DASSAULT SYSTEMES

INDUSTRIAL ARTIFICIAL INTELLIGENCE: WHAT IT IS AND WHAT IT REQUIRES

FIIF Seminar 5.3.2026

Pekka Lähteinen
Director, Industry Consulting

3DEXPERIENCE®


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Keynote
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OUR BELIEF

Virtual worlds **EXTEND** and **IMPROVE** the Real world

Integrate modeling, simulation, real-world data and AI technologies to ensure the life cycle of products while protecting the intellectual property.

OUR COMPANY

A purpose-driven company

Combining Art, Science & Technology
for a more sustainable world

25,000 passionate people

184 sites
One global R&D / 77 labs

Long-term driven

Majority shareholder control
Revenue: €6.21 billion*
Operating margin: 31.9%*

*Figures as of FY 2024 / Non-IFRS

14,000+ people

In commercial partners' ecosystem

+370,000 customers

12 industries
In 159 countries
42+ million users
Game-changing
3DEXPERIENCE platform

OUR LEGACY - HERITAGE AND AMBITION

1981
3D Design

1989
3D DMU
Digital Mock-up

3D PDM
Product Data Management

1999
3D PLM
Product Lifecycle Management

2012
3DEXPERIENCE®
platform

2020
Virtual Twin Experience of **Humans**

2025
3D UNI**V+R**SES
AI for Industries

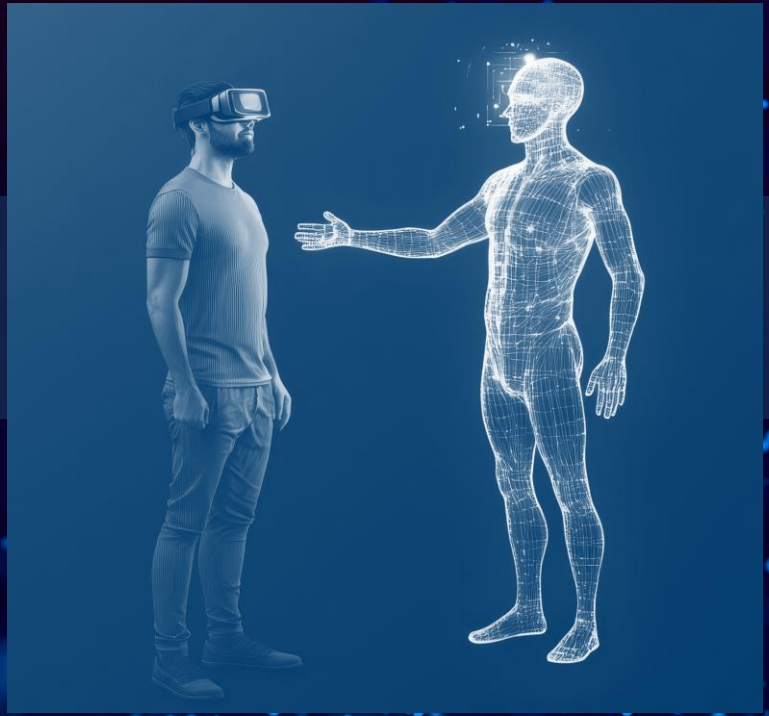
2040

INDUSTRY **EXPERIENCE** **HUMAN** **METAMORPHOSIS**

What is Virtual Twin?

VIRTUAL TWIN

DEFINITION



A **virtual twin** is a **V+R scientific representation of a product, asset or service that integrates the knowledge and know-how to create and operate it in the real world**

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HOW TO BUILD COMPLETE VIRTUAL TWIN

Virtual

ENTERPRISE GOVERNANCE (Program / Portfolio / Project Management)

PRODUCT GOVERNANCE (Lifecycle / Configuration / Change Management)

TRACEABILITY / QUALITY / SAFETY / COMPLIANCE

MODEL BASED SYSTEM ENGINEERING

- Mechanical
- Software
- Electronics
- Fluids
- Optical
- .. / ..

Modeling				Simulation			Manufacturing			After Sales		
Requirements	Functional	Logical	Physical	Model	Scenario	Results	Items	Processes	Resources	Items	Processes	Resources

V2R

R2V

Real

Real World Experience & Evidence

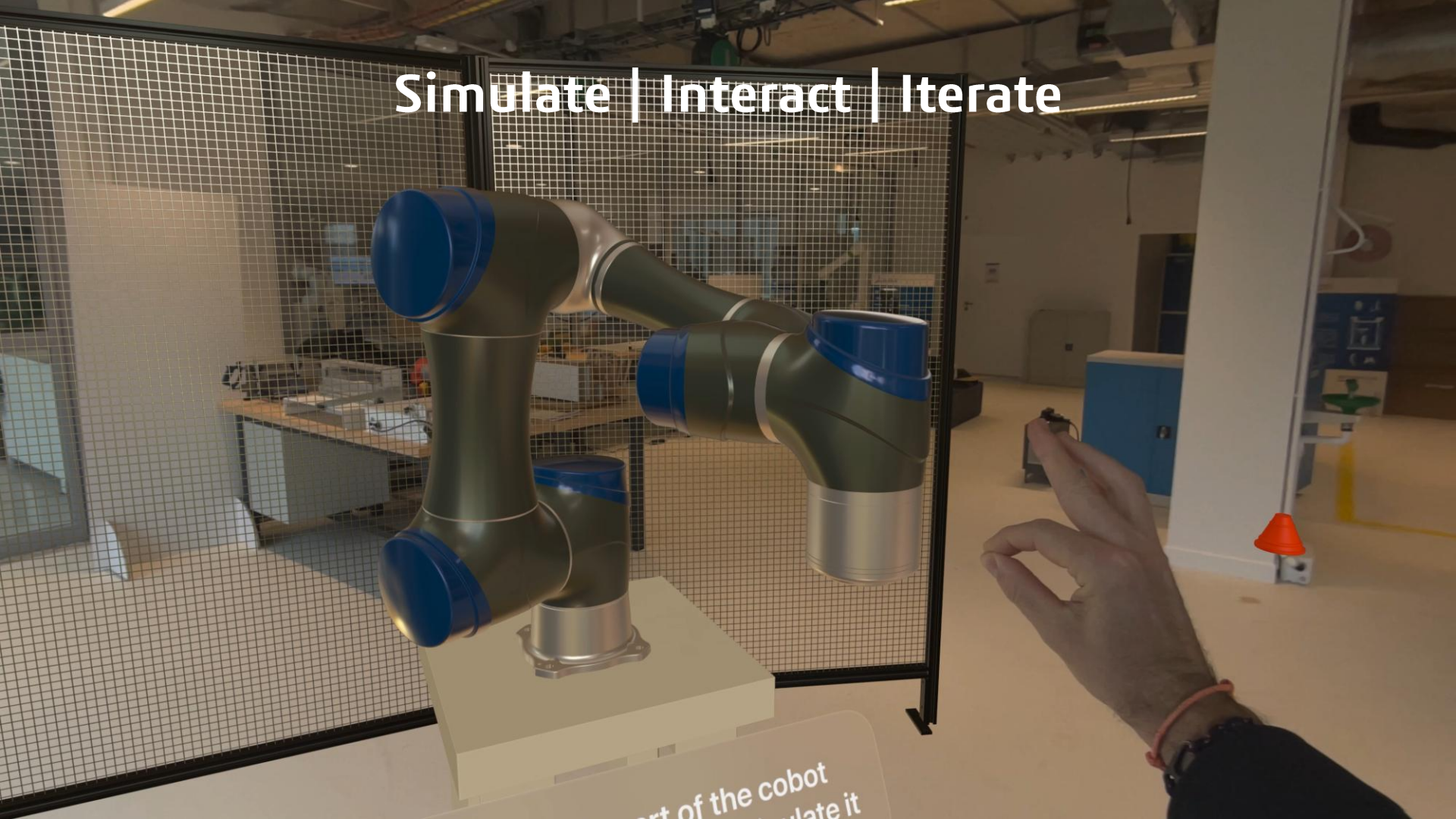
	Test and Simulation Data	Factory Data	3D Scanning Data	Sensor Data	User Experience
Company Ecosystem					
Product Data					
Devices & Equipment					

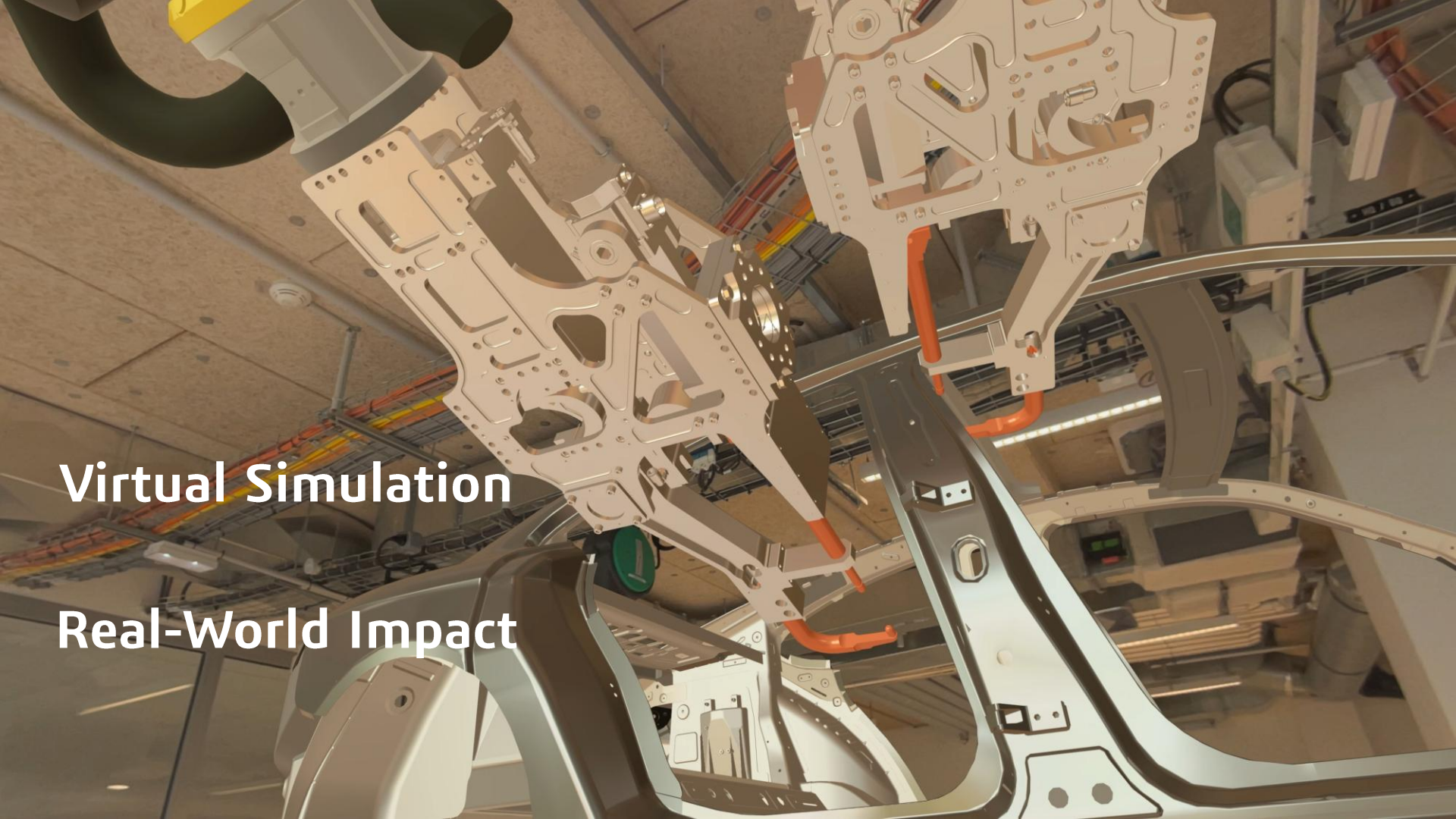
DATA ANALYTICS

Visualize

Simulate

Collaborate


Simulate | Interact | Iterate
rt of the cobot
ulate it


Virtual Simulation
Real-World Impact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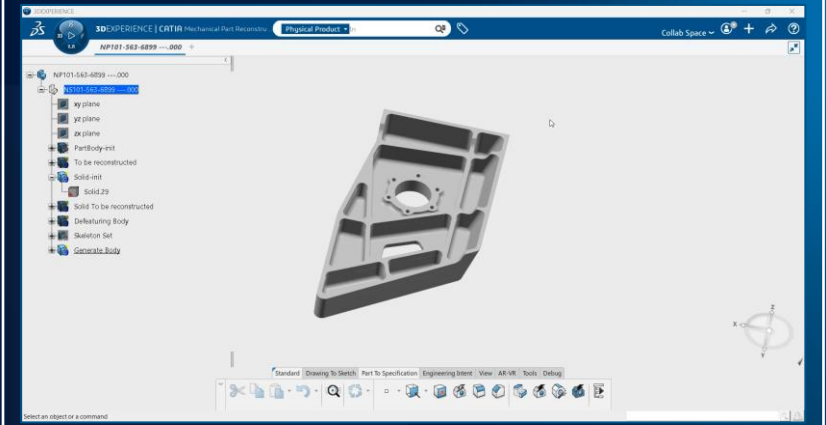
Passenger Experience

AI POWERED VIRTUAL TWINS

GENERATIVE AI EXPERIENCES | SUSTAINMENT

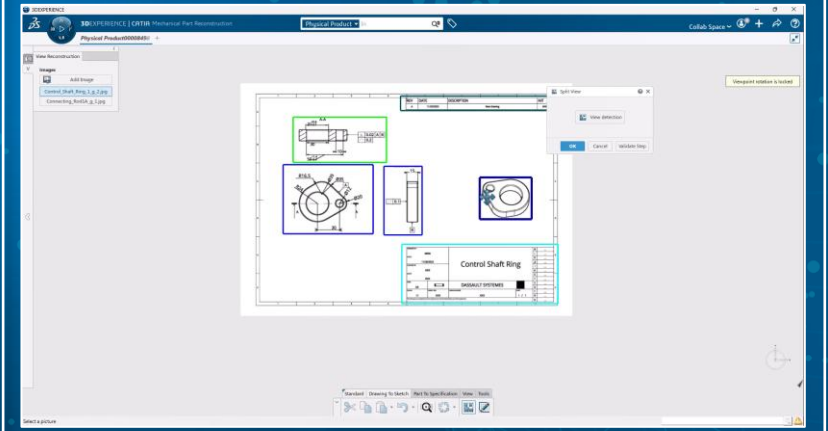
Shape to Spec (R2V)

Automatic reconstruction of mechanical parts specifications from continuous geometry data enabling full editability of the design specifications



Drawing to 3D

Leverage existing drawing patrimony and AI models in order to extract information and guide designer during the Mechanical Part Reconstruction Process



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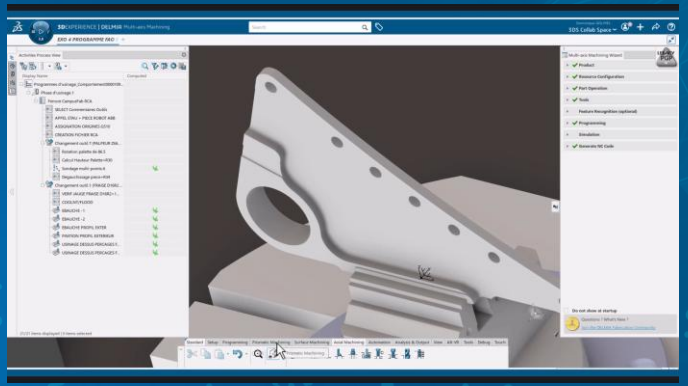
GENERATIVE AI EXPERIENCES | MANUFACTURING

Value

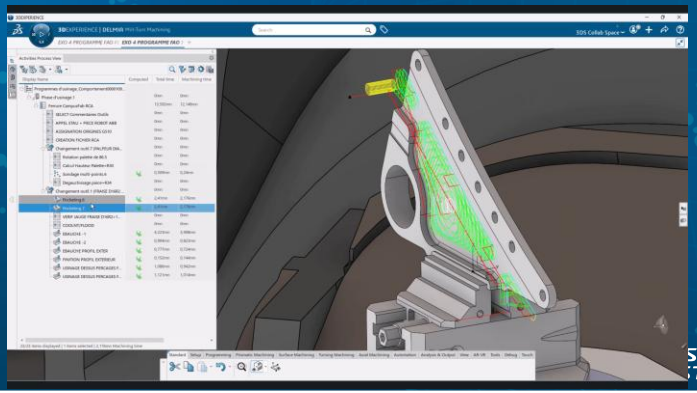
- **Provide assistance to less experienced users** with AI for machining cycle guidance
- Automatic generation of alternate toolpath strategies and parameters enables NC programmers to **minimize the machining time in pocketing operations**

Generative NC Machining

Machining Programmer Assistance

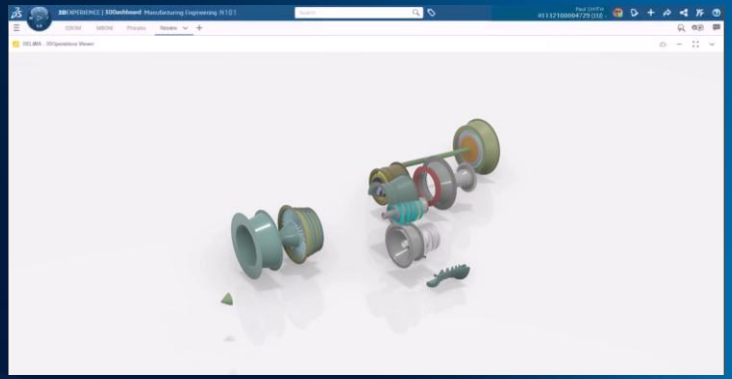


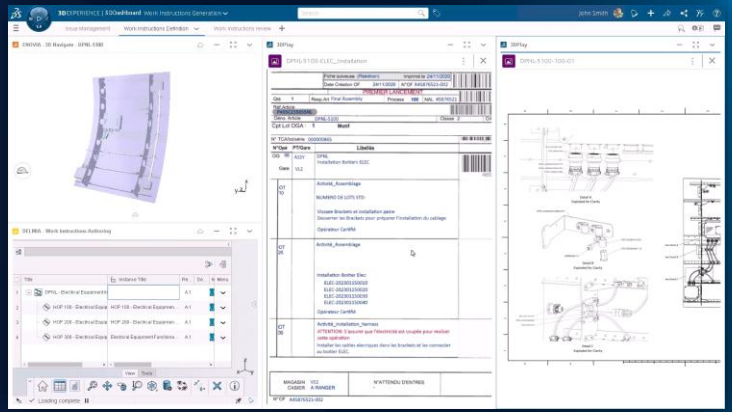
Generative NC Machining Toolpath (pocketing)



GENERATIVE AI EXPERIENCES | MANUFACTURING

Generative MBOM & 3D Work Instructions





Value

- **Reduce lead time for manufacturing preparation**: estimated 50%+ reduction with automated MBOM generation & virtual companion to assist users.
- **Accelerate for added value actions** with **generative** capabilities leveraging **past industrializations** for MBOM, process & work instructions, & resource programming.

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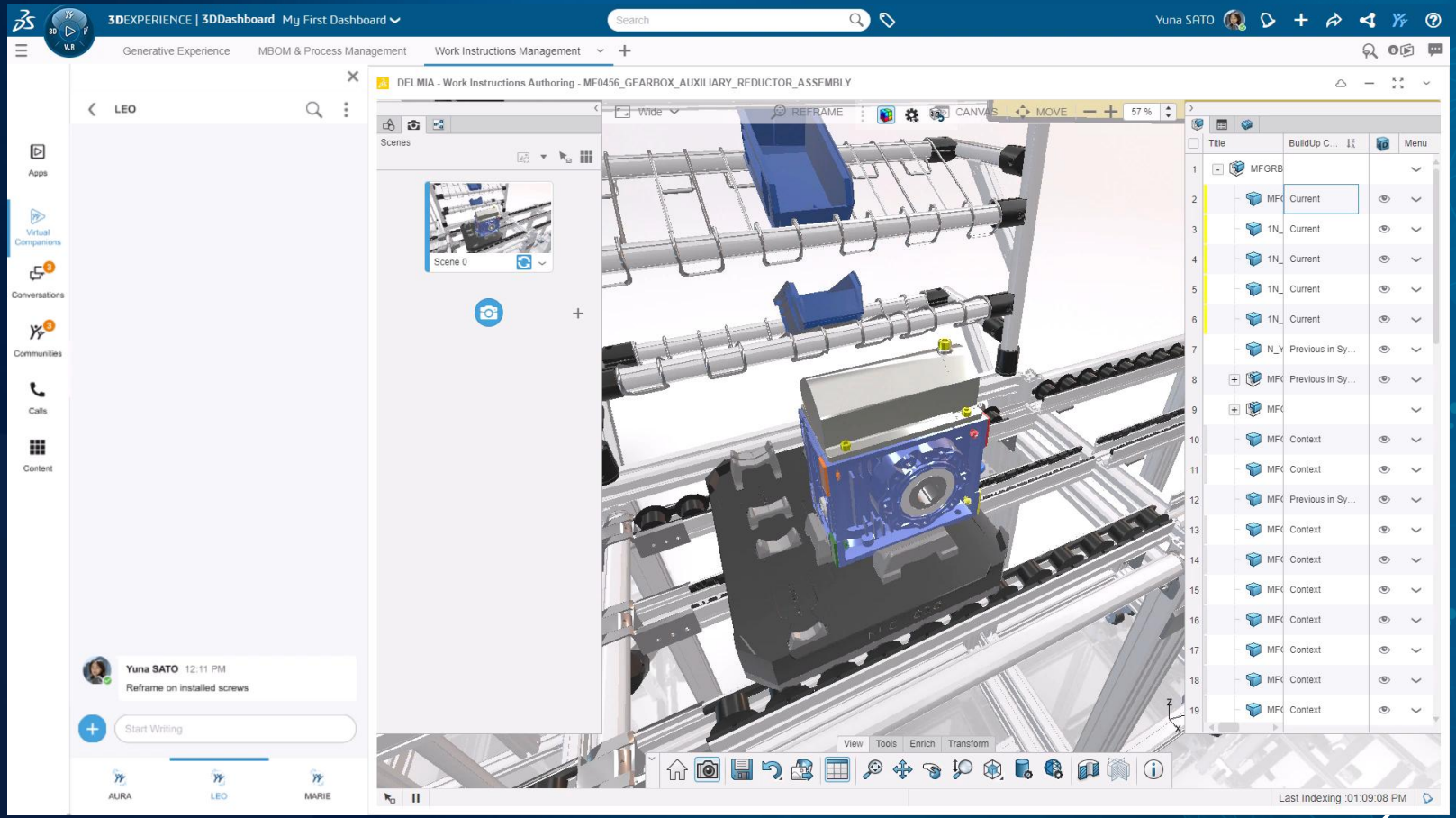
GENERATIVE AI EXPERIENCES | MANUFACTURING



Launching in R2026xFD02

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GENERATIVE EXPERIENCES FOR BUILD TO OPERATE

Virtual Twin of the Product & Process

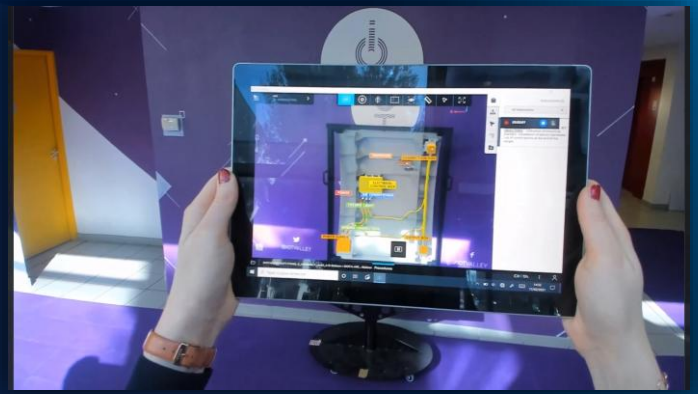
Value

Ensure first-time-right production with accurate and dependable augmented instructions, available at all times and under all conditions.

Value

Reduce the cost of poor quality and shorten operator training time by implementing augmented reality-enabled visual quality checks.

AR-based Work Instructions



Missing, misplaced or misoriented fastener detection at large scale

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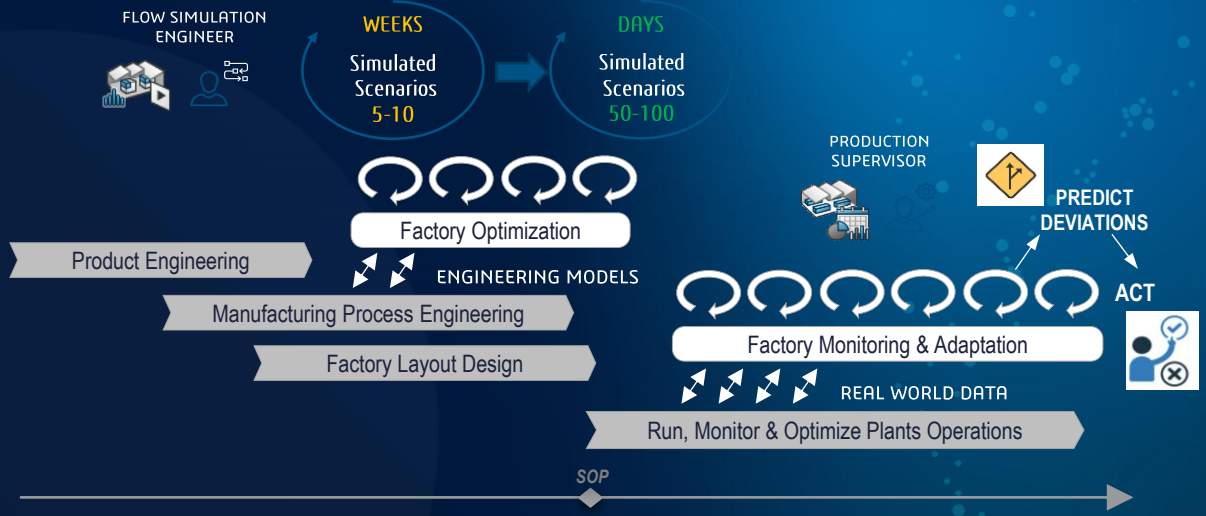
FACTORY MONITORING & OPTIMIZATION

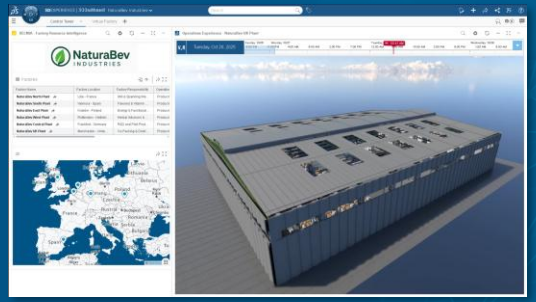
Build to Operate - Virtual Twin of the Factory

Values:

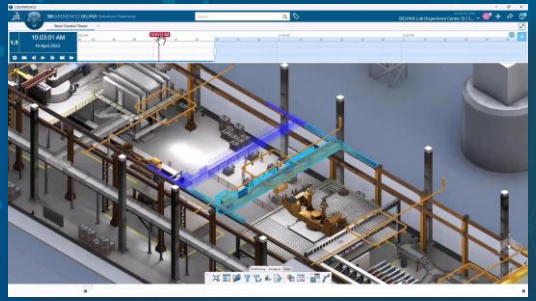
- **Optimization of the production system** by executing 10 time more scenarios in few days.
- **Accelerate decision making on the shopfloor** with near real time simulation execution using real world (MOM, machines etc.) data.
- **Continuous learning & improvement** from real world data shared back with Engineering.
- **Gain Manufacturing & Maintenance knowledge and know-how** to train LLM and AI models



Factory Simulation



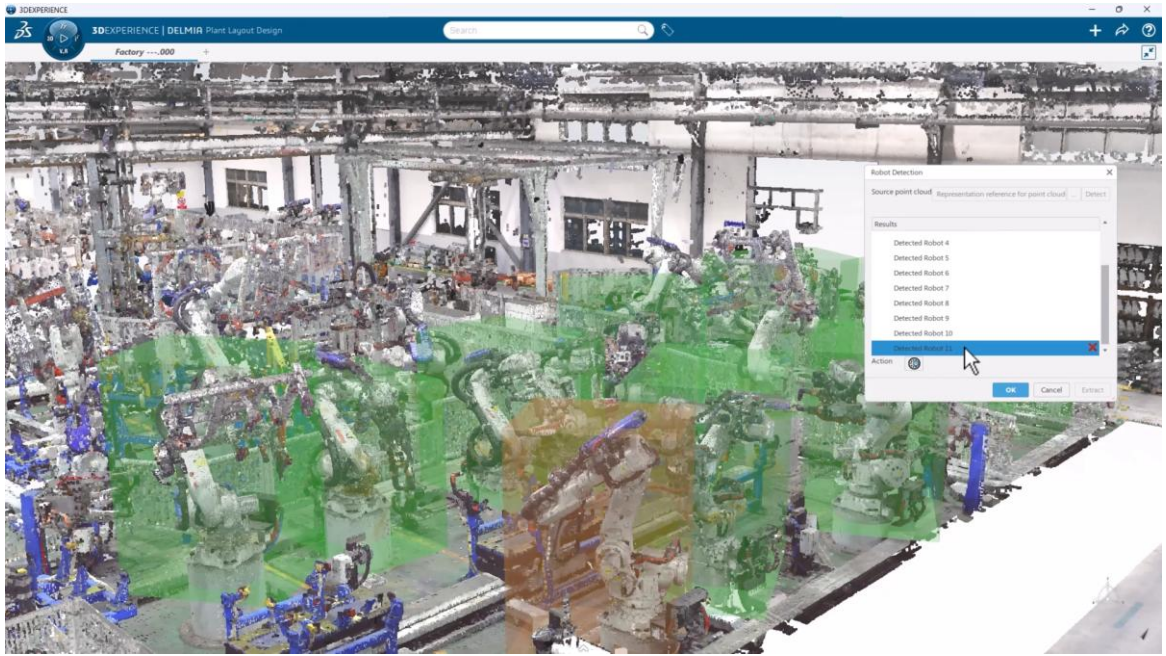
Factory Monitoring



Factory Predictive Monitoring

GENERATIVE LAYOUT MINIMIZING R TO V DISTANCE

VIRTUAL FACTORY



Challenges:

- In order to design, simulate and validate production lines, a complete model of the factory including industrial equipment is needed
- Developing equipment and designing layouts for Virtual Twins demands specialized skills, time, and potentially relationships with equipment vendors. This is beyond the reach of many manufacturing companies.

AI-Enabled Value:

Generative factory layouts to lower the barrier to entry for Virtual Twin Experiences of the Production Line.

TAKEAWAYS

COMPETENCE POWERED
BY AI COMPANION

VIRTUAL TWINS BOOSTS
CREATIONS AND OPERATIONS

Thank you!

Dassault Systemes
Pekka Lähteinen
pekka.lahteinen@3ds.com
+358503046617

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