATIC  
S7-1500

# Real Commissioning

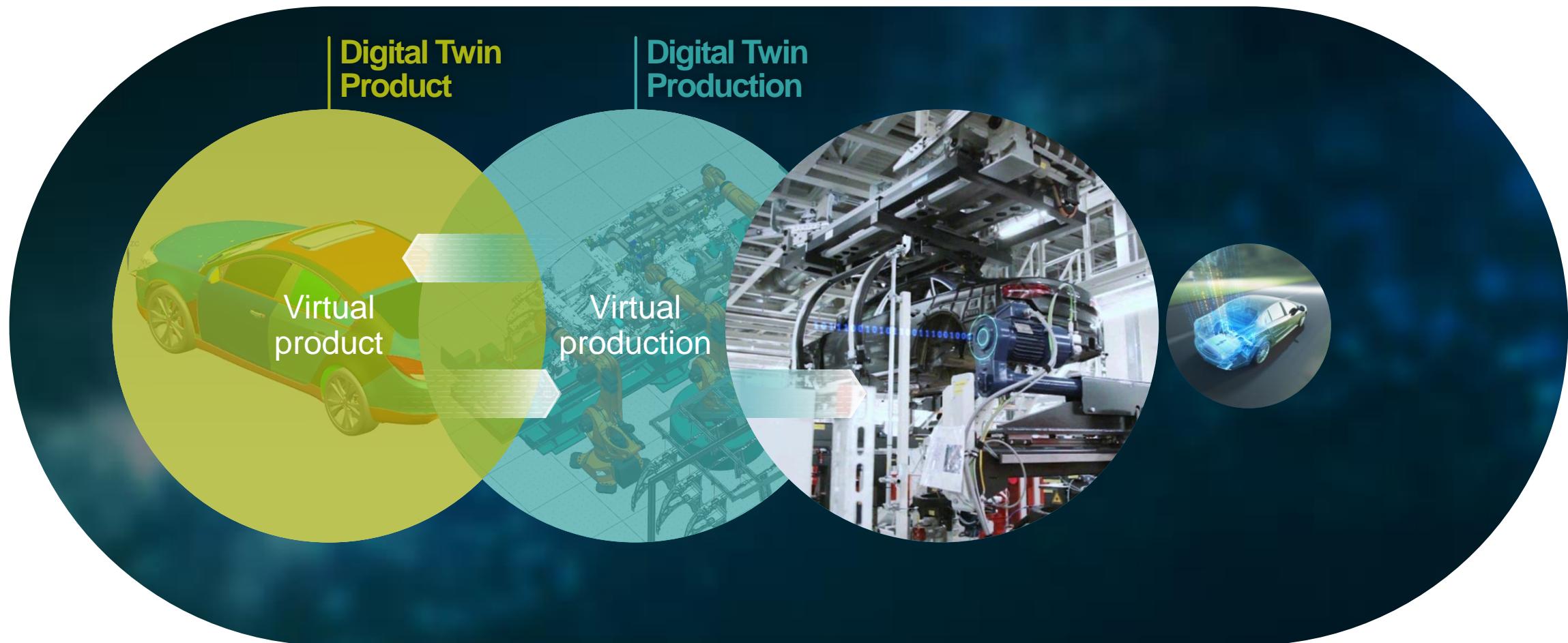


SIMATIC  
S7-1500



# Holistic automation portfolio increases productivity on the shop floor

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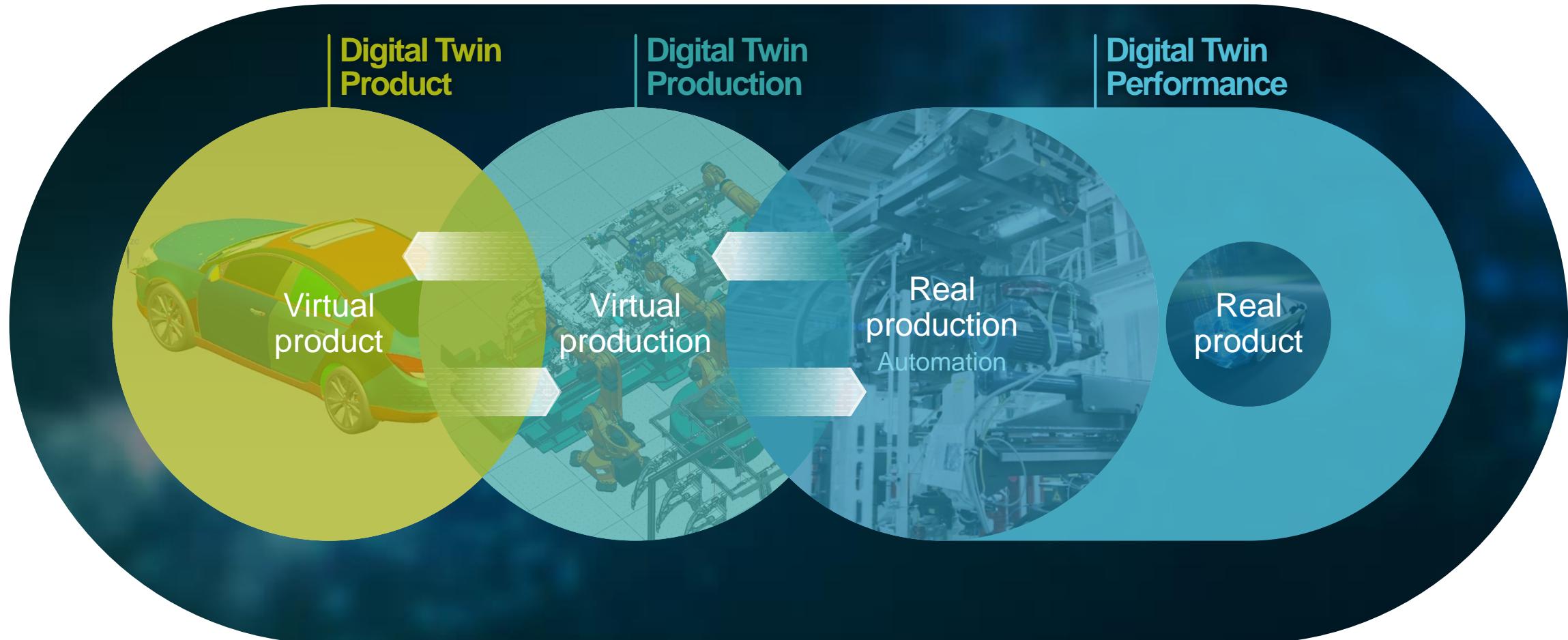


# Real production

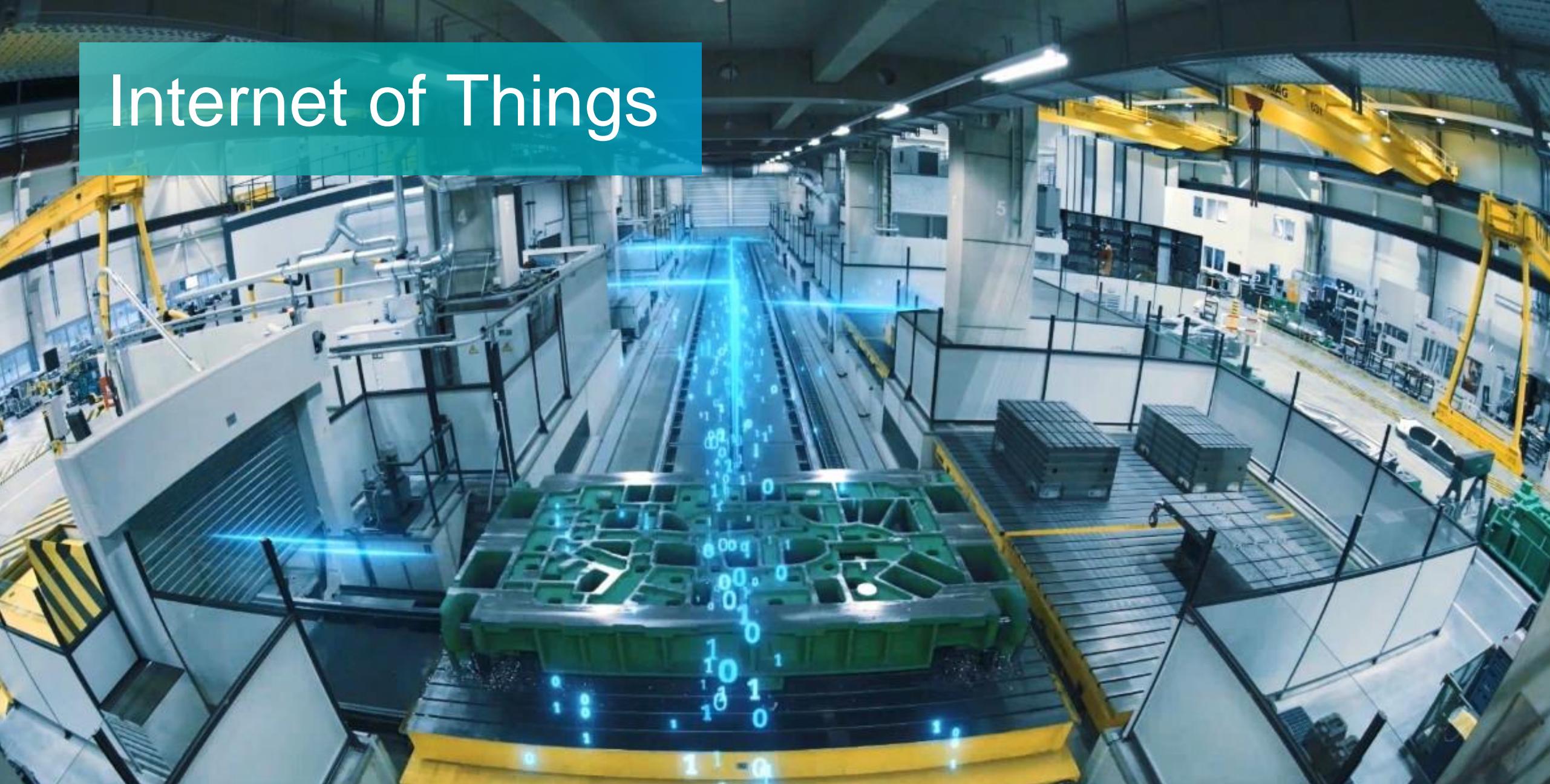


# The Digital Twin of the performance enables continuous analysis of both product and production

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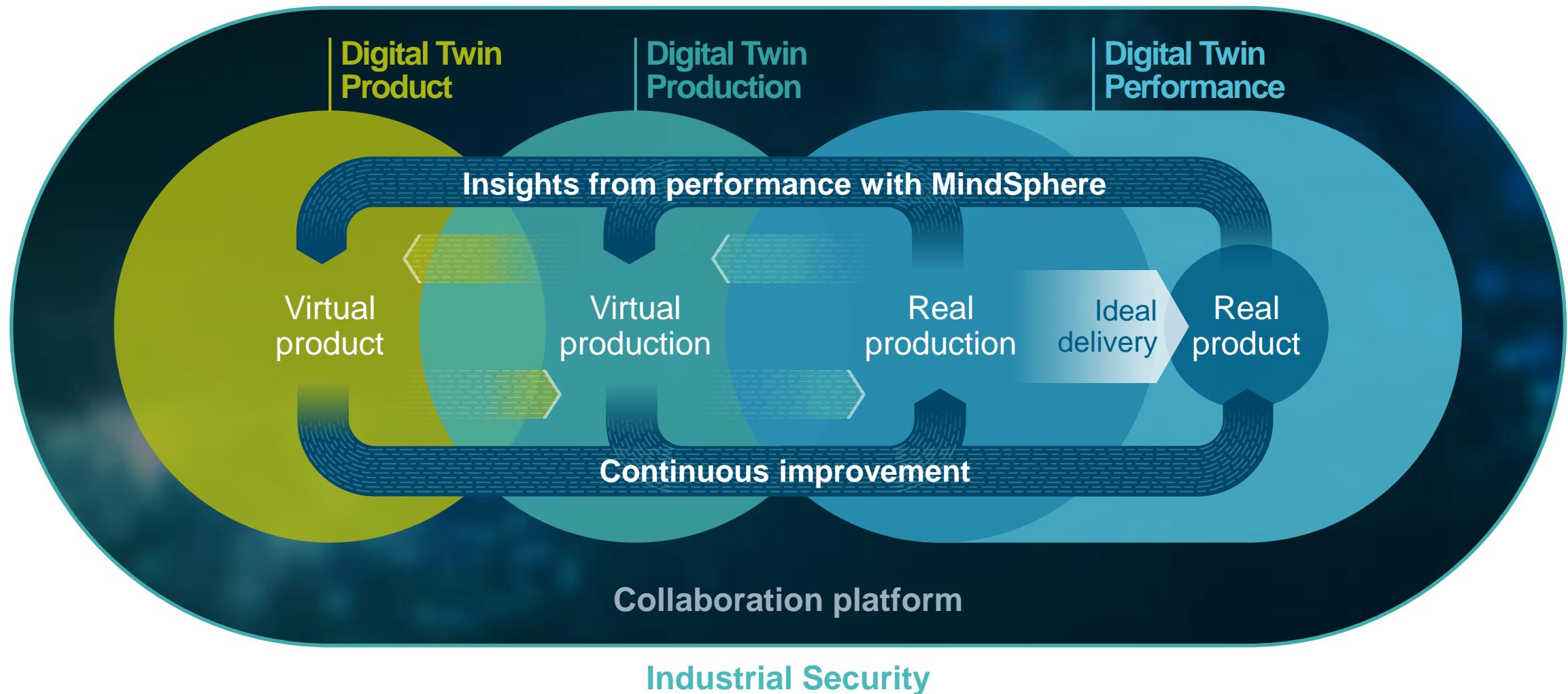


# Internet of Things



# Feeding back insights enables continuous optimization of product and production

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# Mentor, a pioneer in Electronic Design Automation and a natural expansion for Siemens Digital Industries Software

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Critical design software is used to create the world's electronic systems.

Comprehensive product portfolios address all levels – from integrated circuit to electronic systems.

- One of top 3 Electronic Design Automation companies
- Global footprint as part of Siemens organization
- 6,500 employees worldwide

**Mentor integration brings synergies to existing customers  
and opens opportunities to create value for new customers**

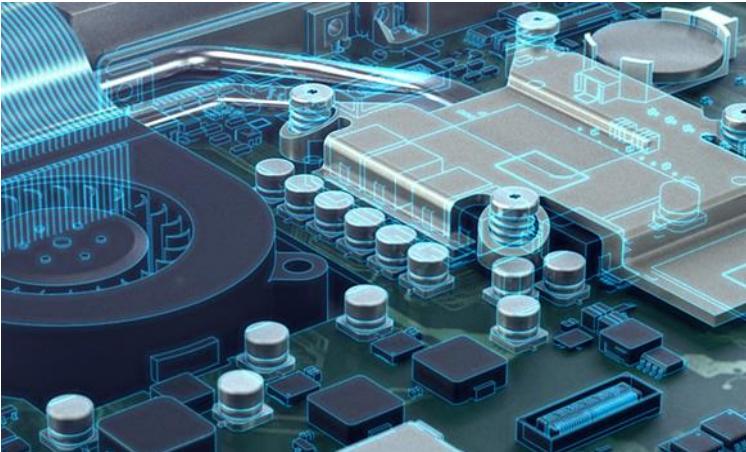
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## Integrated Systems Design



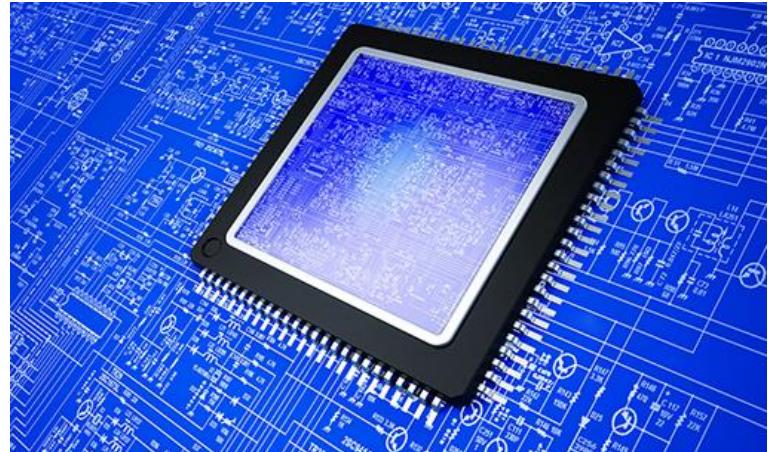
Best-in-class interoperability  
for integrating electrical  
assemblies into mechanical  
environments.

## Electronic Systems Design



Product integration of Mentor  
Xpedition and Siemens NX  
and Teamcenter executed in  
active sales campaign.

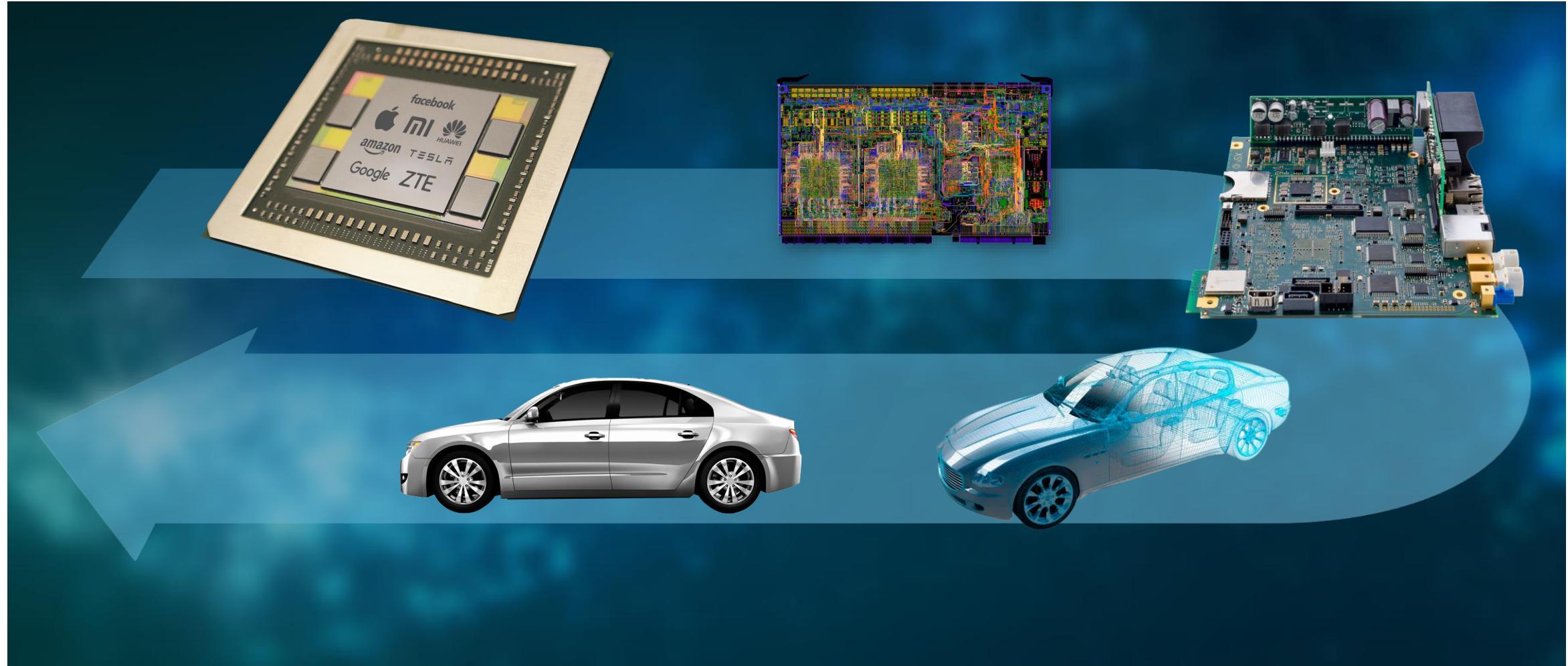
## Integrated Circuit Design



Cypress Semiconductor  
demonstrates value of using  
Mentor verification & Siemens  
ALM software together.

**Mentor's expertise in integrated circuit design and verification adds significant value to Siemens' software offering**

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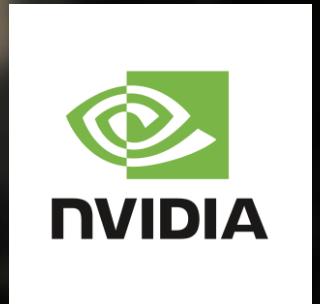
# Siemens follows through on initial investment commitments, and our customers react positively

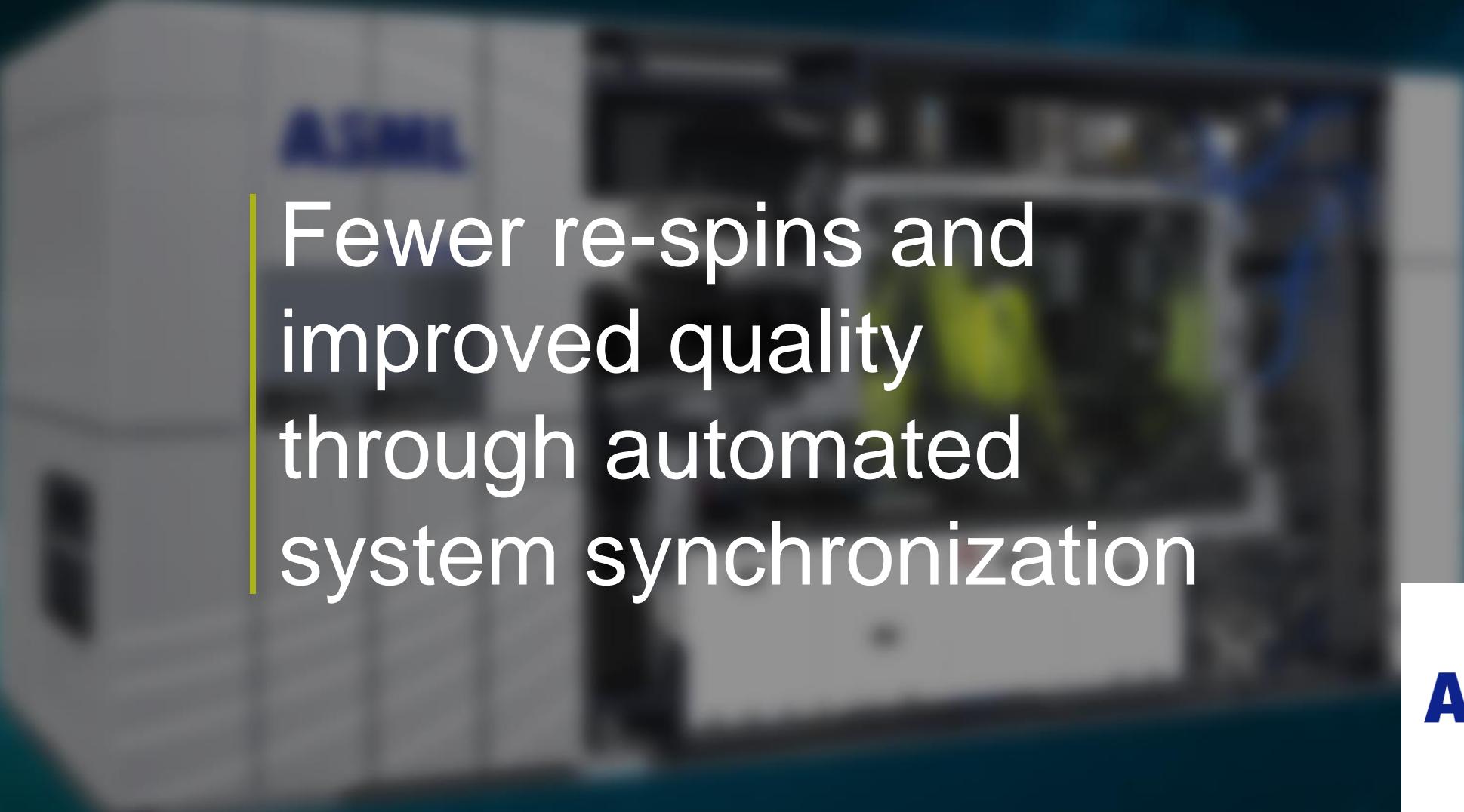


- 1** Increase in top 10 contract renewals as per Q2 FY19      **Double digit growth**
- 2** Revenue growth YoY in FY18      **Double-digit growth**
- 3** Continuing with further acquisitions      **+5 companies**
- 4** Continuing innovation      **+17 product launches**
- Growing employee base and high retention of key people**

**50%** productivity gain  
designing 10M gate  
video decoder

Source: NVIDIA white paper ([go.mentor.com/4N9cP](http://go.mentor.com/4N9cP))





Fewer re-spins and  
improved quality  
through automated  
system synchronization

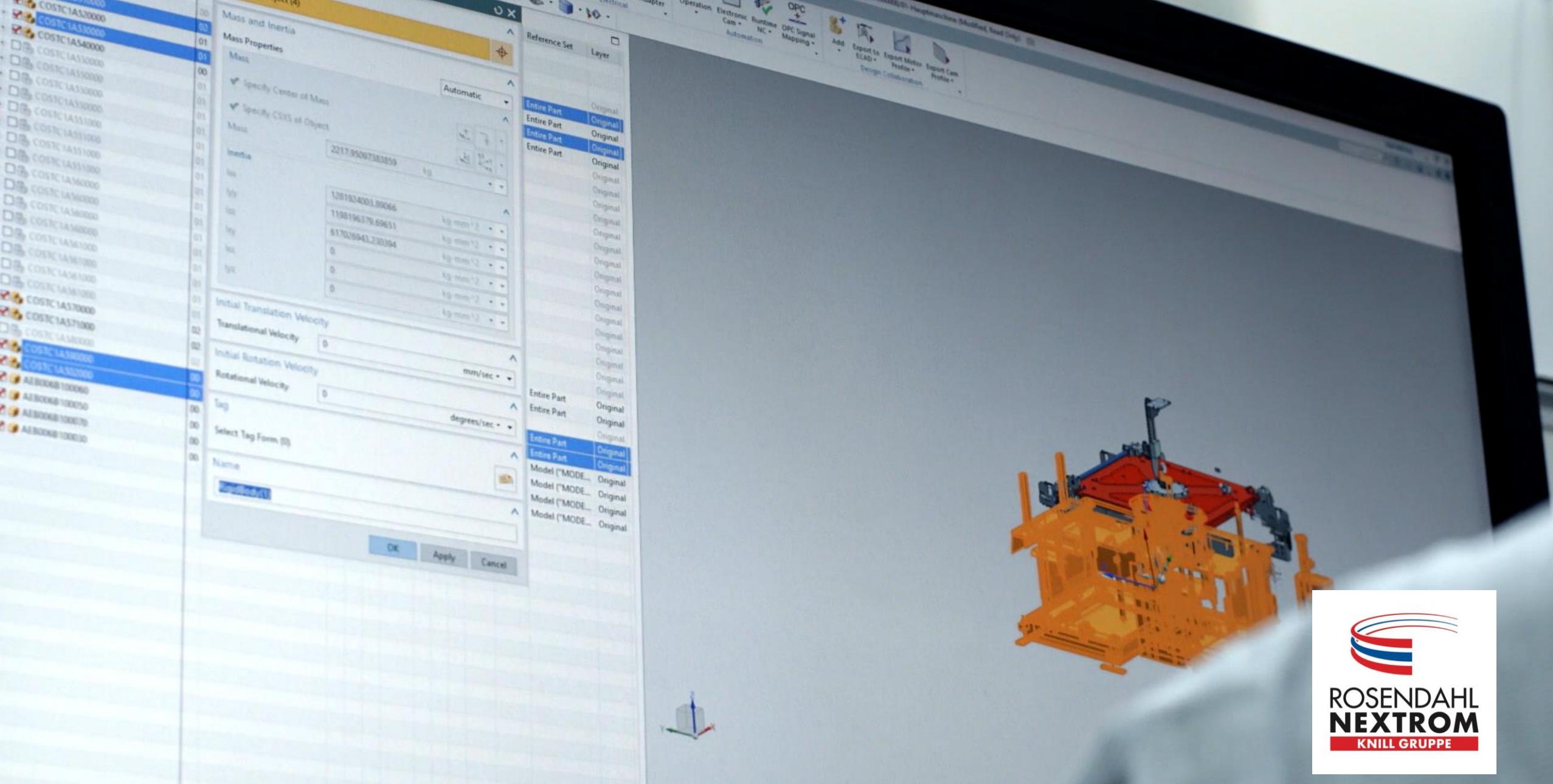
**ASML**

“

We achieve a totally new level of output, quality, and performance. None of this would be possible without a digitalized and digitally controlled workflow in the factory.

Siegfried Altmann  
CEO Rosendahl Nextrom GmbH





**50%**  
shorter  
development time

---

**25%**  
higher  
production output

---





Reduced  
engineering time  
by

**>1/3**

---

Reduced  
commissioning  
times by

**>50%**

---





**>50%**  
less time from  
testing to paint  
production

---

**8x**  
faster production  
process

---

Reduced  
batch size  
from **5,000 l**  
to **100 l**



# Examples from Siemens factories – automation and digitalization lead to greater flexibility and productivity

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More flexible automation (Erlangen)

**Fully automated electronics production line with handling robots**



**Reduction of manual efforts by 80%**

Artificial intelligence (Karlsruhe)

**Intelligent planning: asset optimization and greater delivery reliability**



**>50% more accurate demand forecasting**

Edge Computing (Amberg)

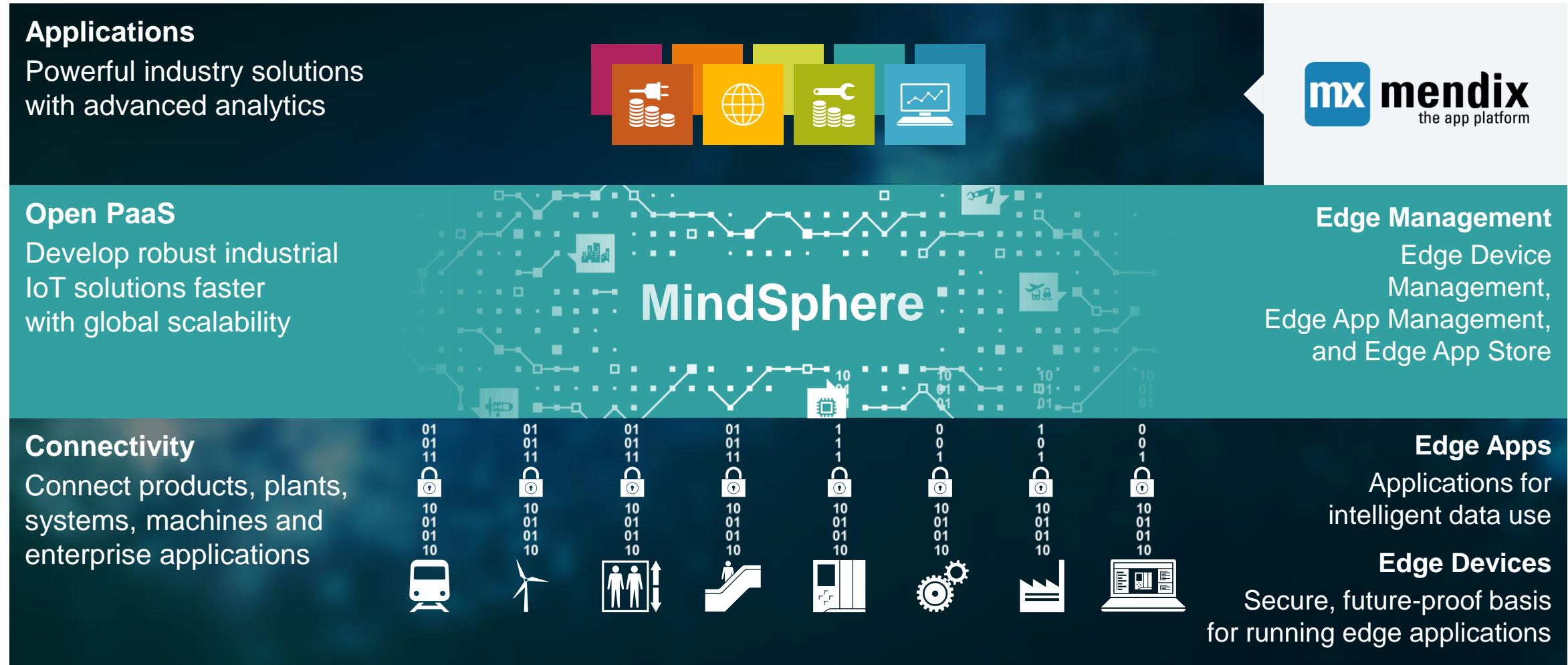
**Quality control via algorithm: higher output**



**30% reduction in x-ray inspection for PCBs**

# Our IoT operating system MindSphere – enhanced by Edge and Mendix low code app development

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# Using our track record to expand end-to-end domain reach

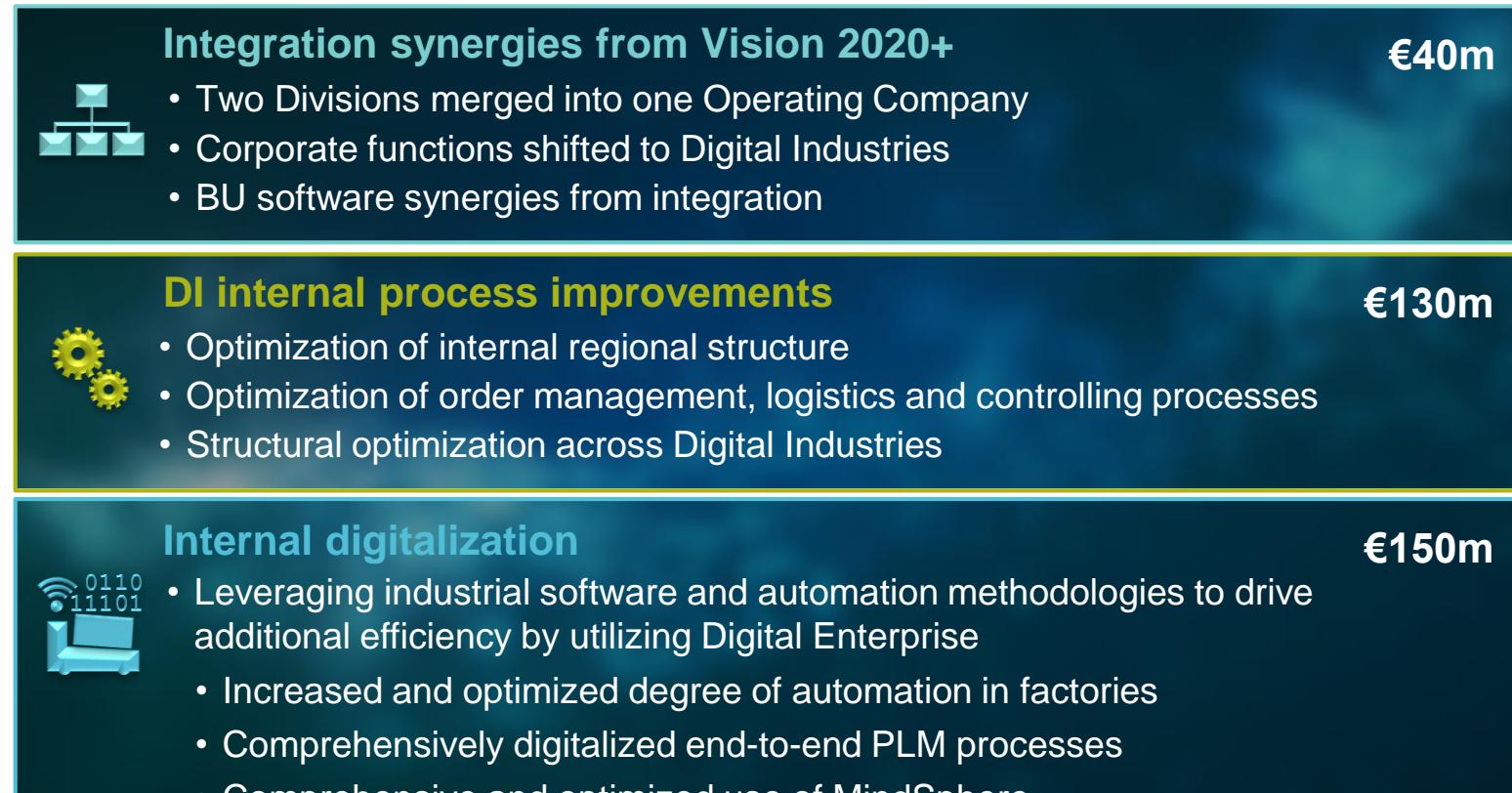
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## Process Industries

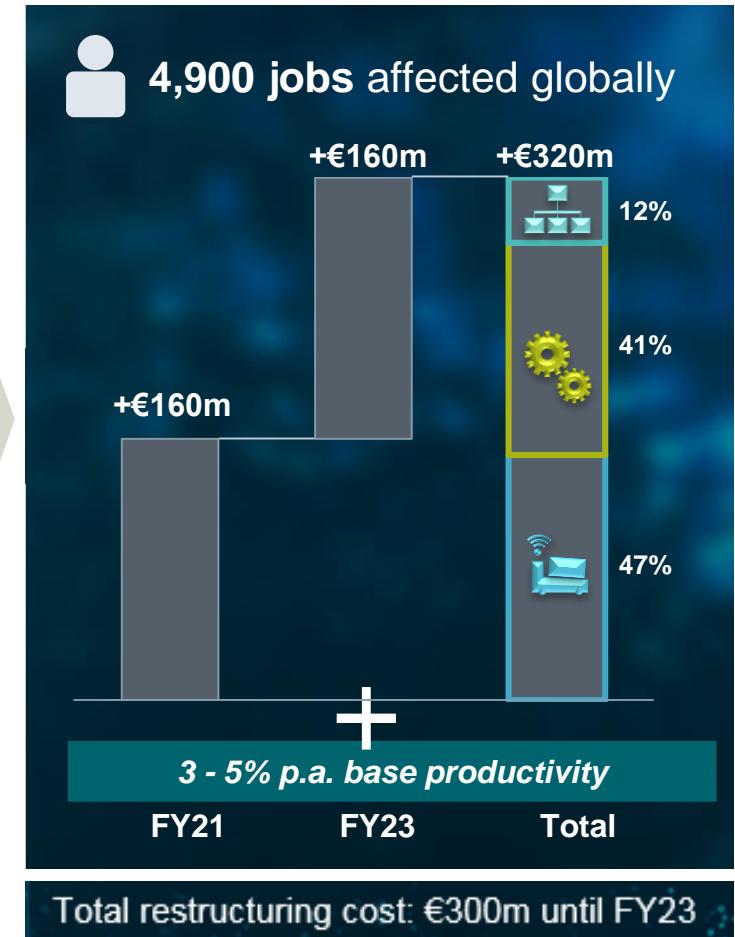


# Profitable growth sustained by cost optimization program of €320m in addition to base productivity

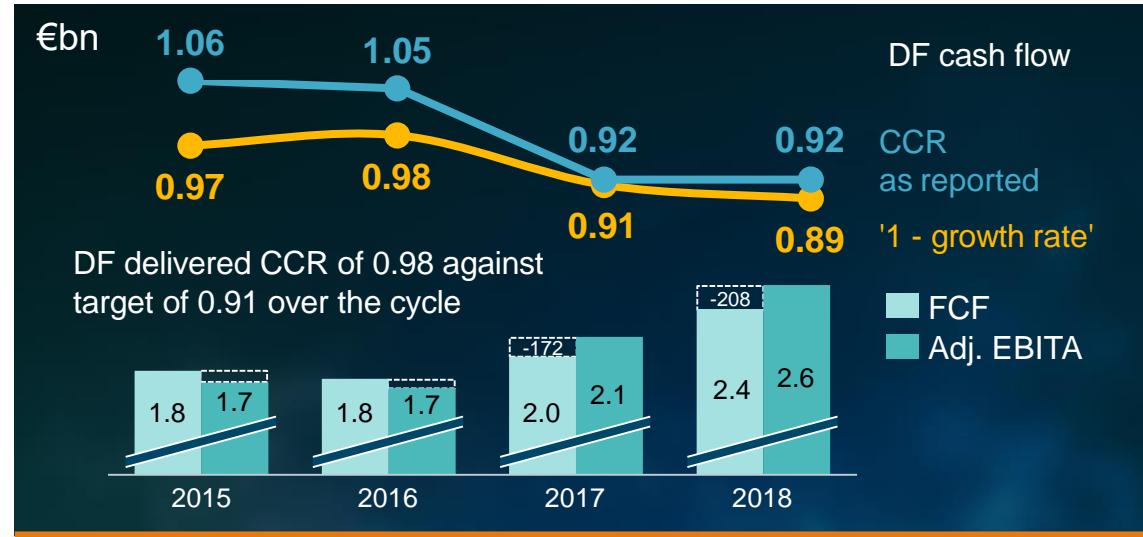
## Main levers



Gross headcount addition of ~12,000 until FY23 to support volume growth over the cycle



# Cash Management initiative ensures cash conversion rate of 1 – growth rate over the cycle



## Key measures

- 33% of DI senior management bonus linked to DI CCR
- Measures in execution to address central and region-specific optimization
- Continuous improvement of turns up to 0.2 in operating working capital planned

## Total supply chain (inventory reduction 2% to 5% p.a)

**Drop Shipment** piloted in the US, creating leaner supply chain and resulting in reduction of local inventories by 20%; further rollout planned

**Digital Inventory Management** improves inventory efficiency in Source and Deliver through data analytics

## Order to Cash

**Continued focus on Overdue Receivables** to remain at a very low level (> 90 days <4%)

**Implementing digital twin** of order management process will further optimize days sales outstanding (DSO)

## Purchase to pay (improve turn rate 5% p.a)

**Extending payment terms** of suppliers, e.g. using external Financing solutions without recourse to Siemens

## Passion for industry and high performance culture

- DI targets cascaded to all senior managers
- Frequent employee engagement pulse checks
- 50% of employees with company for 10+ years

## New competencies and new way of thinking through Mergers & Acquisitions

- 7,500 people successfully integrated over last three years
- 98% talent retention after acquisitions

## Systematic succession planning for key functions with focus on diversity

- Continuous pipelining for level 1+2 leadership
- Pool of >1,000 participants from selective leadership excellence and development programs

We deliver flexibility and productivity,  
resulting in customer wins and awards

**SIEMENS**  
*Ingenuity for life*

### Recent customer wins\*

**verizon** ✓



中泰化学  
ZHONGTAI CHEMICAL



Volkswagen

**HUSKY** ®



TRONRUD  
ENGINEERING

### Awards



FROST & SULLIVAN  
COMPANY OF THE  
YEAR AWARD  
2018



WACKER  
SUPPLIER-AWARD 2018  
in the category  
"Best Global Partnership"



GEELY  
OUTSTANDING IT  
VENDOR AWARD  
2016



ROI  
INDUSTRIE 4.0  
INNOVATION AWARD  
2017



SUPPLIER INNOVATION  
AWARD 2016  
Productivity



DAIMLER  
SUPPLIER AWARD  
2018  
Quality



GAME CHANGER  
AWARD 2017  
Product & Service  
Innovation



Computable  
VENDOR OF THE YEAR  
2018



### Hannover Messe 2019

- Biggest single booth at 4,000 m<sup>2</sup>
- 100,000+ visitors
- ~100 delegations
- 8,400+ leads

# DI global management team kickoff

## Munich, March 11-12, 2019

**SIEMENS**  
Ingenuity for life



**1** Our target is to grow 25% faster than the market.

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**2** We commit to sustain Adj. EBITA margin of 17-23% over the cycle.

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**3** We deliver a CCR of 1 – growth rate over the cycle.

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