

Hannover Messe 2024

Pre-Briefing
Media and Analysts
April 10, 2024

Dirk Didascalou
CTO Siemens Digital Industries



SIEMENS

Important notes

This meeting will be recorded.

We will have a Q&A session at the end.

For your questions, please raise your virtual hand or use the Q&A function.

Your microphone and **camera** are switched off
Please turn them on when asking a question.



Hannover Messe 2024

Siemens footprint



Opening Hours:
Daily 9.00 a.m. to 6.00 p.m.

1 SIEMENS

Main booth
Hall 9 booth D53

2 SIEMENS

Hydrogen booth
Hall 13 booth C36

3 Norway National Pavilion

Hall 12

Other **SIEMENS** contributions e.g. with Partners

- YOUR FUTURE
- PROFIBUS & PROFINET International (PI) Joint Presentation
- ZVEI / AES Arena
- 5G and Industrial Wireless Arena
- CampusOS
- Femworks

Hall 2
Hall 9 booth D68

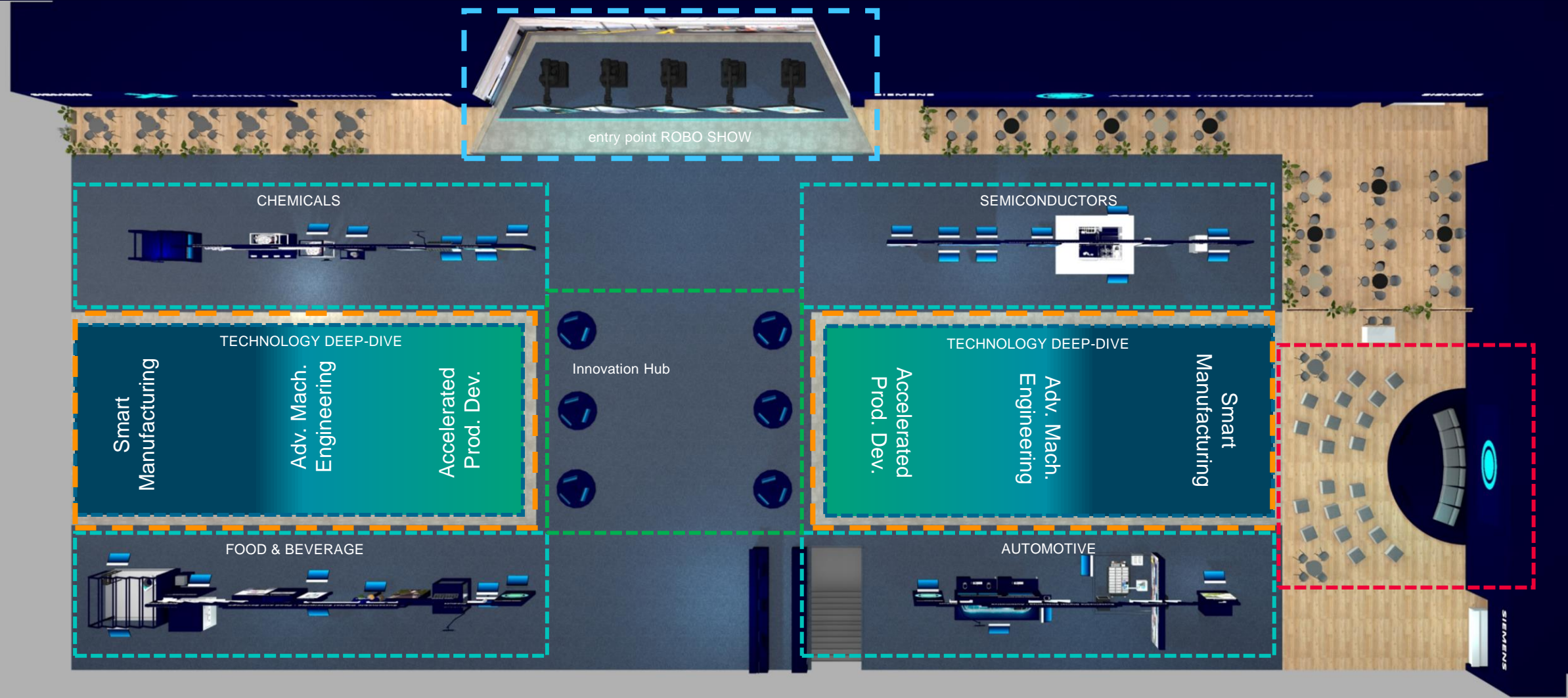
Hall 11 booth C53
Hall 14 booth H06
Hall 14/15 booth H13
Event

Hannover Messe 2024

Infrastructure – Where is what?



HM2024 Booth



Innovation Hub

Industry Verticals

Technology Deep Dives

Robo Show

Stage

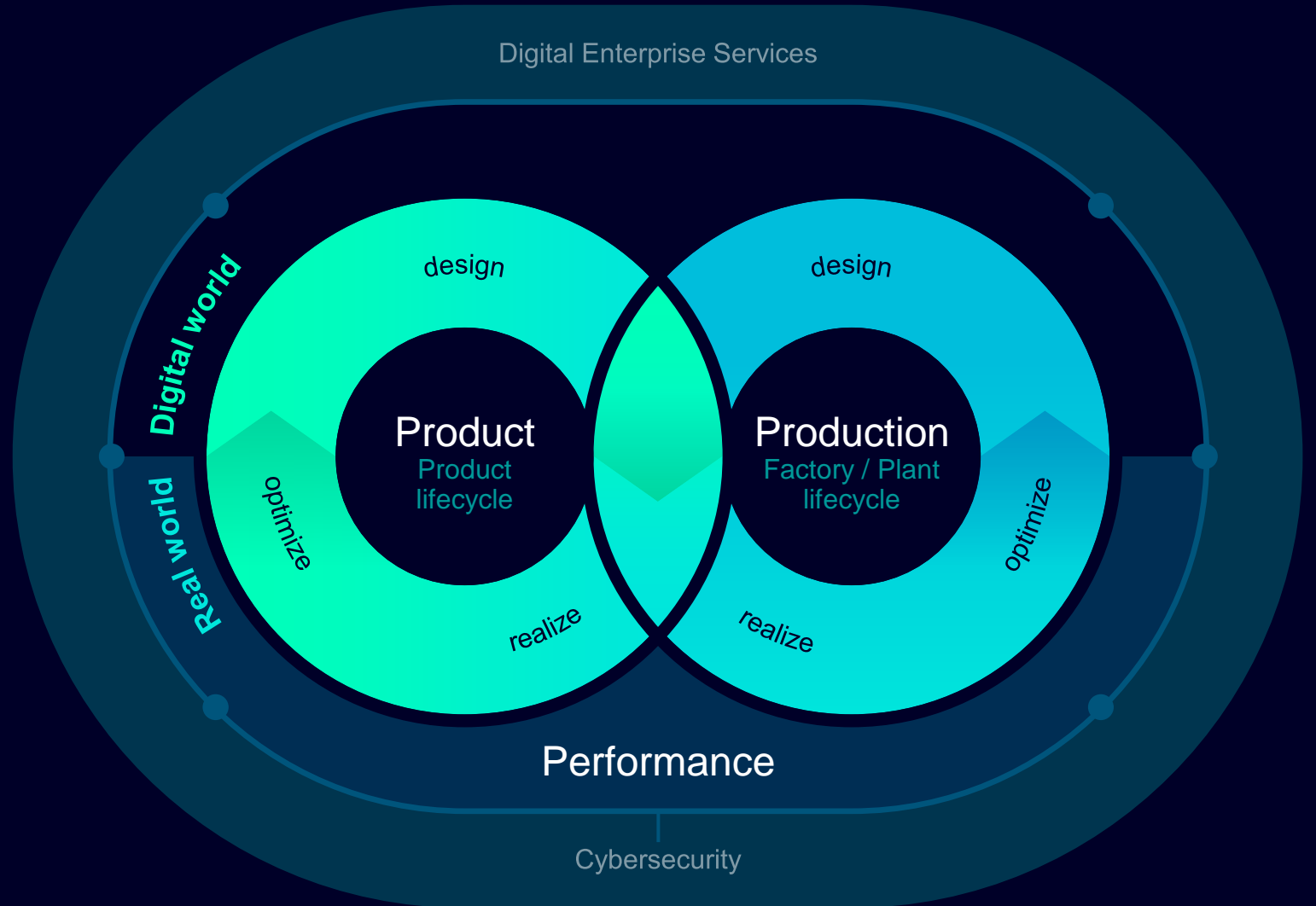
SIEMENS

Motto of HM 24:

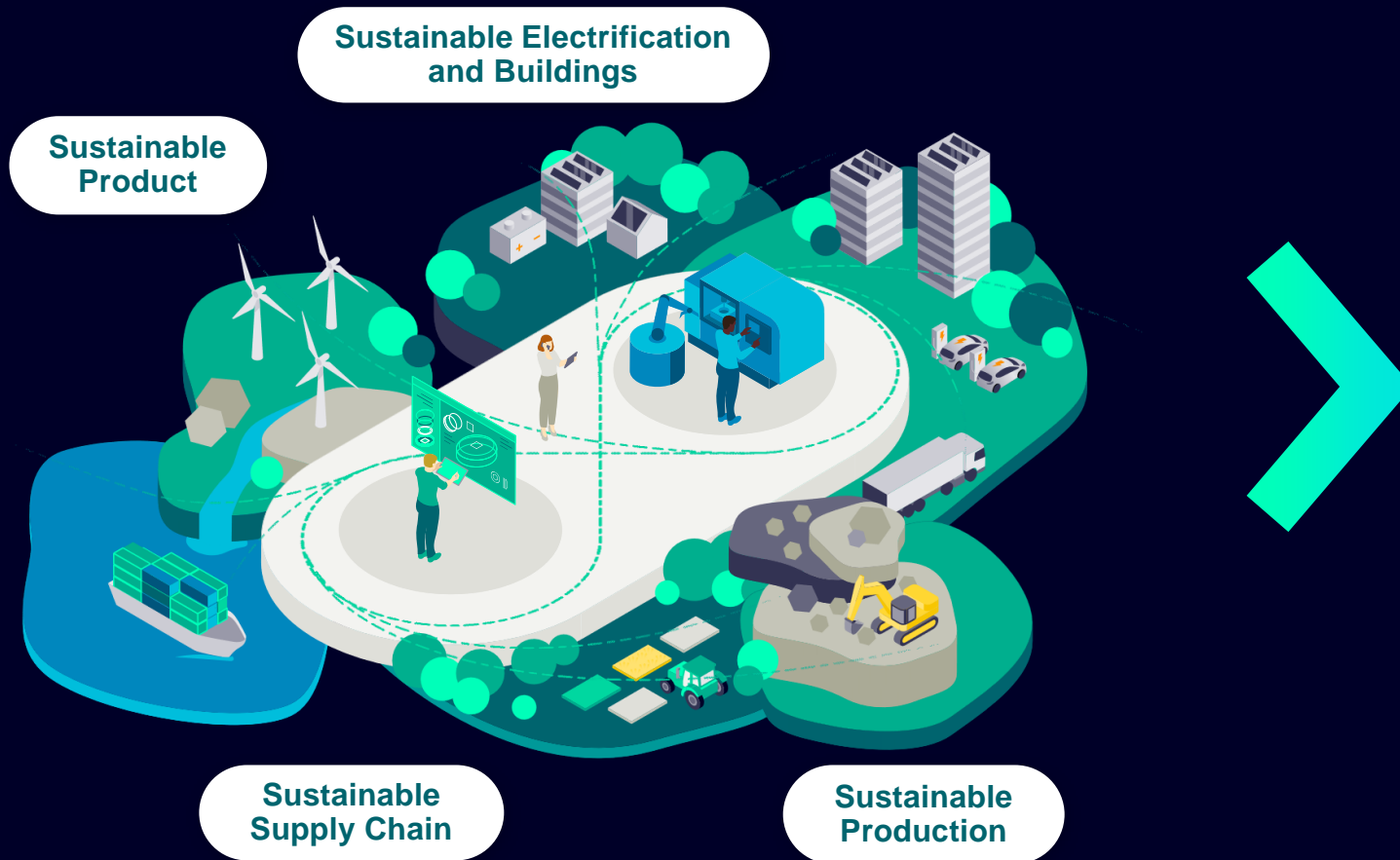
**“Accelerate
transformation”**

This is the Digital Enterprise

Combining the real and the digital worlds makes it possible to seamlessly integrate the entire value chain from design to realization, while optimizing with a continuous flow of data, both for the product and the production lifecycle.



Achieving a Sustainable Digital Enterprise Lifecycle through Digital Transformation



Decarbonization and Energy Efficiency



Resource Efficiency and Circularity



People Centricity and Societal Impact

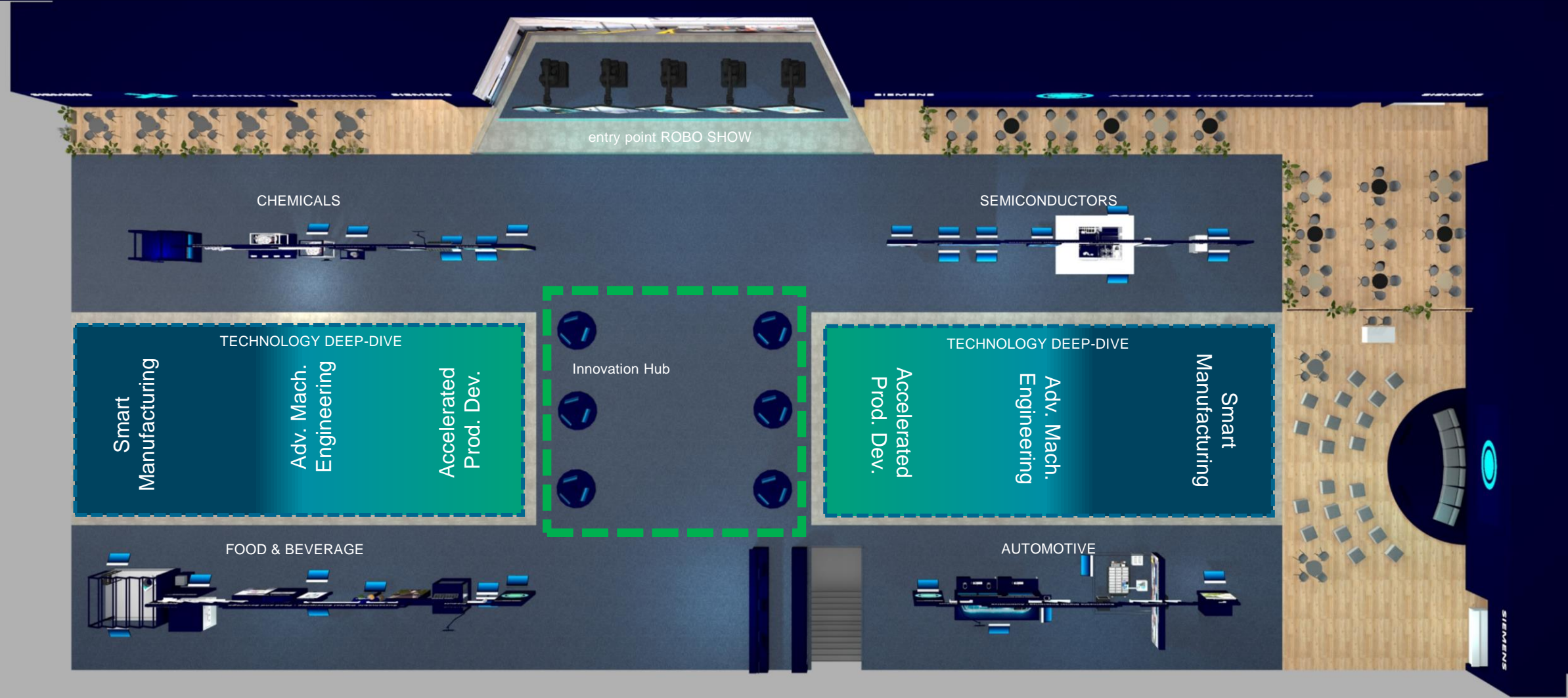


Booth Overview

Innovation Hub

Key topics for the Sustainable Digital Enterprise

Innovation Hub – the key topics for the Sustainable Digital Enterprise



Hannover Messe 2024

Topics and Exhibits in “Innovation Hub”



Siemens Xcelerator

Open Digital Business Platform:
Facilitating Digital Transformation

Speed of Software:
Enabling Swift Value Generation

Three Key Elements:

- Digital Portfolio
- Open Ecosystem
- Evolving Marketplace



Sustainability

Trusted Sustainability Partner:
Guiding Your Path to a Sustainable Digital Enterprise

Lead by Example:
Making Ambitious Commitments Towards Carbon Neutrality by 2030

Technology-Driven Approach:
Integrating Digital and Real-World Solutions to Drive Sustainability Across Products, Factories, and Offerings



Cybersecurity

Cybersecurity Assurance:
Safeguarding Data from Shop Floor to Top Floor

Multilayer Defense:
Implementing Defense in Depth with Zero Trust Principles

Reliable Protection:
Ensuring Always Up-to-Date Security Across All Levels



Artificial Intelligence

Industrial AI:
Tailored for emerging Industrial Environments

Supercharging Transformation:
Harnessing Big Data for Speed and Scale

Quality Assurance:
Reliable, Secure, and Trustworthy Solutions for Industrial Customers



IT/OT Convergence

Convergence of IT and OT:
Facilitating Vertical Data Flow from Field Devices to Software

Systemic Value Generation:
Leveraging Data Across Shop-Floor-to-Top-Floor

Modular, Flexible, Secure, Sustainable:
Realizing the Potential of Production through OT-IT Integration



Industrial Metaverse

Immersive Experience:
Engaging with Digital Twins in Interactive Environments

Collaborative Ecosystem:
Partnering with Diverse Technology Experts

Key Components:
Digital Twin, Software Defined Automation, Data & AI, Integrated within Siemens Xcelerator



Digital Twin

Digital Twin:
Bridging the Physical and Digital Realms for Assets and Processes

Time-Travel Capabilities: Analyzing Past, Reflecting Present, Predicting Future States

Enhanced Interaction: Tight Integration of Hardware and Software for Seamless Engineering Workflows

Siemens Xcelerator:

The means to become a Sustainable Digital Enterprise

Goal of the digital transformation

Digital business platform

to accelerate the digital transformation

Siemens Xcelerator portfolio

exemplary from [Digital Industries](#)

Sustainable Digital Enterprise



Siemens Xcelerator



Marketplace

Portfolio

Ecosystem

Software for product design,
engineering and verification

Teamcenter X

NX X

Others

Production engineering,
automation and operations

Industrial Operations X

TIA

Deep-dive Siemens Xcelerator

Target

Showcase **tangible customer value** for Siemens Xcelerator via concrete examples and tools
Focus on the **enabling power** of SX for digital transformation

Spread awareness around newly launched marketplace features

Business Cases

- The benefits and value of the Siemens Xcelerator Ecosystem
- Finding solutions and becoming a seller at the Siemens [Xcelerator Marketplace](#), highlighting the newly launched [Seller Portal](#), set up to simplify onboarding and management of operations for sellers via self-service
- Accessing Siemens' API catalogue at the Siemens Xcelerator [Developer Portal](#)



Messaging

Siemens Xcelerator is an open digital business platform that accelerates digital transformation enabling customers to unlock value faster.

Now, more than ever, speed matters and Siemens Xcelerator enables customers to move at the speed of software. It entails three elements: a curated, modular portfolio of IoT enabled hardware, software and digital services, based on the design principles: interoperable, flexible, open, as-a-Service and cybersecure, an open ecosystem of partners and an evolving marketplace.

Industrial AI in a Nutshell:

Supercharging digital and sustainable transformation with speed and scale

**‘Industrial-grade AI’
is our quality mission:**

Reliable, secure, and trustworthy AI

Democratize AI for everyone

We make Industrial AI accessible to everybody. Anywhere and anytime.

Siemens Xcelerator provides significant portfolio of Industrial AI within our products and solutions to become sustainable Digital Enterprises.

Industrial AI

refers to the application of AI in an industrial context designed to meet the rigorous requirements and standards of the most demanding industrial environments.



Along the value chain	Our vision: Siemens Industrial Copilot from design to services.
Real-time Collaboration	Collaboration with partners, academia and customers to advance AI until it meets industry’s requirements for reliability and robustness.
Lever for sustainability	Digital Twins of product and production and accelerating simulation helps companies achieving sustainably goals.
Industrial know-how	Decade-long expertise in the discrete and process industries, domain know-how in our own factories.

Deep-dive Industrial AI

Democratize AI-Enabled Machine Vision:

- Groundbreaking AI-enabled machine vision
- Perform quality inspections without the complexities of extensive projects or specialized integrators.
- Make Industrial AI accessible to every engineer, anytime and anywhere.



Democratize AI-infused app development with Mendix and other 3rd party AI services

- Simplify software development by integrating 3rd party AI services for generative AI with our Mendix low-code platform.

Industrial Copilot:

A generative AI-powered assistant on example of Schaeffler machine (joined use case with Microsoft) along the entire value chain

- Design (Copilot for NX); Planning (Copilot for plant simulation), Engineering (Copilot for TIA Portal); Copilot for Operations, Services (Senseye Predictive Maintenance).
- Together with Microsoft, Siemens aims to revolutionize the way companies design, plan, develop, engineer and work.

Messaging

Supercharging digital and sustainable transformation with Industrial AI

- Industrial context designed to meet the rigorous requirements and standards of the most demanding industrial environments.
- Quality promise to our industrial customers: reliable, industrial-grade, secure, and trustworthy.

Siemens Partner

SCHAEFFLER



Industrial Metaverse in a Nutshell:

Industrial Metaverse is the next step in digital transformation: evolution not revolution



Immersive digital world where fast engineering decisions are made using robust data – Real and Digital

Place for customers to collaborate, experience and interact with the comprehensive Digital Twin

Siemens Xcelerator contains the 3 main building blocks of the Industrial Metaverse

Industrial Metaverse		
Break Down Silos	Connect disparate simulation data and systems, metadata, analytics, 3D, 2D, mechanical, electronics, automation	
Real-time Collaboration	Real-time collaboration with colleagues, partners and customers, in context of product and production environment	
Single Pane of Glass	Single data view, experience the real and digital worlds across the lifecycle of digital twin; integrated IT and OT data	
Industrial know-how	Deep industrial domain knowledge across product and production lifecycles	
Digital Twin	Software Defined Automation	Data & AI



Explore the Industrial Metaverse

Industrial Metaverse

The Industrial Metaverse is a collaborative effort with a broad ecosystem of technology partners.

The most important building blocks are the Digital Twin, Software Defined Everything (automation / product) and Data & AI – all part of Siemens Xcelerator, our open digital business platform.

GWE/F80 IMV

Learn more about the Industrial Metaverse and GWE (Siemens Electronics Factory Erlangen) and how we enter the next level of manufacturing to support our customers on their way to the next industrial evolution.



Siemens Partner

SONY



SONY XR Head Mounted Display

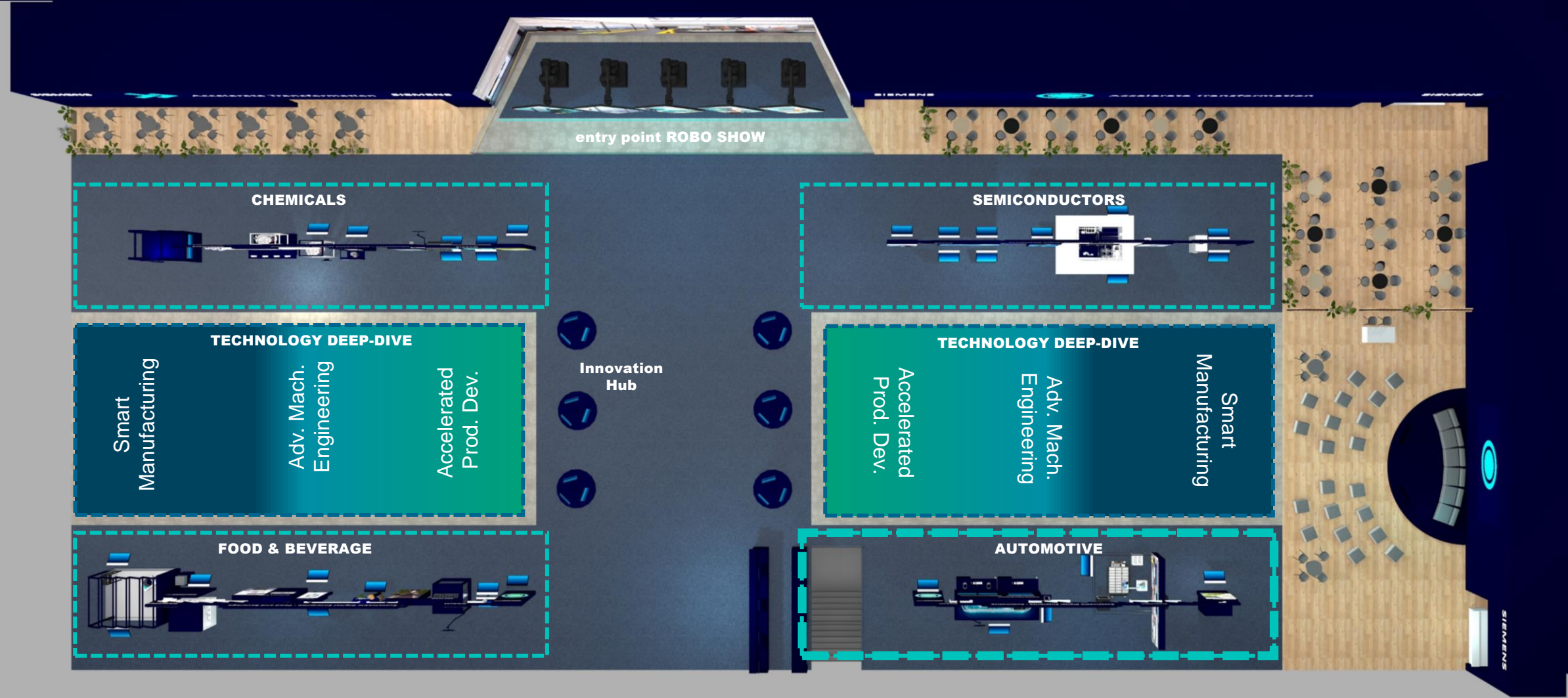
The next generation of product engineering is immersive. Move beyond today's limitations to collaborate, create and manipulate across teams in a borderless immersive workspace – from anywhere in the world.

NX Immersive Designer

Designed by Sony in NX, exclusively for NX. Combine the real and digital worlds with the all-new NX Immersive Designer software, featuring precise 3D interaction, stunning visual fidelity and seamless collaboration. Our immersive engineering solutions are changing the game in the CAD space.

Industry Verticals

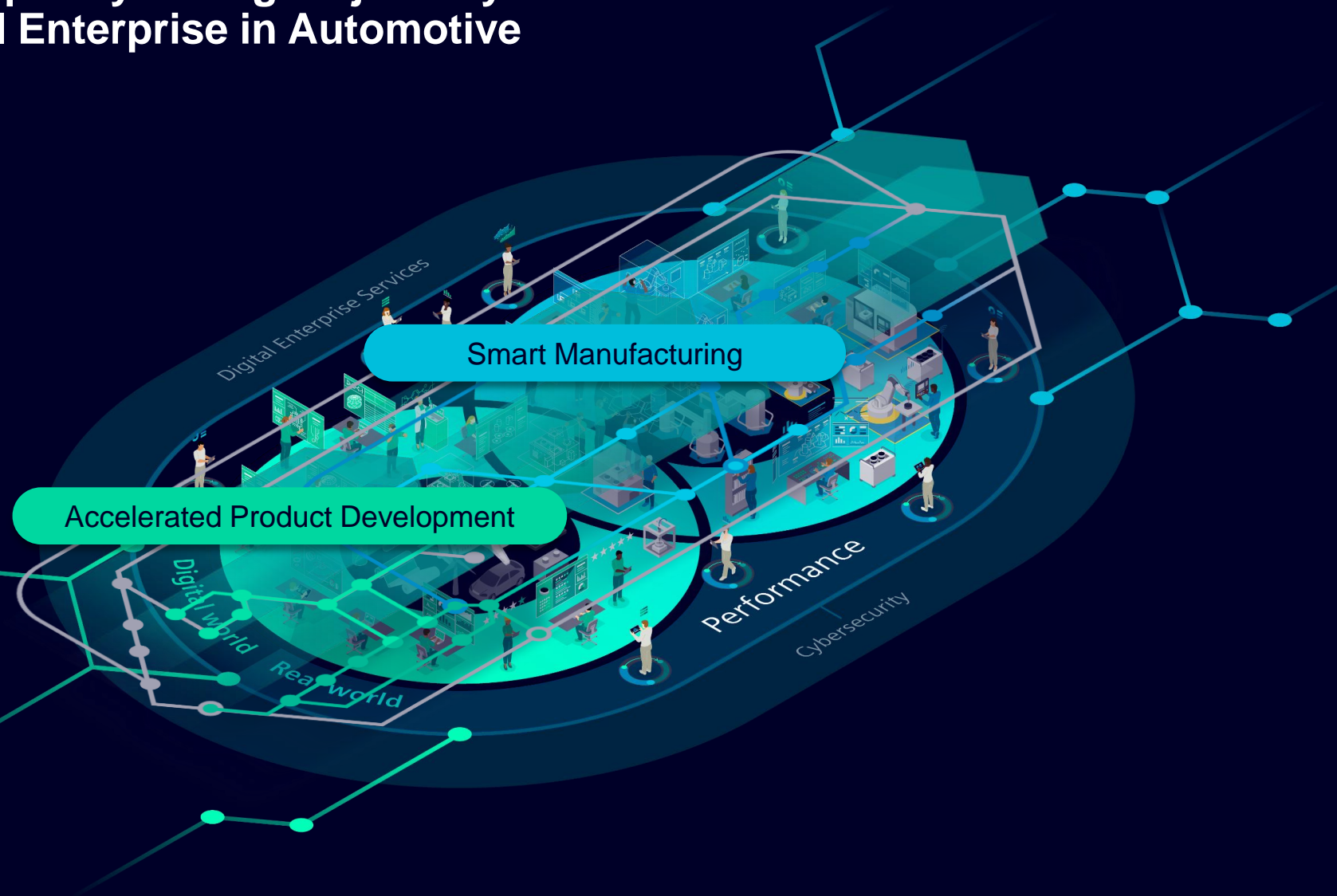
Industry Verticals



Siemens offers you the roadmap for your digital journey to become a sustainable Digital Enterprise in Automotive

Customer challenges

- Managing higher complexity in design - placing a focus on sustainability while balancing quality, speed, efficiency, safety
- Pursuing a net zero strategy - implementing modern approaches and technologies in running facilities
- Enhancing adaptability and sustainability in production – ensuring quality and cost-efficiency even with new production practices
- Increasing transparency – enabling traceability across the entire value chain



Become a sustainable Digital Enterprise now and drive sustainable transformation in Automotive



Sustainable Digital Enterprise

Sustainable Product

Sustainable Production

Sustainable Supply Chain

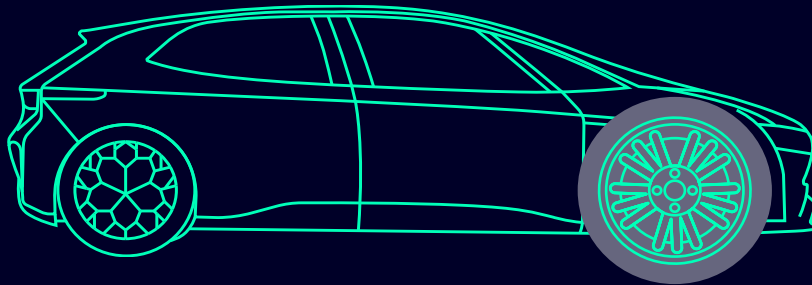
Electrification and Buildings



Accelerated Product Development



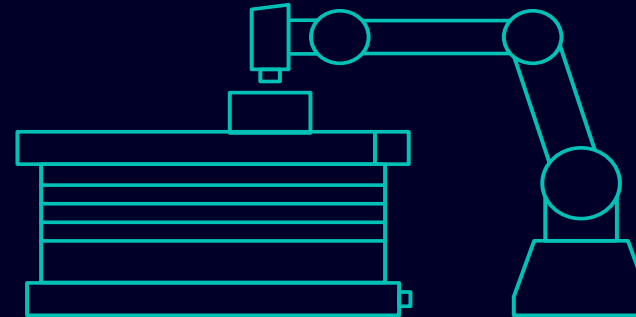
Smart Manufacturing



Break through the barriers of innovation, while delivering quality, cost efficiency, sustainability, and performance.

Highlights:

- Software Defined Vehicle



Transform your operations with cutting-edge manufacturing solutions to deliver sustainable high-quality products on time, all the time. Reduce energy consumption with smart power distribution solutions.

Highlights:

- VirtualPLC
- Battery Passport

Battery Passport

Going beyond regulatory compliance, helping stakeholders adopt sustainable practices that align with Siemens' sustainability objectives

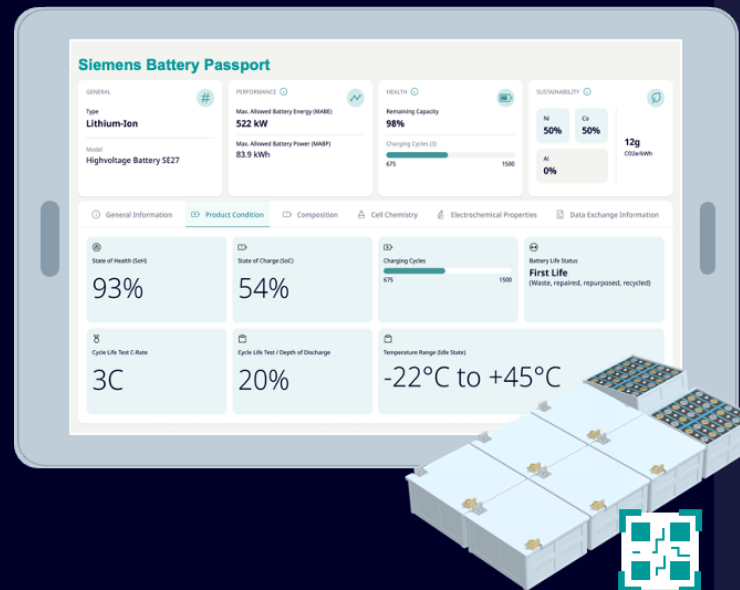
Enablement for regulatory compliance according to battery regulation

Increase scalability and versatility by utilizing open architecture with Digital Product Pass 4.0 and Industrial Digital Twin Association (IDTA) submodules

Built on certified development with a comprehensive PLM process

Interoperability with open APIs and common data spaces e.g. Catena-X EDC(3), IDTA

Smooth integration into supply chain allowing data exchange with suppliers and customers



Challenge

- Upcoming EU battery passport regulations require flexible and scalable battery passports
- These passports need data on sustainability and circularity from entire value chains

Solution

- Utilizing open architecture with DPP⁽¹⁾ 4.0 and IDTA⁽²⁾ submodules for scalability and versatility
- Interoperability with open APIs and common data spaces
- Built on certified development with a comprehensive PLM process
- Supply chain integration, allowing data exchange with suppliers and customers

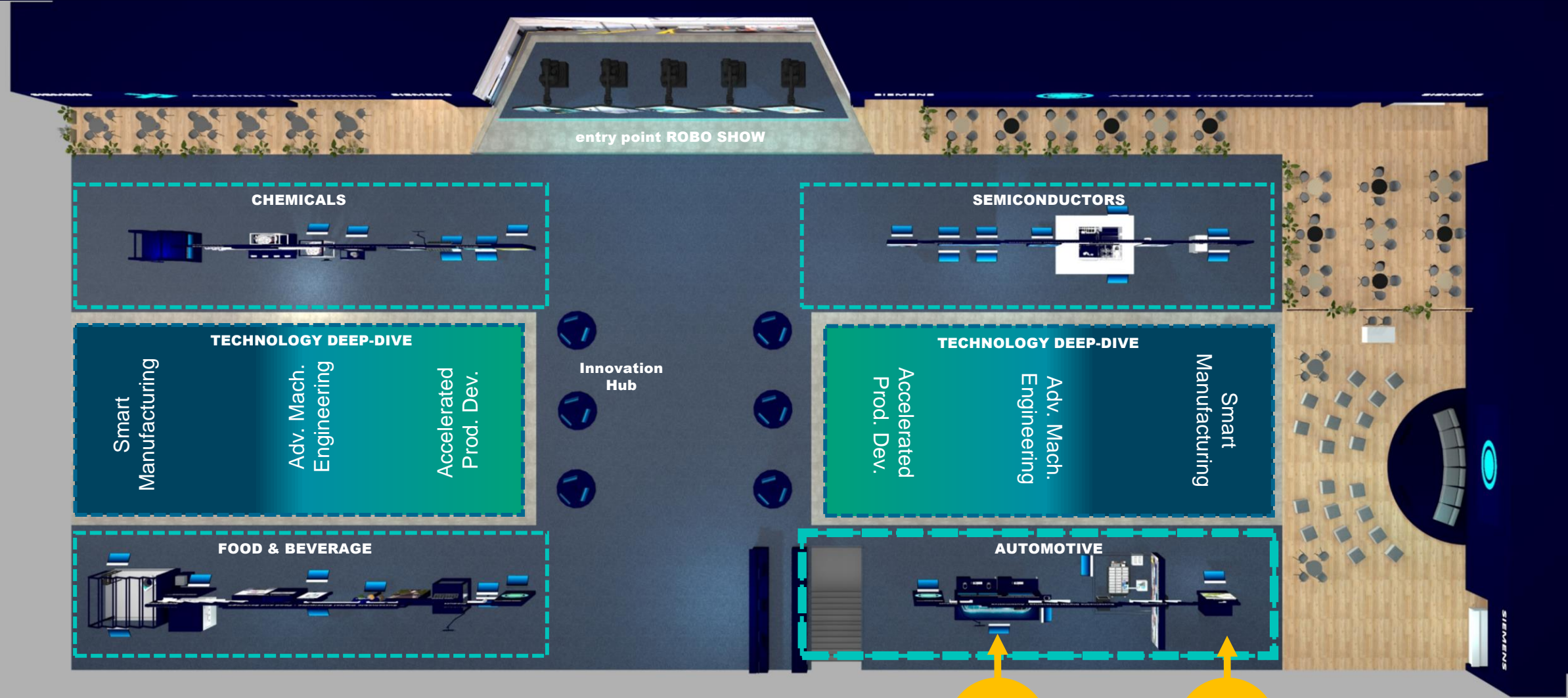
Value

- Enablement for regulatory compliance according to battery regulation
- Siemens Xcelerator ready via open APIs
- Smooth integration into supply chains with Catena-X (EDC)

Products and services

- Battery Passport
- IT/OT Connectivity
- Energy Management
- Cloud
- Data Analytic

Industry Verticals



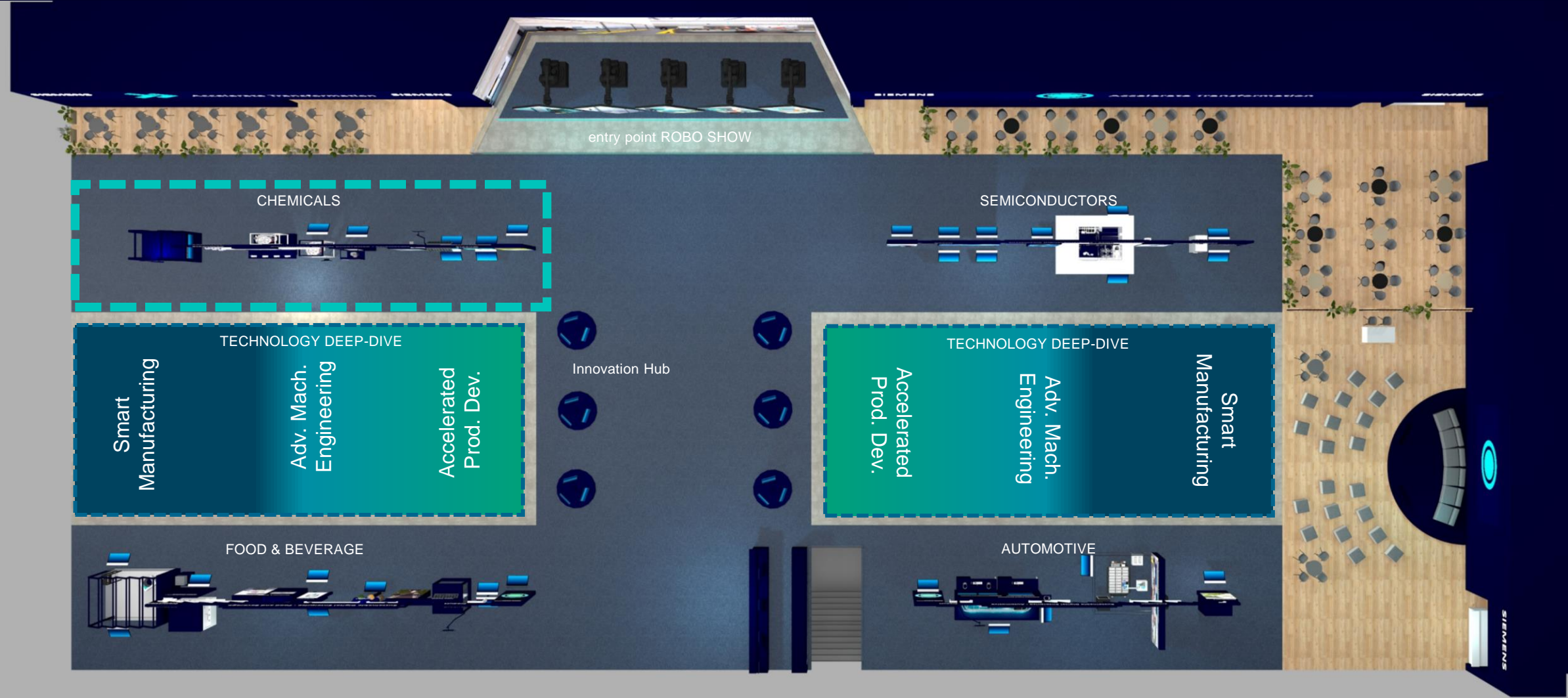
Industry Verticals

373

376

SIEMENS

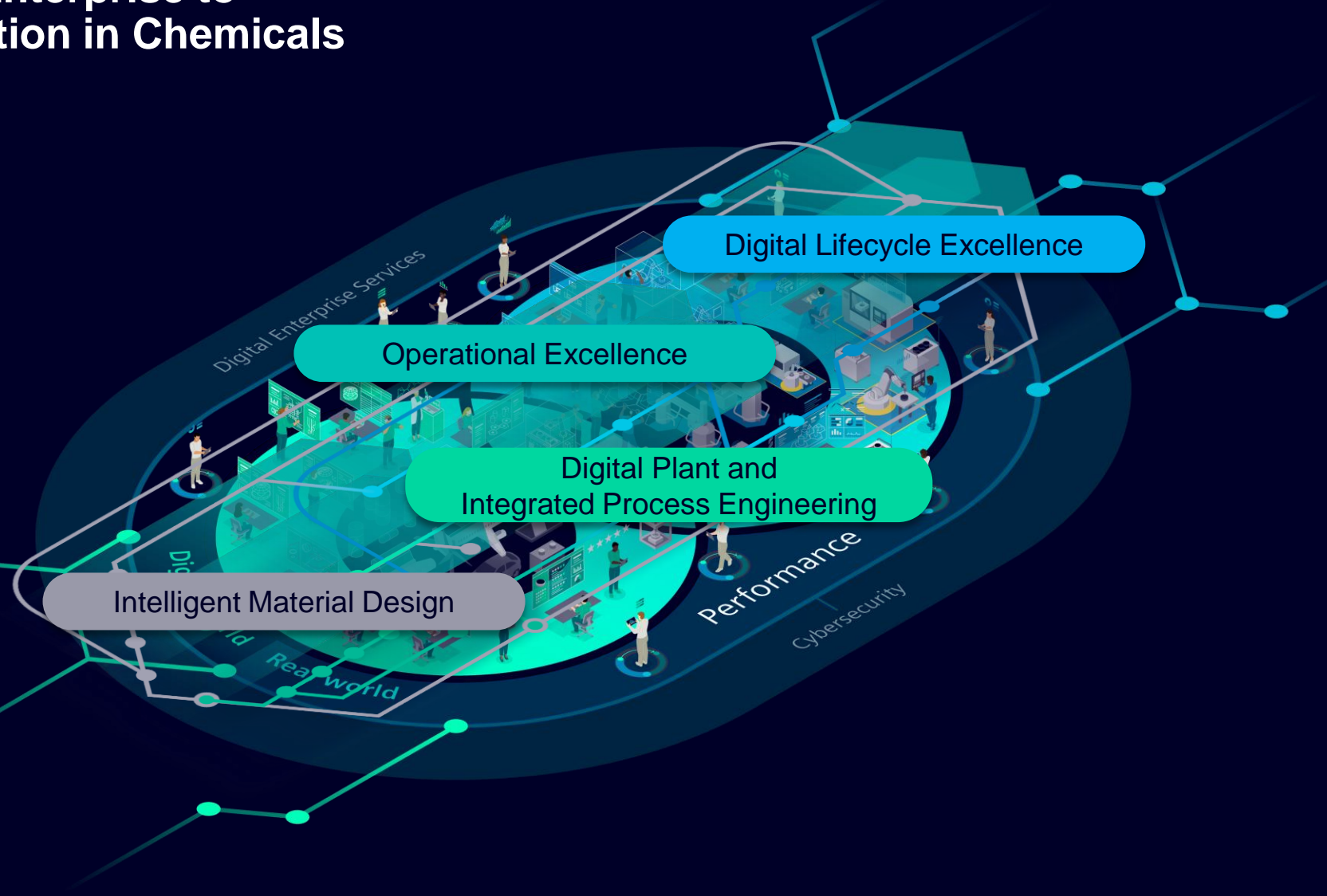
Industry Vertical



Become a sustainable Digital Enterprise to drive sustainability transformation in Chemicals

Customer challenges

- Gaining transparency across the entire value chain to determine, monitor & optimize carbon footprint
- Reducing energy consumption and emissions by optimizing energy-intensive processes and leveraging CO2 capture
- De-fossilizing energy supply by incorporating green energy
- Striving for circularity by redesigning processes to incorporate recycled feedstock



Become a sustainable Digital Enterprise now and drive sustainable transformation in Chemicals

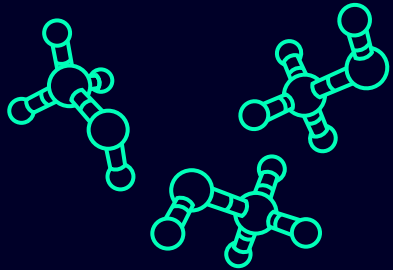


Sustainable Digital Enterprise

Sustainable Product



Intelligent
Materials Design



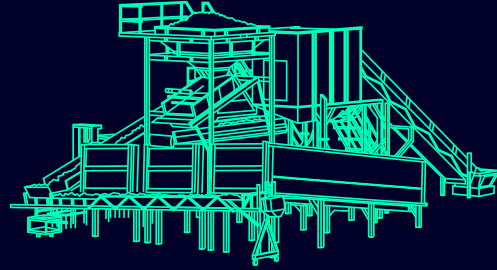
Develop formulations efficiently based on each material's characteristic. Multiple formulations can be created, compared and assessed against regulations to find candidates for commercialization.

Highlights:

- Simcenter Culgi



Digital Plant and
Integrated Process
Engineering



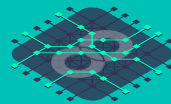
Reduce risk of trial-and-error during engineering, commissioning, and operation with virtual process design of a plant and virtual validation of optimal operation using simulation on several levels.

Highlights:

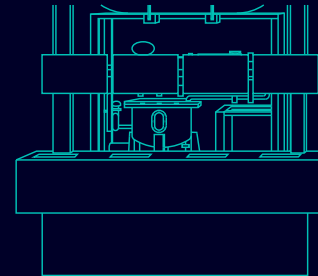
- Digital Process Twin

Sustainable Production

Electrification and Buildings



Operational
Excellence

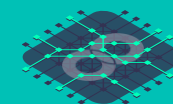


Create plant and process transparency by connecting the Digital Twin with operational information from connected assets to optimize process and performance.

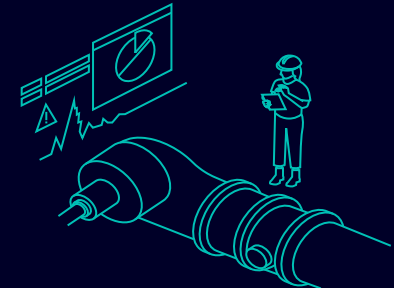
Highlights:

- Virtual Sensing

Sustainable Supply Chain



Digital Lifecycle
Excellence



Fully connect your assets, projects, and operational information to make better decisions that will transform your chemicals business.

Highlights:

- Integrated Maintenance

Simcenter Culgi

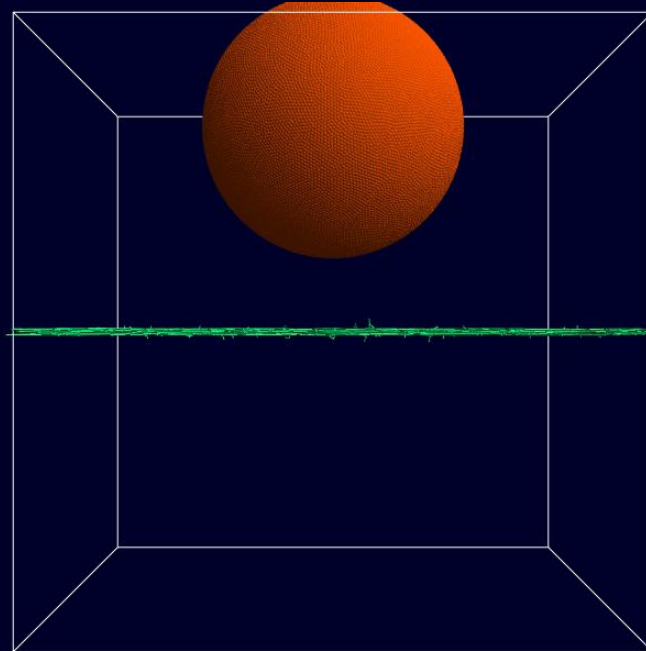
Simulate from atom to plant scale: with its multiscale chemistry simulation, Simcenter Culgi is a leader in accurately modeling formulation properties.

Engineer novel and sustainable materials in an early stage

of product development with multiscale computational chemistry simulations

Simulate the most complex systems faster and build better products with lower carbon impact

Predict chemical and physical properties for real-life applications and accelerate materials development



Challenge

End customers demand more sustainable products. Companies are facing new safety and sustainability regulations. Not only is there a need to replace “forever chemicals” but also to reduce energy consumption. However, finding the right ingredients, formulas, and process conditions via traditional experiments and performance tests is time consuming, costly and difficult.

Solution

Culgi uses Computational Chemistry combined with AI and material informatics to virtually screen and develop new and sustainable chemistries and materials. The method can predict various relevant material properties, conditions for production of new materials.

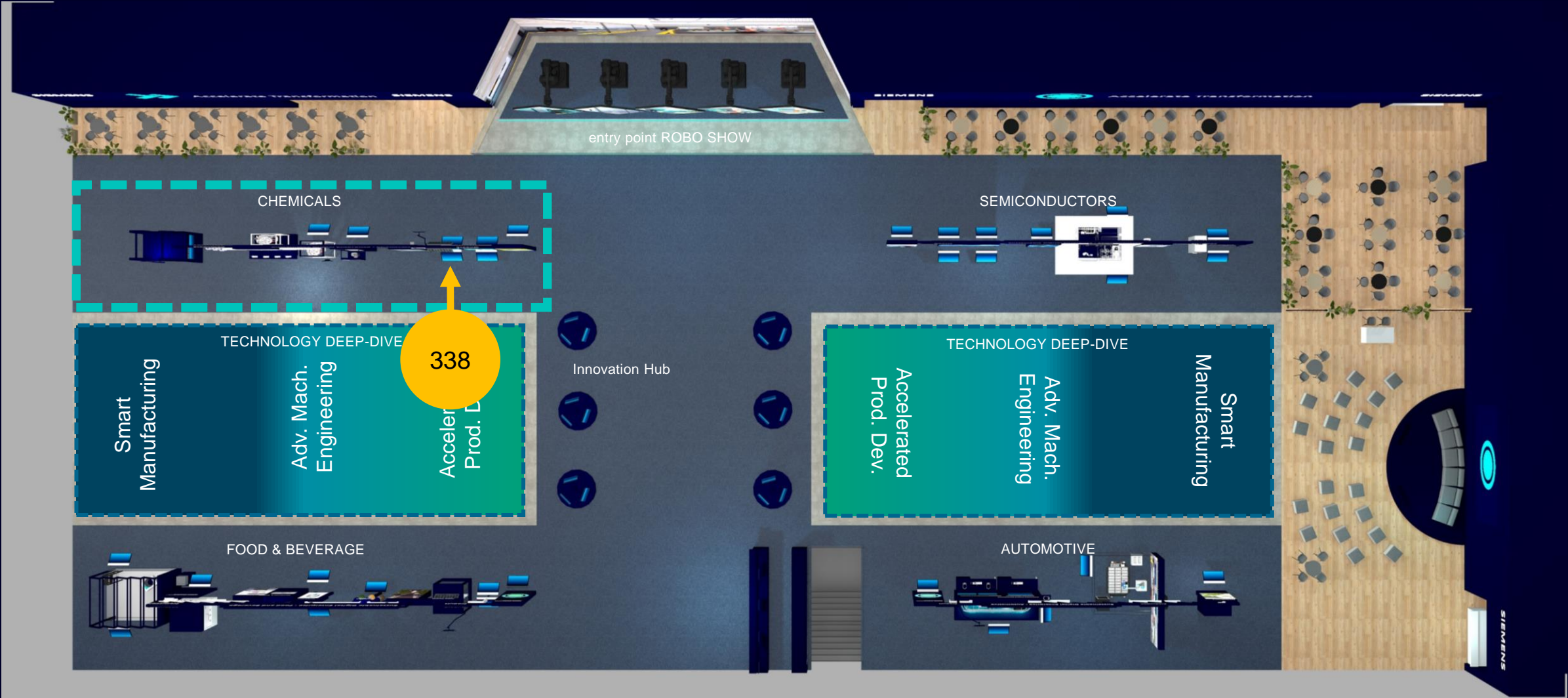
Value

- Develop new materials and formulations more efficiently
- Accelerate design and testing of new materials or ingredients
- Immense speed up of innovation cycle, reduced time-to-market
- Reach sustainability goals faster and more easily

Products and services

Simcenter Culgi

Industry Vertical



Industrial Operations X

From automated to adaptive production

Innovations and Highlights at HM 2024

Siemens Xcelerator @ Digital Industries Portfolio Update: **Industrial Operations X**

Goal of the digital transformation

Digital business platform
to accelerate the digital transformation

Siemens Xcelerator portfolio
contains these building blocks from
Digital Industries

Sustainable Digital Enterprise



Siemens Xcelerator



Marketplace

Portfolio

Ecosystem

Software for product design,
engineering and verification

Teamcenter X

NX X

Others

Production engineering,
automation and operations

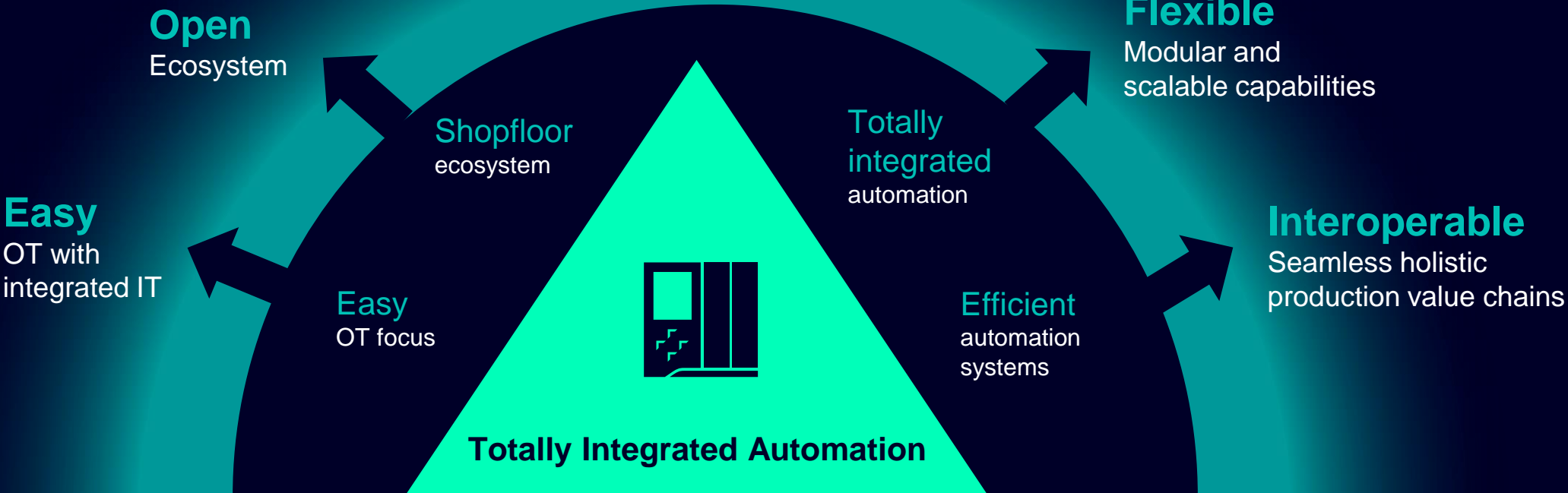
Industrial Operations X

TIA

**Extending our leading automation ecosystem –
making the Siemens Xcelerator promise real for the automation world**

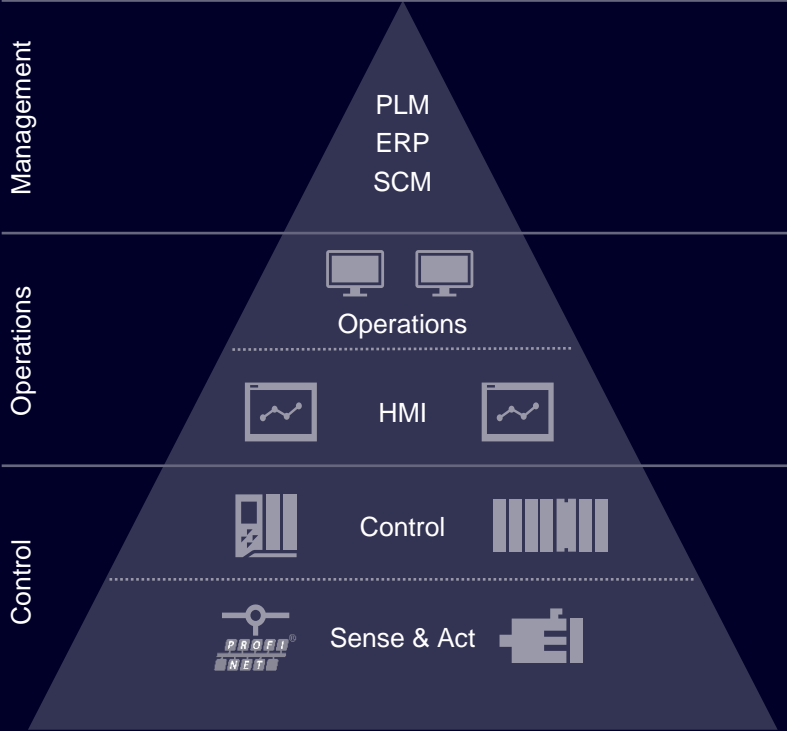
 **Industrial
Operations X**

IT-empowered automation

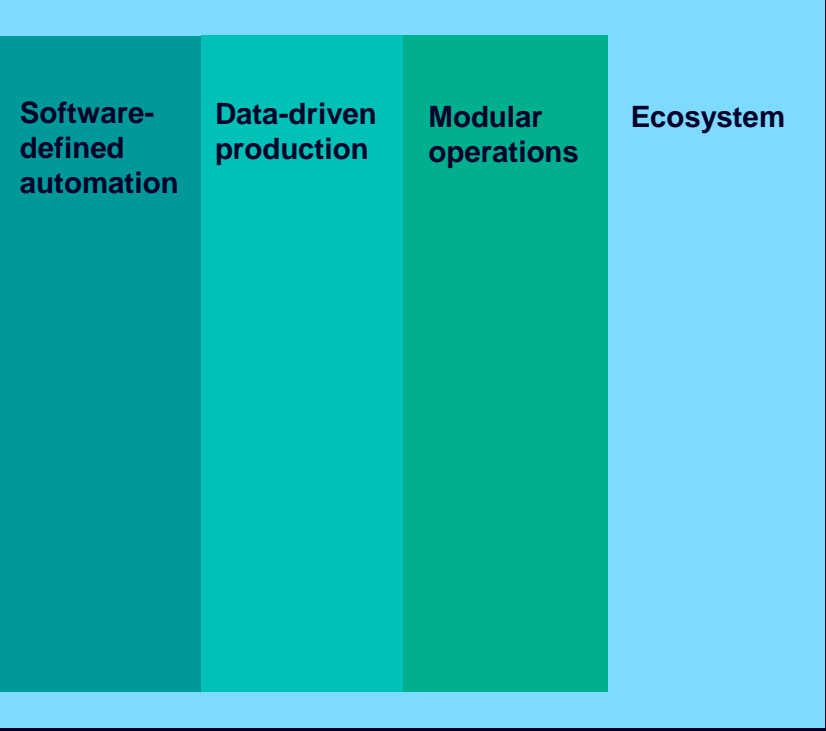


We will expand our leading TIA ecosystem with Industrial Operations X

Totally Integrated Automation



Industrial Operations X



Software-defined automation

from hardware-based automation devices to software-driven automation functionalities.

Data-driven production

from hard-coded production processes to data-driven production and operations.

Modular operations

from monolithic and inflexible operation systems to flexible modular industrial operations.

Industrial ecosystem

from one-vendor automation ecosystems to an open ecosystem with frictionless interoperability between multiple vendors for all levels of industrial operations.

Industrial Operations X: Portfolio & Industrial Ecosystem

as part of Siemens Xcelerator

1 Software-defined automation

Industrial Edge

SIMATIC vPLC

SIMATIC AX

...

2 Data-driven production

Industrial Information Hub

Digital Drive Train

Insights Hub

Trusted Traceability

Predictive Maintenance

...

3 Modular operations

gPROMS

SIMATIC PCS neo

Opcenter X

Machinum

Virtual Training Solutions

...

4 Industrial ecosystem

3rd party offerings

3rd party offerings

3rd party offerings

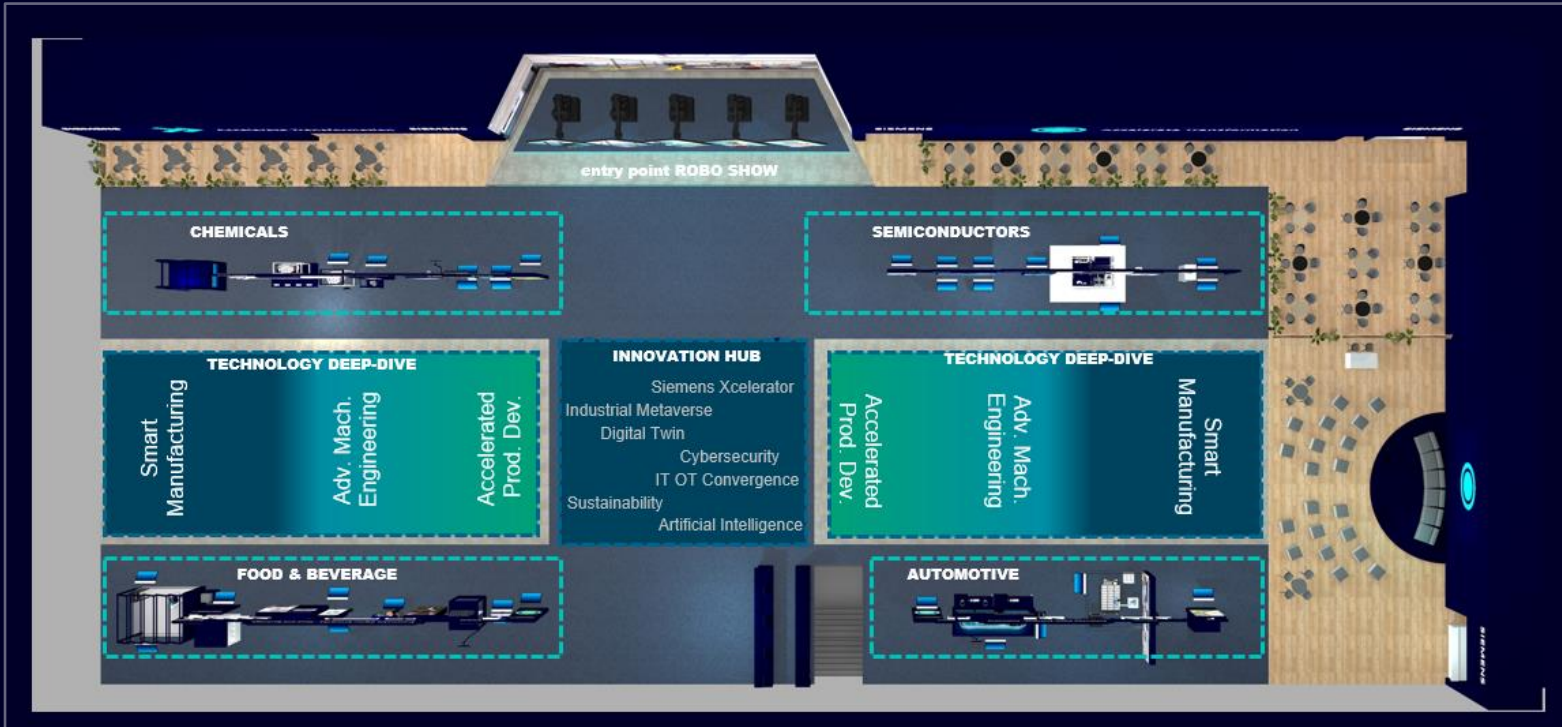
Developer Communities: Industrial Edge, Mendix, Insights Hub, etc.

What`s in for our customers?

Benefits of Industrial Operations X

Industrial Operations X use case touch points at the booth

Innovation hub, vertical showcases, technology deep-dives



102 Use case touch points

12 Innovation hub

45 Verticals

14 Automotive

11 Food & Beverage

10 Semiconductors

7 Chemicals

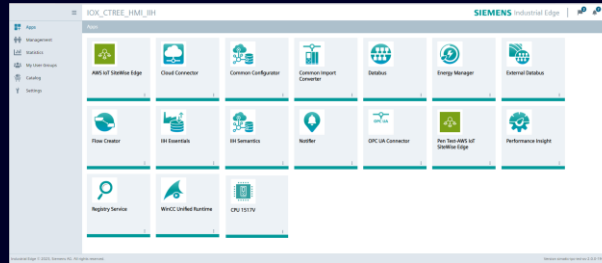
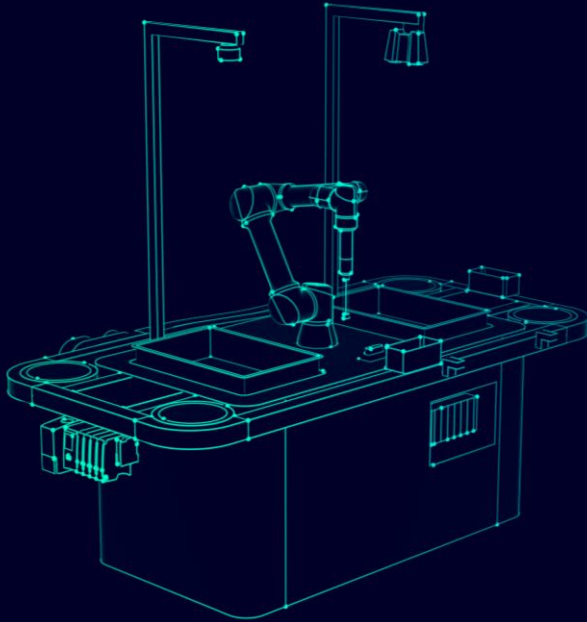
45 Technology deep-dives

24 Smart Manufacturing

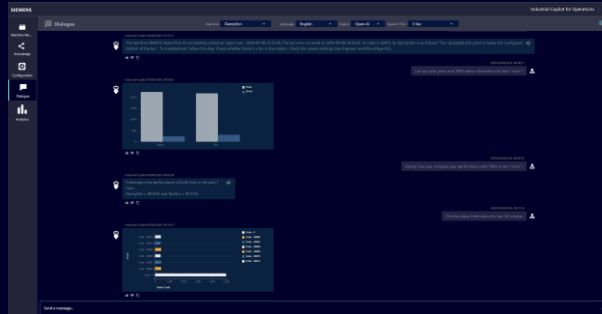
21 Advanced Machine Engineering

Smart Manufacturing

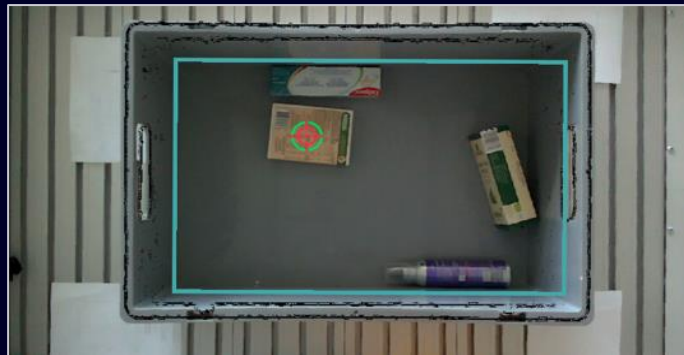
From automated to adaptive production



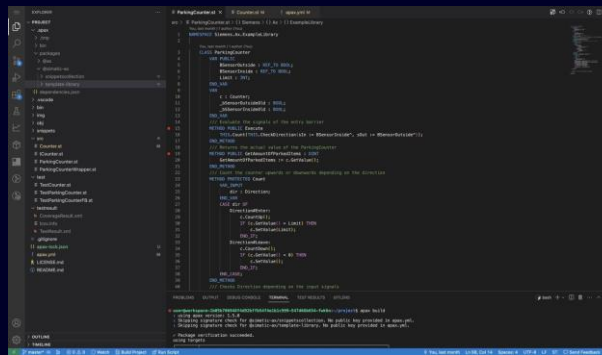
Industrial Edge Management



Industrial Copilot for Operations



SIMATIC Robot Pick AI



SIMATIC AX

Expand Totally Integrated Automation with Industrial Operations X



Challenge

- **TIA:** Cost pressure & Efficiency, Quality and faster Innovation cycles
- **Industrial Operations X:** Lack of talent, Sustainability, Supply Chain

Solution

In today's rapidly evolving industrial landscape, the shift from automated to adaptive production is essential for businesses to remain competitive. Adaptive production systems, collaborating in industrial ecosystems, based on software-defined automation, as well as by data-driven production and enhanced by modular operations, offer flexibility to meet the changing demands and market conditions. This works in a distributed system over distributed over the whole booth.

Customer value

- **TIA:** Reuse and extend your existing automation portfolio to make it even more efficient.
- **Industrial Operations X:** Automate mundane tasks that have flexible needs and could only be carried out by humans before to

Products & Services

- TIA Portal V19, SINAMICS Drive, SIMATIC S7-1500, SIMATIC AX, SIMATIC S7-1500V, Field Data Enablement Gateway, Performance Insights, Energy Meter, Energy Management, SIMATIC Robot Pick AI, SIMATIC Motion Planner, WinCC Unified on Industrial Edge and online engineering, Industrial Edge Management, Industrial Information Hub, Mendix, AWS IoT Sitewise Edge, Industrial CoPilot for Operations

What you can expect at
Hannover Messe 2024?

HM2024 Highlight – Summary

130+
Use-Cases
for Siemens
Xcelerator
(48 last year)

100+
Use-Cases
for Industrial
Operations X
(44 last year)

40+
Product
Innovations &
new Highlights

150+
Stage
Presentations
and Panels



Hannover Faire: Stage presentation highlights and guided tours

Numerous stage presentations

Hannover stage presentations



VIRTUAL

ON-SITE

All information can be found on:

www.siemens.com/hm

QR code agenda

Example Sessions

Monday: Industrial Metaverse

- 12:00 – 12:30 Roland Busch and Rev Lebedean (NVIDIA)

Monday: AI for everyone and Industrial Co-Pilot

- 13:00 – 13:35 Peter Koerte, Uli Homann (Microsoft), Rainer Brehm

Monday: With Semiconductors to Net Zero

- 15:30 – 15:50 Katharina Westrich, Jackie Sturm (Intel), Mousimu Bhat (SEMI)

Tuesday: Siemens Highlight at HM24

- 11:50 – 12:15 Cedrik Neike and Tony Hemmelgarn

Guided tours for analysts

Innovation Hub tours for analysts only

- Tuesday 4:45 – 5:30 pm CEST
- Wednesday 9:15 – 10:00 am CEST
- Wednesday 3:15 – 4:00 pm CEST

Please arrive on time to get headsets at the Guided Tours Info Desk

Please contact to book, confirm or change time slots:

Heike.k.hofmann@siemens.com

Press Conference for analysts and journalists

Press Conference and Highlight Tour

- Monday 5:30 – 6:30 pm CEST (followed by networking opportunity)

For bookings please contact:

christoph.kroesmann@siemens.com