Real-Time 3D Digital Twin
in Omniverse with IT/OT Fusion & Conversational AI on Azure

Revolutionize factory operations with a real-time 3D Digital Twin platform that unifies IT and OT data through a process information model, delivering immersive 3D visualizations, intelligent dashboards, real-time performance insights, and AI-powered chat for quick, smarter decision-making

Business Opportunity

- Expanding the Digital Twin solution across various data sources
- Delays in detecting machine failures, bottlenecks, and inefficiencies
- Maintaining real-time alignment between the physical factory floor and its digital twin

Value

- Enables seamless IT & OT data integration for enhanced visibility
- Provides real-time monitoring to optimize performance
- Ensures continuous synchronization with real-time data streams

Solution Functionality

Connect data from MES, ERP, sensors, and PLCs to unify operational insights across different manufacturing systems

Enable users to zoom, rotate, and interact with digital twin components for in-depth analysis and monitoring

Seamless IT & OT Data Integration

Interactive 3D Model Navigation

Conversational AI

Real-Time Data Visualization

Display live operational data, including throughput, WIP levels, scrap rates, and machine performance, through an intuitive 3D interface

Speed up fault detection with a conversational interface that simplifies data access

Beneficial Persona
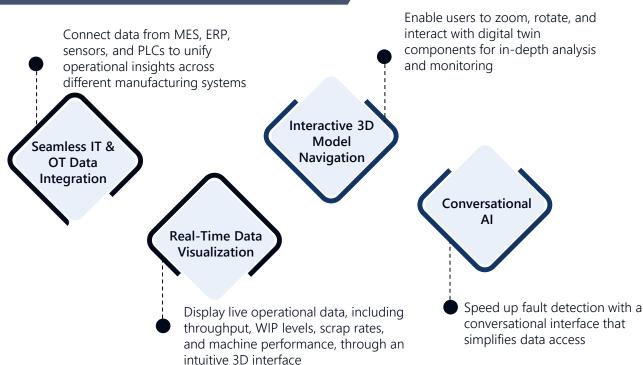
Return on Investment

~ 15 to 25% Improvement in Decision-Making Speed

~ 20 to 30% Increase in Data Visibility

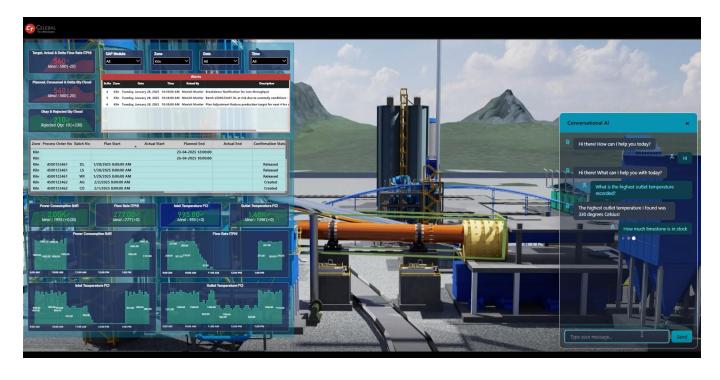~ 20 to 35% Increase in Equipment Utilization

Production Manager

Maintenance Manager

Technology Used

MSFT Fabric

Power BI

NVIDIA Omniverse Kit Streaming

Azure Open AI

Solution Snapshots