



Microland helps a Fortune 50 global conglomerate transform its Digital Backbone for the 'Brilliant Factory' Program

Overview

The client is a Fortune 50 global conglomerate, with over 200,000 employees, operating in various verticals such as Aviation, Power, Healthcare, Renewable Energy, and Additive Manufacturing. Out of 2,000 sites spread across the globe, the client has over 500 manufacturing sites. With digitalization becoming increasingly common and crucial across manufacturers of components and systems, Microland helped the client modernize its industrial network architecture to make its products more intelligent and efficient.

Challenge

The IT and OT devices being used in the client's factories were running on isolated and independent networks, with entirely different objectives and requirements. The client had little or no real-time visibility on the efficiency and performance of its machines which increased its reliance on manually collected data and tribal knowledge to make critical decisions. Dealing with legacy machines that are resistant to change due to protocol incompatibilities, the client was also facing complexity in establishing connectivity to critical devices considering the size of sites. There were also security risks while connecting systems that run with legacy/ non-standard software to the external network.

The client's requirement involved revalidating equipment after every single modification, dealing with extreme environments that require suitable network gear, adhering to strict access policies and safety regulations, and downtime approvals for maintenance because the majority of factories operated 24*7. The lack of information about OT devices and their TCP-IP communication flow along with the machine performance, asset availability, and productivity led to a prolonged cycle of forecasting, tracking, and decision making.

Solution Strategy

To address these challenges most effectively our team followed 4 steps approach: Discovery, Design, Build & Test, and Release. Our team implemented and delivered over 100 OT Network Design and Build projects across 18 countries since the start of the engagement to implement this program.

Microland identified a team of domain and industrial network experts who jointly worked with the client's technology division to develop a converged IT/ OT [information and Operational Technology] solution for their manufacturing sites. Keeping the primary goal of connectivity in mind, the Industry 4.0 standard was adopted to enable digital transformation. The standard provided the framework to set up standardized, secure, and resilient architecture. We then piloted and tested the newly developed solution at a few factories initially. The pilot process helped us to identify challenges, fine-tune our technical and business processes for large-scale rollout.

Solution

As a service partner to the client for over two decades, Microland has been helping them design, build, and manage their network infrastructure. Owing to the two decade long engagement and track record with Microland, the client trusted our technical expertise and ability to deliver globally and chose us as their preferred partner.

As part of this project, we connected and tested over 1500 OT machines and 5000+ IT Endpoints.

Once the customer decided to invest in their digital transformation, we collaborated on the initiative termed as '**Brilliant Factory - Factories of the Future**'. The initiative had 3 clearly defined goals:

- ❖ **Get Connected** - Establish a standardized infrastructure that converges IT and OT technologies
- ❖ **Get Insights** - Leverage the converged architecture to collect, analyze, and assess production information in near real-time
- ❖ **Get Optimized** - Leverage the acquired intelligence and insights to promote effective optimization of the business from innovation and design, throughout supply chain, from manufacturing, to distribution and customer use

We have helped our customer to connect thousands of industrial control system [ICS] devices such as sensors, PLCs, DCS, HMIs, SCADA systems, Kepware, etc. Our network solution consisted of WAN, Wired and Wireless LAN, Network Security for the entire manufacturing plant, including their carpeted areas/offices along with providing a secured network medium for computing infrastructure where factory data/ applications are hosted/stored.

Outcomes Delivered

By successfully bridging the gap between the IT and OT technologies, Microland helped the customer achieve their vision of 'Brilliant Factory – Factories of the Future'. One of the biggest single site transformations executed by Microland was for the World's Largest Gas Turbine plant in the USA which was spread across 413 acres and occupies over 1.7 million square feet of manufacturing space.

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The key benefits of the solution were:

Reduction in cost of quality (COQ) through improved utilization of machines, tools, and people

Reduction in NPI Cycle time by leveraging the acquired intelligence and insights for smart inventory management and automation of low-value tasks

Increase in overall equipment effectiveness (OEE) by reducing expensive unplanned downtime

Increase in on-time delivery (OTD) by linking real-time information back to the entire supply chain from supply through distribution, for timely/ quick action and response

Creation of a secure factory with end-to-end security built into the network, providing multiple layers of protection

Microland is “Making digital happen” – allowing technology to do more and intrude less. Our solutions for Cloud and Datacenter, Networks, Digital Workplace, Cybersecurity, and Industrial IoT make it easier for enterprises to adopt NextGen Digital infrastructure. Microlanders throughout the world ensure this embrace of digital brilliance is predictable, reliable, and stable. Incorporated in 1989 and headquartered in Bengaluru, India, Microland has more than 4,500 digital specialists across offices and delivery centers in Asia, Australia, Europe, Middle East, and North America.

For more information visit www.microland.com or email us at info@microland.com