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Getting started with Generative AI and OpenUSD for Industrial Metaverse applications

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About SoftServe

13,000+
Associates worldwide

30 YEARS
Across multiple industries

GLOBAL
58 offices, 14 countries

20,000+
Projects delivered

TECHNOLOGY DOMAINS

- DATA, ANALYTICS, IoT,
- DIGITAL TWINS / COMPUTER VISION / SIMULATIONS
- CLOUD, DEVOPS, AND SECURITY
- AI/ML / COMPUTER VISION
- ENTERPRISE ARCHITECTURE
- ROBOTICS

NVIDIA CERTIFICATIONS

NVIDIA ELITE PARTNER

GLOBAL LAUNCH PARTNER FOR OMNIVERSE

NVIDIA LAUNCH PARTNER FOR AI ENTERPRISE

BUSINESS DOMAINS

RETAIL

MANUFACTURING

BFSI

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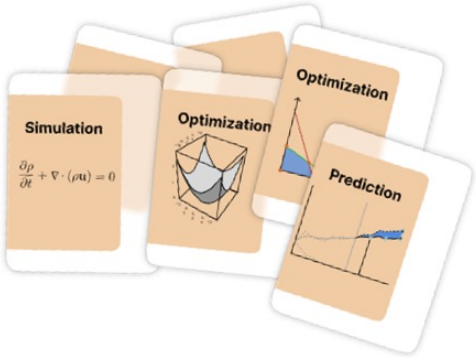
Industrial Metaverse



PRESCRIBING

- Simulation (process, physics, etc.)
- What-if scenarios
- Optimization models

3D VISUALIZATION

- Information delivery, navigation
- Interaction with the system (through intuitive interface)

COLLABORATION

- Human-human collaboration
- Human-machine collaboration

AUTONOMY

- Autonomous control/machines
- Self-optimized systems

Examples

- Collaborative factory or product design
- Production planning and optimization

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Generative AI

KNOWLEDGE UTILIZATION

- Search
- Summarization

CONVERSATION

- Handling the dialogue, context, intent

CONTENT CREATION

- Create text, video, image, 3D (from- and to- different modalities)
- Synthetic data generation

Examples

- Maintenance planning
- Troubleshooting

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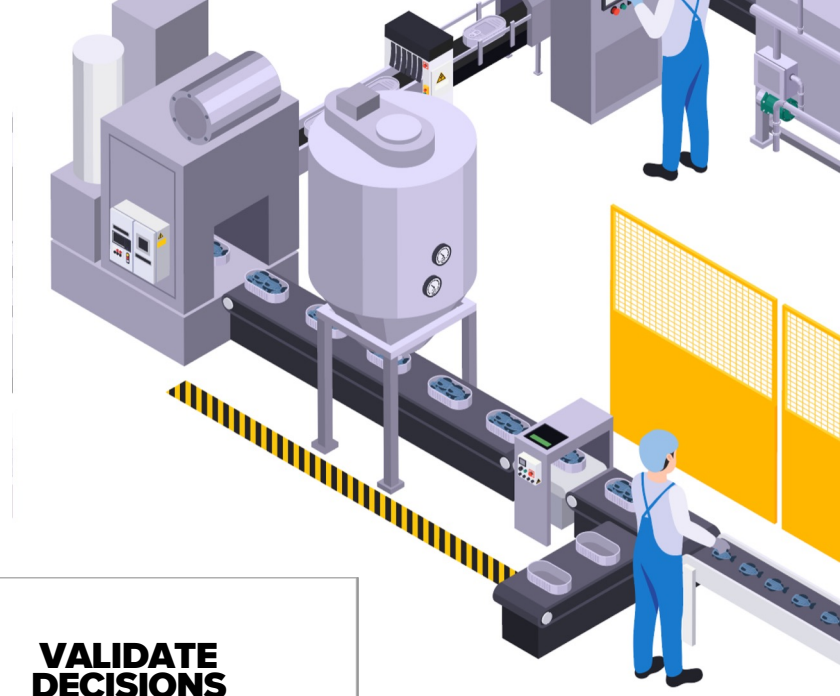
Leveraging Generative AI & Industrial Metaverse



ANALYZE PERFORMANCE

LOCALIZE EQUIPMENT

FIND MANTENANCE PROCEDURES

VALIDATE DECISIONS

INDUSTRIAL METAVERSE

KNOWLEDGE BASE

MAINTETNACE PROCEDURES
SCHEDULE
KPP, KPI
EQUIPMENT CONFIGURATION

3D VISUALISATION
OPTIMIZATION MODELS
SIMULATION MODELS

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Business Area User Experience (UX)

Overview

KEY FACTS

- 12 manufacturing locations
- More than 15.000 employees
- Advanced Display Solutions as our key product portfolio
- Our Customers – Major OEM
- HQ: Babenhausen, Germany

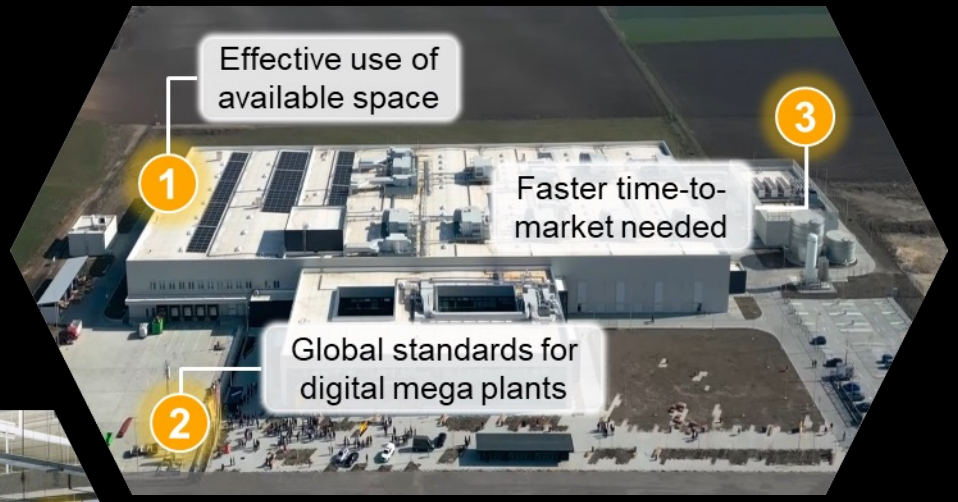
Pressuring Market Situation

Reactive manufacturing

UX OPERATIONS stronger together
Always Ahead. Always Exciting.

PRESSURE POINTS

- **Increasing requirements & specifications**
- **Shorter dev. cycles & product lifetime**
- **Change from hardware to software focus**
- **Rapid changing processes & technologies**



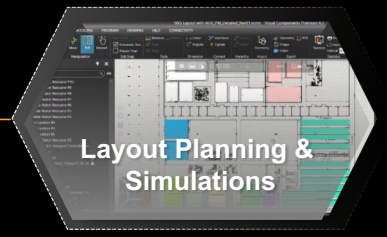
REQUIREMENTS

- Lean & effective workflows
- Data based decision taking
- X-function collaboration
- Synergies through standards
- **Intuitive access to new tools!**

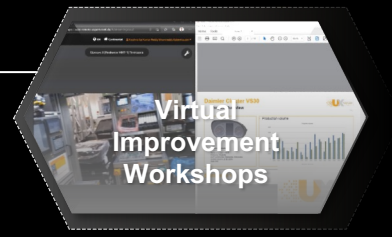
Digitalization
Predictive Manufacturing with GenAI

ContiVerse

X-platform data exchange



Layout Planning & Simulations

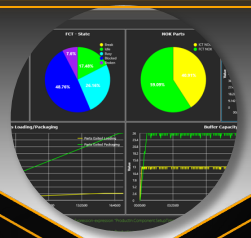


Virtual Improvement Workshops

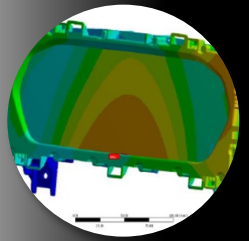
Gemba on Digital Twins

GenAI CoPilot

Improved Data Access & Reports

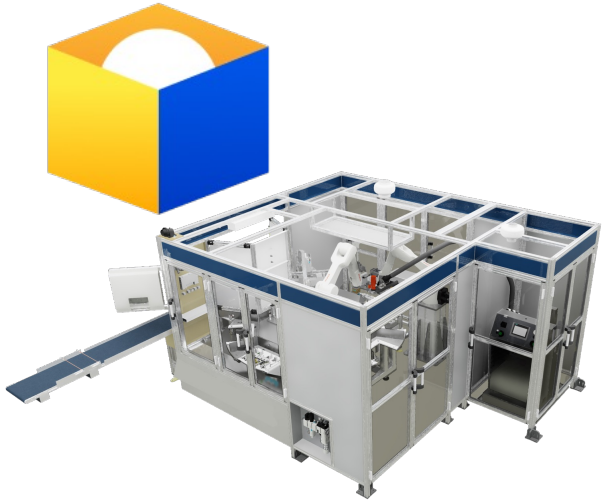


Root cause analysis & LL



Work instructions & maintenance

Applying Omniverse and Generative AI



CREATING DIGITAL TWINS

Warehouse design

DIGITAL ASSET CREATION

Marketing content creation: generating textures, images, 3D assets and scenes

SYNTHETIC DATA GENERATION

Machine perception training

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THANK YOU!

Benjamin Huber

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Taras Bashynskyi

VP of Technology SoftServe

ANY QUESTIONS?

LET'S TALK

FOR
THE
FUTURE
softserve