

# Knorr-Bremse drives digitization with managed SD-WAN



## Client profile

Knorr-Bremse is the world's leading manufacturer of braking and other systems for rail and commercial vehicles. With 29,500 employees across 100 locations in more than 30 countries, the company is committed to driving safety and energy efficiency in rail and road transportation.

Knorr-Bremse's digitization strategy includes the widespread adoption of Microsoft 365 and Teams, as well as the migration of key applications to the cloud. That's why they needed a highly available network with the bandwidth to adapt quickly to accommodate evolving business needs. Working together, we designed and implemented a managed software-defined wide area network (SD-WAN) solution in 6 months for 114 global sites. Direct access to the cloud reduced the pressure on the core network. The solution significantly increased their bandwidth and improved the stability of their connections, enabling them to prioritize business-critical traffic.



SD-WAN guarantees us high-speed and robust connectivity, as well as fast, reliable and secure access to cloud services and data centers. With this, we've been able to accelerate our digital transformation and create the foundation for further intelligent services that support our employees and help our customers."

**Tino Gieslor**

Global Network Manager, Knorr-Bremse

## Business need

### Creating a network to support a data-driven future

As part of their digital transformation strategy, Knorr-Bremse accelerated their move to intelligent, data-driven cloud service offerings such as Microsoft 365 and Teams. This strategy significantly changed the demands on their network infrastructure.

With growing demand for bandwidth and stable connections, they needed to ensure that bottlenecks, disruptions or outages wouldn't hamper global collaboration and jeopardize the development of new business models. They required an agile, highly available and high-speed network. This network needed to enable the rapid deployment of additional capacity and prioritization of data traffic from business-critical applications and real-time services. It also needed to provide employees with direct cloud access over the WAN backbone while connecting on-premises data centers to the Azure Cloud without the expenses that ExpressRoute would require.

Flexibility was critical for Knorr-Bremse because each of their sites had very different requirements. Depending on whether a site was used for manufacturing, development or office work, the key focus areas could be SAP availability, connections to central data hubs and access to cloud services. The existing network infrastructure with MPLS connections couldn't provide the required flexibility and would have required additional investment in more systems to accelerate WAN. Therefore, Knorr-Bremse were looking for alternatives.

The goal was to build a robust, high-speed network that provided fast, reliable access to data centers, the internet and private and public clouds, while supporting efficient business operations, digitally driven production and connected collaboration. At the same time, the new solution needed to deliver higher performance and reliability without increasing costs, while reducing the complexity of the network infrastructure.

## Solution

### Connecting 114 sites in just 6 months

After an exhaustive evaluation process, they decided to implement our managed SD-WAN solution.

The managed SD-WAN enables Knorr-Bremse to manage and orchestrate different types of network connections by decoupling control functions from the physical infrastructure. They can assign connections based on bandwidth and latency needs while maintaining performance levels in real time. All connections are used optimally and, in the event of bottlenecks or disruptions, traffic is routed to the best available connection. This improves quality of service and resilience while optimizing costs.

To meet Knorr-Bremse's budget and timeline requirements, and minimize the impact on business operations, the new connections and SD-WAN had to be implemented while the legacy infrastructure was being decommissioned. The implementation was carried out in parallel across its Asia, EMEA and Americas regions, with NTT DATA teams working closely with Knorr-Bremse's project teams. Within 4 months, 85% of their 114 sites were fully migrated, with the remaining sites migrated in the following 2 months. Despite some challenges, the new technology worked right away; not a single line needed to be touched twice.

The key to this was close collaboration between the Knorr-Bremse and NTT DATA teams. Although each site used different firewalls, switches and other network hardware, and in some cases had individual routing requirements, the SD-WAN installation and setup were completed quickly thanks to the technical preparation plan.

When technical or organizational hurdles arose, we identified possible courses of action and offered new solutions by coordinating with authorities or arranging provider changes.

In total, the project involved installing 134 access lines and 224 SD-WAN devices across the 114 sites.

## Outcomes

### Creating a new data highway between sites, data centers and the cloud

By moving to a managed SD-WAN solution, Knorr-Bremse has been able to accelerate the widespread adoption of Microsoft 365 and Teams, as well as their ongoing cloud migration. In addition, they created the foundation for a stronger interconnection between their production and development environments. The SD-WAN provides them with the required bandwidth and allows the company to respond quickly to new business demands. Built-in encryption also provides high security without sacrificing performance.

### Optimizing infrastructure and budgets

By enabling access to cloud applications from anywhere, Knorr-Bremse have been able to reduce the load on their core network. By replacing their existing WAN acceleration infrastructure, they've simplified their network architecture. In addition, the managed SD-WAN has optimized the use of their network connections and allowed them to better cater for peak loads. These have allowed them to increase available bandwidth by 330% while reducing the cost per megabit by 32%.

### Improved quality of service

The high bandwidth and robust connections ensure that their employees can reliably exchange information via cloud-based communication and collaboration tools and have seamless access to their applications, wherever they're located. This has increased both productivity and the employee experience. They've also seen a reduction in the number of support requests due to poor or failed connections, relieving the pressure on the IT department.

### Accelerated deployment of new sites and lines

By decoupling software and hardware, the SD-WAN makes it easy for Knorr-Bremse to integrate and use new lines. This enables them to integrate new sites with ease as well as commission additional connections when a site requires higher bandwidths or a backup connection.

“

As an international company, we rely on seamless communication and collaboration between our global teams. These services, as well as application modernization, digital production and the development of new business models, require flexible and stable network connections. The move to a managed SD-WAN was an obvious decision for us.”

**Tino Gieslor**

Global Network Manager, Knorr-Bremse

Visit [nttdata.com](https://nttdata.com) to learn more.

NTT DATA is a \$30+ billion business and technology services leader in AI and digital infrastructure. We accelerate client success and positively impact society through responsible innovation. As a Global Top Employer, we have experts in more than 70 countries. NTT DATA is part of NTT Group.

