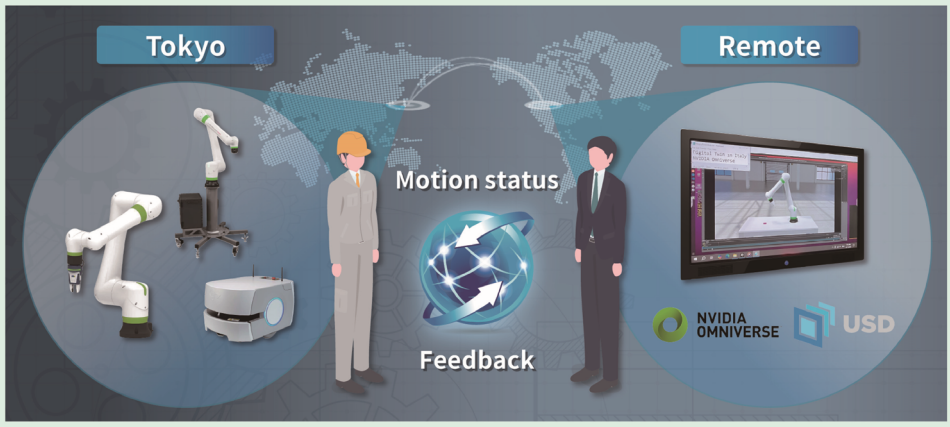
Reduce lead time and cost for factory construction by Digital Twin

Industry Robotics Digital Twin

Background and Technical Challenges

High-precision, real-time representation of objects created in multiple design applications into one Digital Twin ecosystem requires highly detailed conversion of data formats from various package vendors.



仮想コミッショニング
Virtual Commissioning

プロセス最適化
Process Optimization

汎用ミドルレイヤ
Abstraction Layer

故障予測アラート
Predictive alert

ファクトリー・バースと同時並行設計
Factory Verse & Concurrent Engineering

工場全体の実寸大デジタルツイン表現により、
フロントローディングやバーチャルコミッショニングなどを
可能にする。
Enable Front loading, Virtual Commissioning, etc.
by Full Factory Real Scale Digital Twin representation

自律型AIエンジニアリング
Autonomous AI Engineering

リモートセンターからLLMやAIエージェントが
生産状況や材料の状況に応じて、
現場でロボットのプログラム等を動的に調整する。
LLM and AI agents from Remote center adjusts Robotics program
dynamically at Shopfloor according to production, material situation.

R&D Goals and Outcomes

To reduce cost and lead time of testing and building of factory and its equipment designs by virtual prototyping. And enabling remote maintenance efficiently by Digital Twin.

Key Technologies

01 Core Technologies

Develop general robotics control language layer in a digital twin, making it easy to connect multiple robots and integration with AI.

02 Key Differentiators

Importing multiple data formats and sources into a digital twin, and utilizing computer vision and AI for dynamic generic robotics control

Use Cases	Manufacturing	**R&D phase**	Development
Technology Schedule	FY27-29	**Commercialization Schedule**	FY27-29

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