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Case Study

Thyssenkrupp Materials Services GmbH (Industry)

Engineering Tomorrow Together

Building a Zero Touch Enterprise Network with Open Networking & OpenWiFi

Background

Thyssenkrupp Materials Services GmbH, established in 2009 as part of a restructuring of the Thyssenkrupp Group, is a leading global materials distributor and service provider. With operations spanning over 40 countries, it specializes in the distribution of raw materials, steel and nonferrous metals, plastics, and specialty materials. The company also offers a wide range of value-added services, including processing, logistics, and supply chain management solutions. This extensive operational footprint requires a robust, reliable, and flexible network infrastructure to support its diverse facilities, which include warehouses, processing centers, and offices, often located in industrial environments. The nature of Thyssenkrupp Materials Services GmbH operations demands a network capable of supporting real-time inventory management and order processing systems, enabling smooth communication between various sites and with customers, facilitating data collection and analysis for optimizing operations, ensuring secure access to company resources for employees across different locations, integrating with industrial IoT devices for monitoring and automation, and operating reliably in challenging industrial environments with dust, humidity, and electromagnetic interference. As the company continued to grow and evolve, its aging network infrastructure across numerous sites in Europe and Asia became a limiting factor.

Thyssenkrupp Materials Services GmbH recognized the need for a future-proof networking solution that could be easily installed and managed, while supporting their digital transformation initiatives. To address these challenges, Thyssenkrupp Materials Services GmbH partnered with HFCL, EPS Global (Distributor Partner) and BE Networks to implement an innovative Open Networking solution. This partnership aimed to combine zero-touch hardware provisioning with advanced software-defined networking capabilities, setting the stage for a more agile, efficient, and scalable network infrastructure.

- Thyssenkrupp operates across 40 countries, managing over 150 warehouses, 30 processing centers, and 50 offices.[1]

- Thyssenkrupp distributes over 10 million tons of raw materials annually, specializing in steel, nonferrous metals, plastics, and speciality materials.[1]

> Thank you very much for supporting us. Your products are amazing, and I can only encourage everyone to take a look at the product line of IO by HFCL.
>
> **Marco Decker**
> Head of Connectivity SD-NET
> Thyssenkrupp Materials Services GmbH

Challenge

Thyssenkrupp Material Services GmbH faced multiple challenges in modernizing its network infrastructure. The company's existing equipment across numerous sites was reaching end-of-life, necessitating a comprehensive update. There was a need for a robust, remotely manageable networking solution for harsh industrial environments. Additionally, the company sought a flexible, scalable solution that could adapt to emerging technologies and evolving business requirements, ensuring future-proofing of their network infrastructure.

Solution

To address the complex challenges faced by Thyssenkrupp Material Services GmbH, a comprehensive Open Networking solution was implemented through a collaborative effort involving multiple technology partners. This innovative approach combined cutting-edge hardware, software-defined networking, and centralized management to create a robust, flexible, and future-proof network infrastructure.

Given the harsh environments Thyssenkrupp Material Services GmbH operates in—characterized by dust, humidity, and other challenging conditions—the hardware needed to be highly durable and reliable. The solution incorporated HFCL's Wi-Fi 6 Access Points, which were specifically chosen for their robustness and advanced capabilities. The indoor Access Points are 2x2 ceiling-mounted models, while the outdoor Access Points were designed to withstand extreme conditions. Equipped with integrated omni-directional antennas, these Access Points offer broad coverage and feature an intelligent control plane for self-healing and self-optimization.

All of these Access Points use Qualcomm chipsets, similar to those found in many leading vendors' devices. Thyssenkrupp Material Services GmbH opted for HFCL's open Wi-Fi firmware, which provides flexibility and integration with Access Points from other manufacturers. This setup ensures that all devices, regardless of their origin, are managed seamlessly through the HFCL cloud controller. This approach not only supports a diverse range of Access Points but also leverages the strengths of an open Wi-Fi network to deliver a stable and high-performance infrastructure tailored to Thyssenkrupp Material Services GmbH's rigorous operational needs.

Additionally, a zero-touch hardware platform was developed. This system allows for the seamless deployment and management of networking equipment with minimal manual intervention. Each hardware unit is pre-configured and shipped with an Operating System already installed, enabling easy and rapid installation at remote sites. BE Networks' Verity management system plays a critical role in this solution. Verity provides hyper automation capabilities, managing the entire lifecycle of the networking hardware from initial provisioning to zero-touch replacement. The implementation was greatly supported by EPS Global, which offered valuable insights into hardware and software solutions suitable for Thyssenkrupp Material Services GmbH's needs. EPS Global's extensive reach across North America and the EMEA region facilitated timely delivery and support, ensuring that the deployment was smooth and met Thyssenkrupp Material Services GmbH's expectations.

Indoor Wi-Fi

Wi-Fi 6
Access Point

Result

01 Zero-touch provisioning simplified network equipment deployment.

02 Pre-configured hardware and centralized management cut down on-site technical requirements.

03 The solution ensured stable network performance in harsh industrial environments.

04 Open Networking enabled flexible upgrades and long-term scalability.

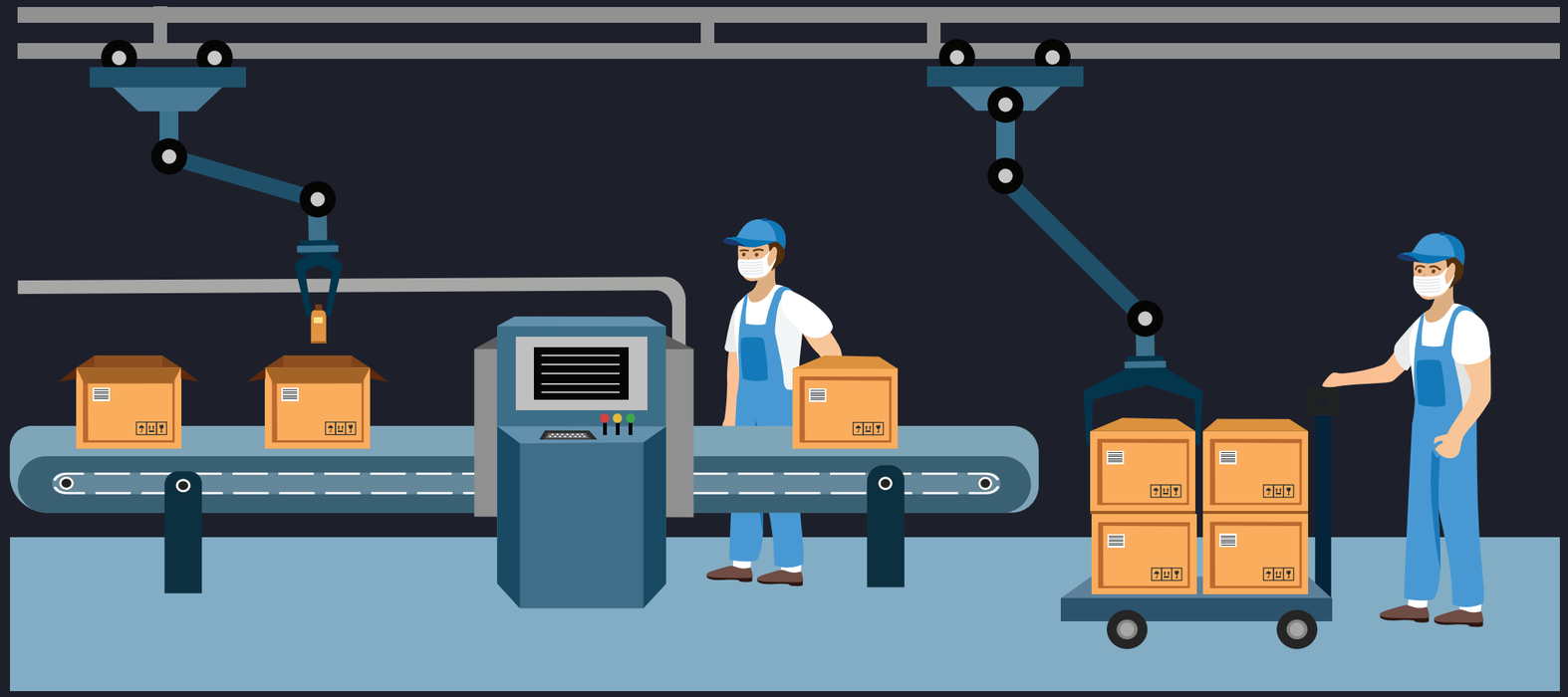
05 Centralized network management and visibility

06 Reduced overall infrastructure costs

07 Enhanced wireless coverage and performance with Wi-Fi 6 Access Points.

Conclusion

The implementation of the Open Networking solution at Thyssenkrupp Materials Services GmbH significantly transformed their network infrastructure. By leveraging zero-touch provisioning and advanced software-defined networking, the organization achieved streamlined deployment, minimized on-site technical needs, and ensured reliable performance in harsh environments. The integration of flexible Open Networking hardware and Wi-Fi 6 Access Points further enhanced connectivity and scalability. This comprehensive approach not only modernized the network but also positioned it for future growth, demonstrating a successful partnership between Thyssenkrupp Materials Services GmbH, HFCL, EPS Global, and BE Networks.



References

1. thyssenkrupp.com

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