

# Manufacturing's Digital Renaissance:

Embracing SD-WAN for Competitive Advantage

FEATURING 5 EMEA  
MANUFACTURING  
CASE STUDIES!

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### Is your network ready?

Let's understand why the network needs to be ready for this renaissance.

### Use Cases

Why should manufacturers look to SD-WAN for modernisation?

### Case Studies

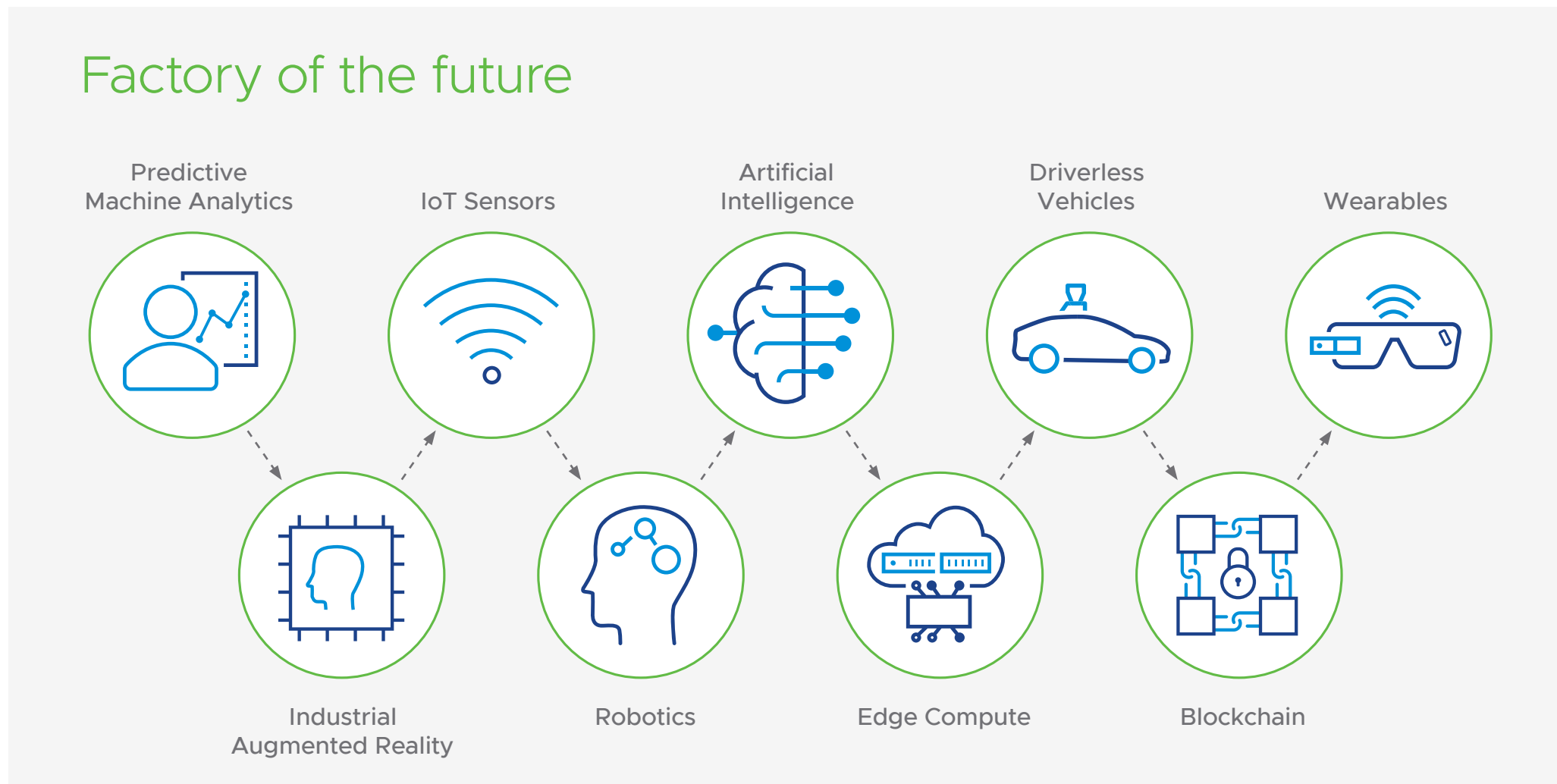
Manufacturing customers in EMEA gain competitive advantage by deploying SD-WAN.

### Free Evaluation!

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# Digital renaissance in manufacturing starts here! But is your network ready?

Manufacturing companies are embracing a multitude of transformative technologies to drive innovation and competitiveness in their operations. From harnessing the power of the Internet of Things (IoT) for real-time data monitoring to leveraging artificial intelligence (AI) and machine learning (ML) algorithms for predictive analytics, manufacturers are revolutionizing their processes. In fact, [A McKinsey analysis](#) found a financial chasm between manufacturing companies that adopt AI within the first 5-7 years and those that lag. AI “front-runners” will see a positive 122% cash-flow increase, whereas “followers” will see an only 10% boost in cash flow.



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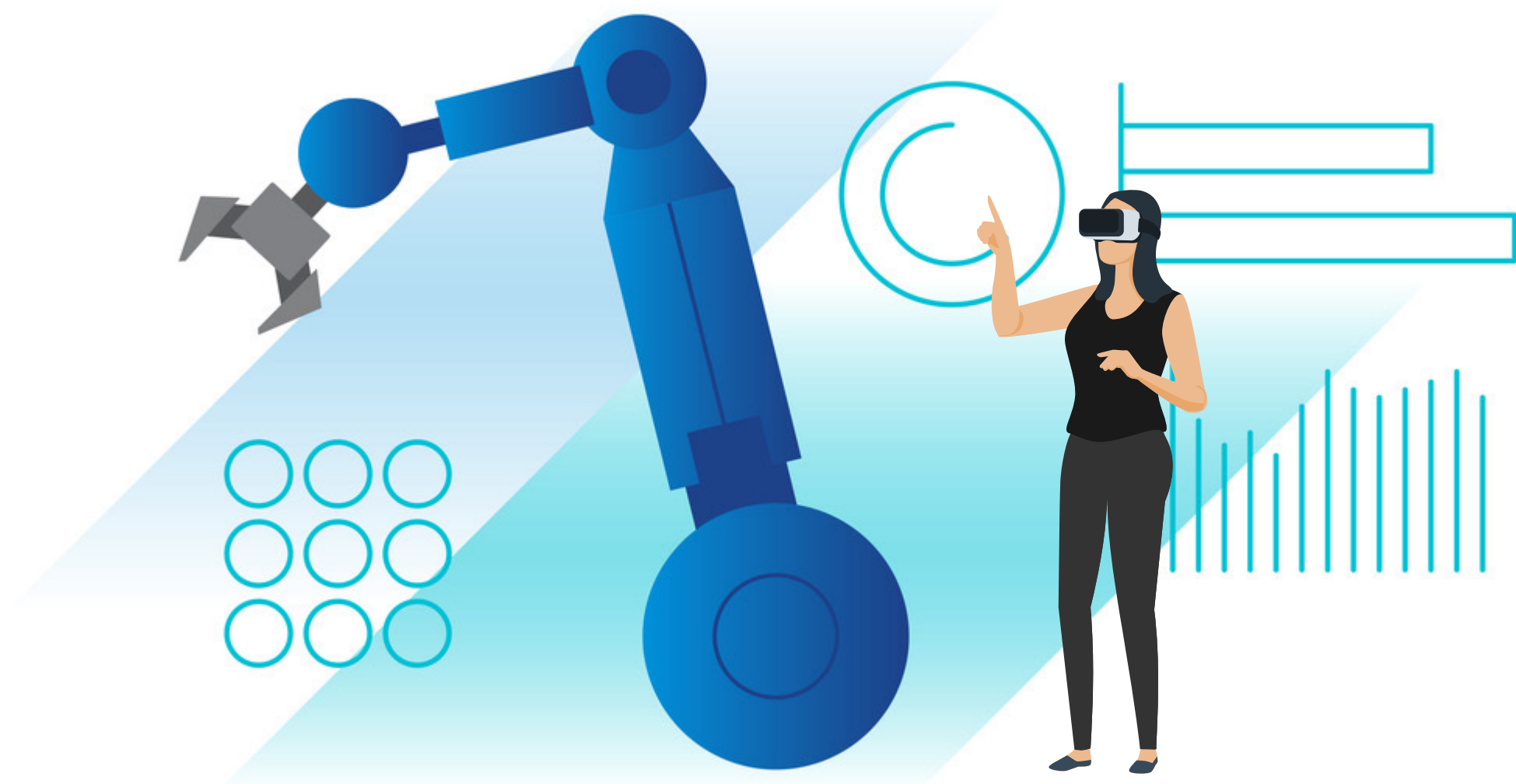
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# AR and VR enhances factory maintenance. But is your network ready?

Integrating robotics and automation streamlines production lines, while augmented reality (AR) and virtual reality (VR) enhance worker training and maintenance procedures. Additionally, cloud and edge compute facilitate data storage, analysis, and collaboration, while robust cybersecurity measures protect against threats. According to [an IDC survey](#), 56% of manufacturing companies will kick off edge compute pilots in the next two years. However, not all edge compute solutions are created equal. Manufacturers can transform operations at the edge with a software-defined approach.

By adopting these technologies, manufacturers improve efficiency, productivity, and quality, positioning themselves for success in the dynamic manufacturing landscape.



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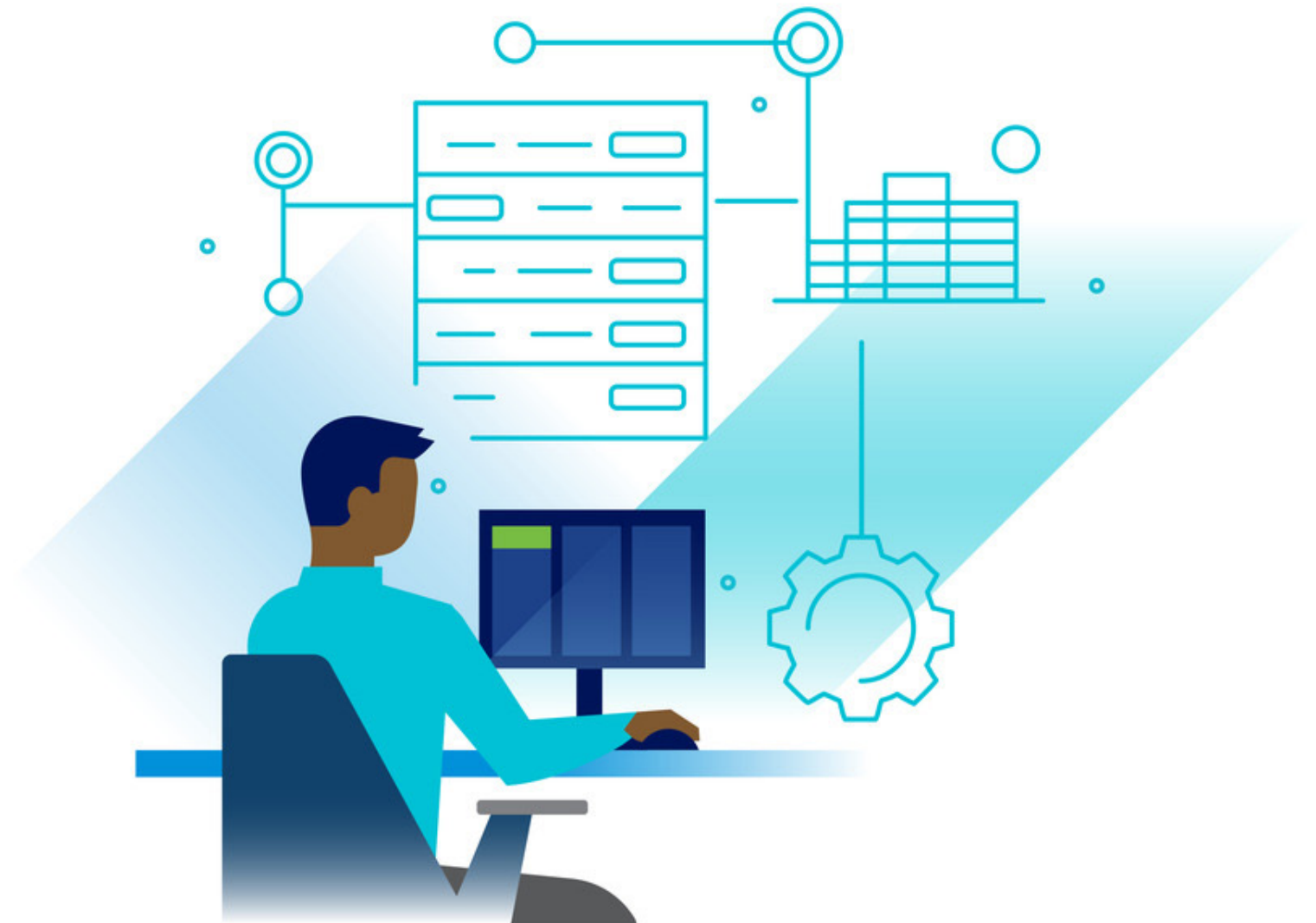
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# It's not just the factory—Don't forget employees. But is your network ready?

The workforce and those responsible for operations need access to the right tools to provide competitive time to market with products:

- The workforce can utilise mobile devices and applications to help keep components in stock and reduce time to resolution when dealing with issues.
- Managers can use tools for managing and scheduling their teams as well as using common communication tools to engage staff, increase worker productivity and safety.
- Employees need continuous access to applications, devices, and real-time analytics to ensure continuity of operations.
- The need for SaaS applications continues to grow, granting the workforce access to additional training, remote expertise, and worker mobility.



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# Let's understand why the network needs to be ready for this renaissance.

Legacy wide area networks (WANs) simply hinder the performance of these transformative technologies due to bandwidth bottlenecks, dropped packets, constraints with network visibility and inefficient security provisioning for terabytes of network traffic generated by hundreds, if not thousands, of devices.

Imagine being an IT network manager. You are expected to do more with less, yet your infrastructure, devices, and applications on the network are increasing every day. You need to implement a network that can prioritise applications, enable multiple connectivity types, provide visibility across the network, and be able to control and manage security policies at a click of a button from a single pane of glass.

What about the role of 4G/5G in all of this? Private 5G networks are the holy grail of transport fabric for IoT sensors producing data primed for real-time analytics. But 4G/5G can also provide continuity of operations during land line outages. It can also connect remote sites to the corporate network.

Long story short, legacy networks cause manufacturers to become inadvertent technology laggards who might lose out to competition without intervention.



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# Manufacturers need to modernise the network (Hint: SD-WAN)

The answer to the common network challenges of digital renaissance is to change the network to one that is more responsive. In a modernised network, manufacturers get:

- Application traffic prioritisation to ensure critical data gets through and provide a guaranteed quality of experience.
- Built in security and the ability to chain to external services for secured Internet.
- The ability to bond connectivity links (broadband, LTE/5G, MPLS, satellite) so that that you get maximised bandwidth, failover, and remote site connectivity.
- Rapid provisioning from a centralised orchestrator.
- Application performance management tools to provide 360-degree visibility.
- Hosted gateways to provide a direct link to the cloud with no backhaul to the datacenter.



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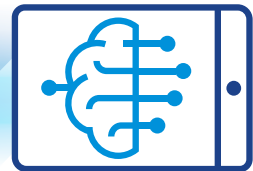
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# Why should manufacturers look to SD-WAN for modernisation?



### Use-Case #1: IoT, AI & ML

SD-WAN provides the necessary infrastructure to connect and manage diverse devices across geographically dispersed locations. By leveraging intelligent routing, network virtualisation, and centralised management, SD-WAN ensures secure and scalable connectivity for IoT devices. AI and ML applications often require substantial amounts of data to be transferred, analysed, and processed in real time. SD-WAN enhances network performance, minimises latency, and optimises bandwidth utilisation. It facilitates real-time data transfer between AI/ML systems and enables timely decision-making.



### Use-Case #2: AR & VR

SD-WAN plays a pivotal role in facilitating the seamless and immersive experiences of AR and VR applications. By dynamically managing network resources, SD-WAN allocates bandwidth and optimises network paths, preventing congestion and packet loss that could disrupt AR/VR applications. Additionally, SD-WAN's ability to provide secure connectivity enables the transmission of sensitive AR/VR data, ensuring privacy and protection against cyber threats.



### Use-Case #3: Network visibility & continuity of operations

A cloud hosted SD-WAN orchestrator monitors all network activity, alerts when there are problems, and enables the remote remediation of issues. The orchestrator enables the automatic push of updated configurations and application-specific policies to each network node, quickly and efficiently. In addition, it delivers real-time analytics and reporting that can be used for performance monitoring and troubleshooting. During connectivity outages network administrators will have predefined which type of network traffic or application should be switched over to the healthy link in the orchestrator. This will result in SD-WAN steering traffic over the preferred healthy link with no drop-in sessions (such as teams calls) or packets enabling operation continuity.

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## Use-Case #4: Reduce cost while accelerating SaaS performance

Gartner reports that an SD-WAN deployment is 2.5 times less expensive than traditional WAN architectures. Within manufacturing, companies have reported reducing costs by up to 60%. This is achieved by minimising IT truck rolls, maintenance time, and replacing costly MPLS circuits with broadband. SD-WAN ensures a higher-quality SaaS application experience through various methods. It identifies and accesses the nearest cloud service provider's point of presence for the required application. Network traffic is bonded across multiple connectivity links, reducing packet loss, latency, and jitter. Even with a single link, SD-WAN employs forward error correction to address application performance issues.



## Use-Case #5: Secure everything, trust nothing

SD-WAN is the cornerstone of Secure Access Service Edge (SASE), the convergence of cloud networking and security. SD-WAN Edges can provide security at the manufacturing sites via an enhanced firewall service. It filters traffic between VLANs, between manufacturing sites, and between a branch and a data center (on-premises or cloud data center). IDS and IPS detect potential security breaches by monitoring network traffic, analysing it for malicious/suspicious activities, and taking actions to prevent potential attacks. Devices at the edge can be secured with zero trust principles providing user and device authentication. Traffic traversing between edge to cloud can be secured with IPsec tunnelling, network segmentation and unified access gateways, removing the need to hairpin traffic via VPN concentrators for a superior user experience. Cloud Access Security Brokers (CASB) can also be used to strengthen the security of network traffic.

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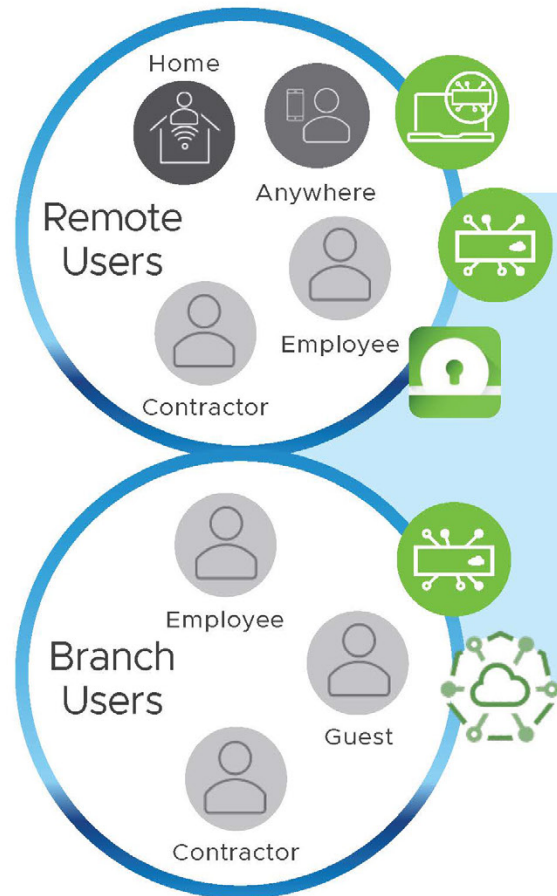
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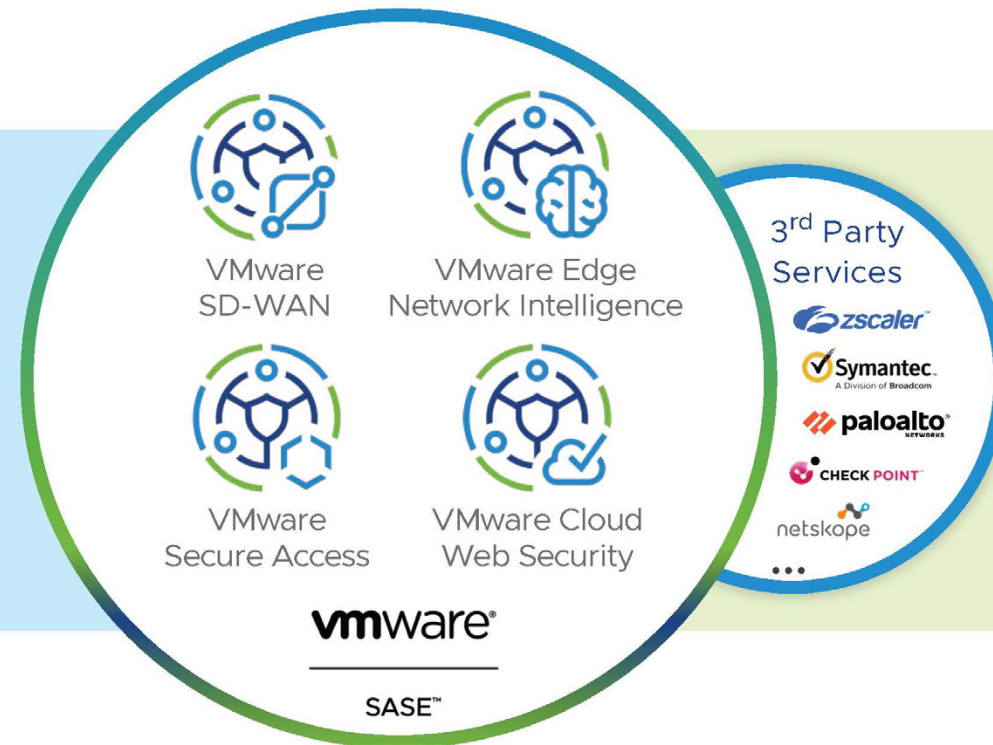
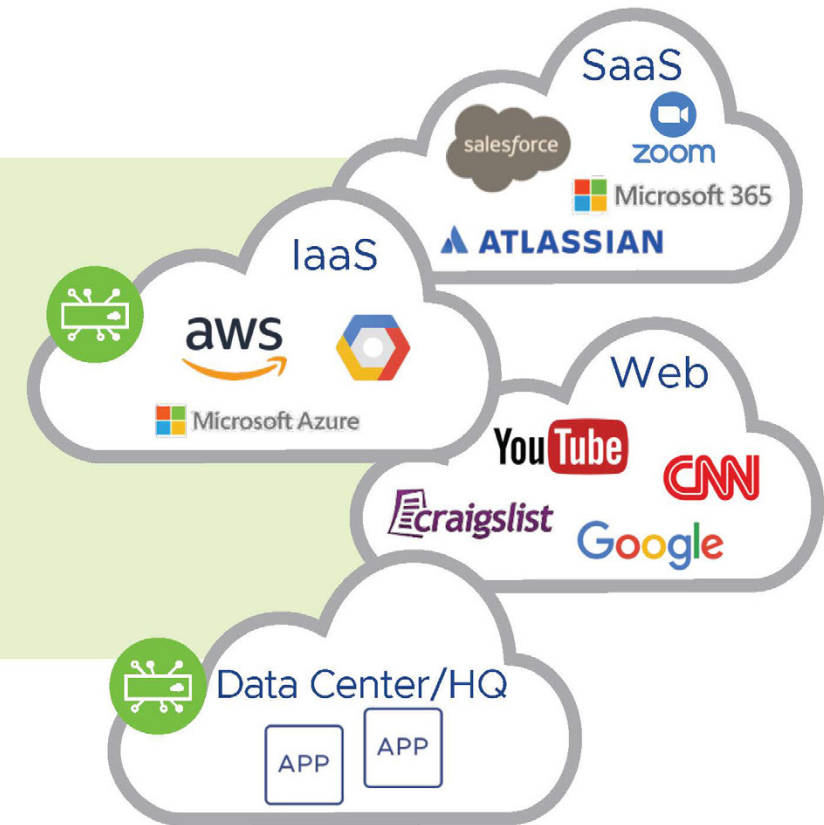
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# SD-WAN: The cornerstone of SASE

## Users & Devices



## Apps & Data



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# Manufacturing customers in EMEA gain competitive advantage by deploying VMware SD-WAN.

VMware SD-WAN manufacturing customers have reduced their networking costs by 60%. Benchmarking tests conducted by the Tolly Group have also demonstrated VMware SD-WAN improving the quality of VoIP calls by up to 45% and improving download time of OneDrive files by up to 71%. Joint testing conducted by Zoom and VMware found that with VMware SD-WAN deployed, 85% loss mitigation and better resolution was achieved for Zoom Video even with 20% WAN loss! Don't just take our word for it though, read our case studies on the following pages!



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# Michelin

With more than 120,000 employees in 170 countries, Michelin generates 24 billion euros in revenue. The world leader in tires, services for professionals and high-tech materials is investing 700 million euros in research and development to design, manufacture, and market high-tech tires for all types of vehicles: cars, trucks, two-wheelers, airplanes, as well as civil engineering and agricultural machinery.

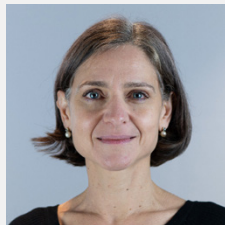
[Read the full case study here](#)

## Challenges

Prior to the migration decision, each of Michelin's 200 sites was connected to the WAN via a dual MPLS link. The network team was completely dependent on the local provider's ability to provide the necessary bandwidth or, failing that, redeploy fibre. The dependency extended to prices as there was no possibility of competition. Users were globally dissatisfied because of the poor quality of service either in business applications or for audio and video communications.

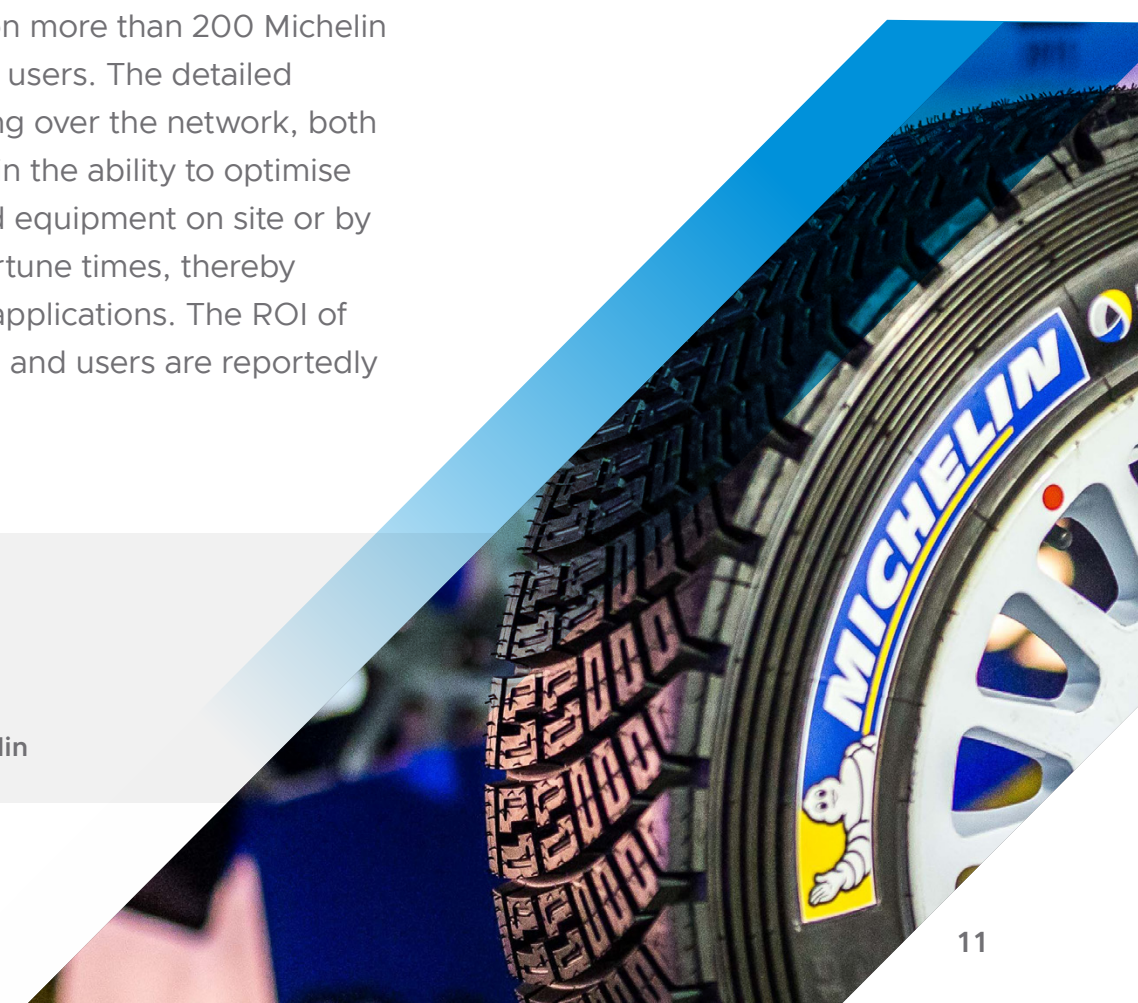
## Solution

Today, VMware SD-WAN has been deployed on more than 200 Michelin sites worldwide and serves more than 120,000 users. The detailed visibility SD-WAN provides on the traffic passing over the network, both quantitatively and qualitatively provides Michelin the ability to optimise traffic flow by reconfiguring certain servers and equipment on site or by rescheduling backup operations at more opportune times, thereby relieving traffic and giving priority to business applications. The ROI of deploying SD-WAN was achieved in 16 months and users are reportedly much more satisfied.



*"I didn't make a technology choice. I simply started from my need. I was solution and integrator agnostic. My objective was to equip myself with a wide area network management solution that would allow me to be autonomous, both technically and economically."*

Pauline Flament, Chief Technology Officer, Michelin



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# Stolt-Nielsen

Stolt-Nielsen provides global transportation, storage and distribution services for bulk liquids and is a leader in sustainable land-based aquaculture.

[Read the full case study here](#)

## Challenges

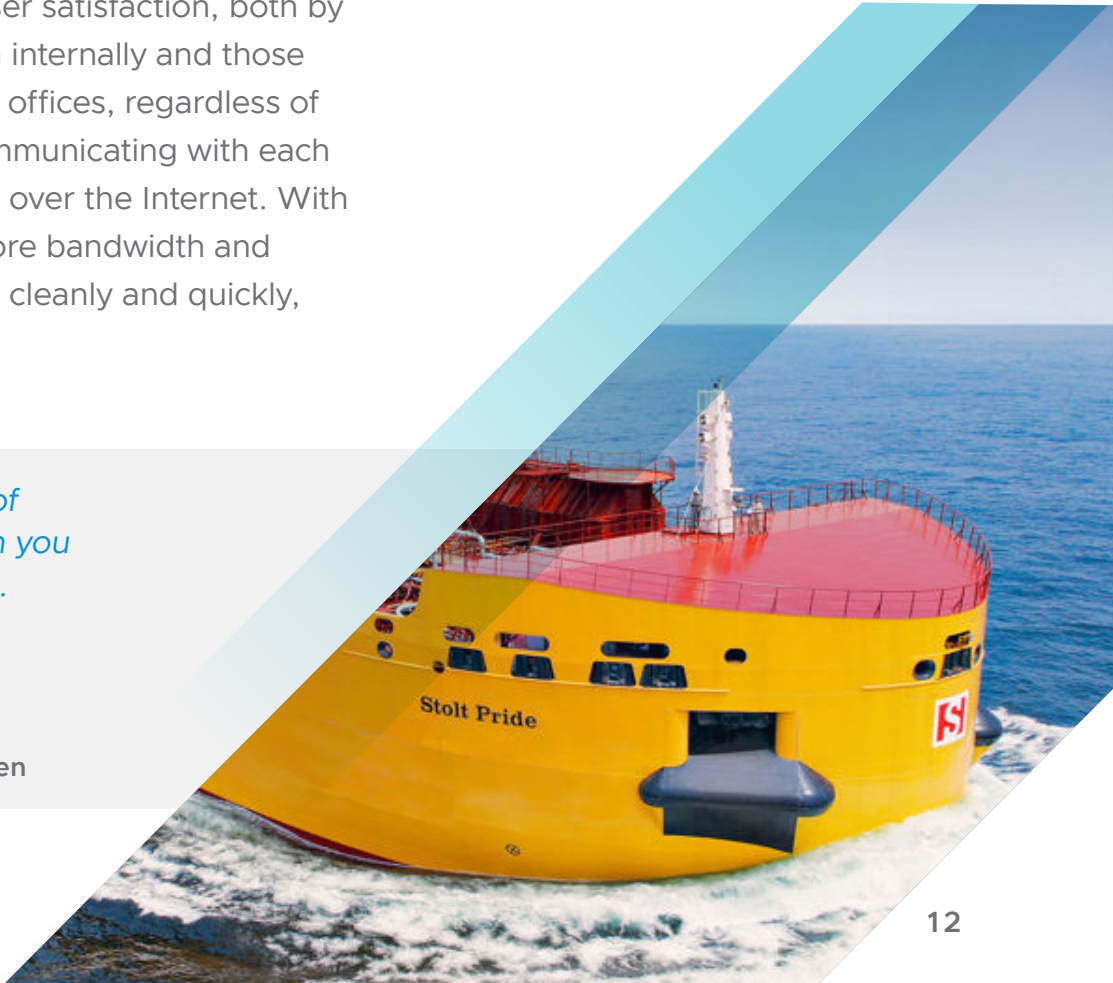
Stolt-Nielsen employs over 2,200 people, distributed in over 40 branch offices in more than 30 countries. Relying entirely on a MPLS-based network was creating cost, flexibility, time-to-market, and management challenges. Of major importance was moving to a platform that connected their entire network to the same applications no matter where offices were located, guaranteeing that those applications were always accessible, and provided a high-quality experience for all users. Common applications across the organisation included M365, Skype for Business, and file replication.

## Solution

After significant evaluation of several solutions, Stolt-Nielsen decided to deploy VMware SD-WAN. Within just a few months of deployment, Stolt-Nielsen witnessed a dramatic increase in user satisfaction, both by those using and managing the SD-WAN solution internally and those benefiting from its implementation externally. All offices, regardless of size, were migrated to a cloud infrastructure, communicating with each other and accessing all cloud-based applications over the Internet. With SD-WAN, all users had access to significantly more bandwidth and speed, ensuring that applications were delivered cleanly and quickly, increasing overall corporate efficiency.

*“We have our corporate data centers in the UK and all users run their Citrix desktop and applications from there. This of course give a complete different experience for a user in Rotterdam compared to a user in Melbourne. Especially when you consider that the Melbourne user got its Internet Access via the data center, in order to visit a local website in Australia. With the new network and dynamic routing we now provide local breakout to the Internet and in the future also may consume applications and content much closer to the user. Think of the opportunities with Microsoft M365 distributed cloud. This can easily be achieved through VMware SD-WAN.”*

Daan Muizer, Global Service Delivery Manager, Stolt-Nielsen



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# Sumitomo Bakelite Europe

SBHPP Europe is part of Sumitomo Bakelite Co., Ltd. The company is a major world player in the chemical sector. SBHPP has three sites in Europe (headquartered in Genk) and employs some 260 people. It is responsible for the production of phenolic resins, a type of glue that is important in the production of car tires.

[Read the full case study here](#)

## Challenges

Technology is crucial in the chemical sector today and SBHPP's engineering department is continuously working on the renewal and automation of production lines. As a chemical company, SBHPP must comply with the Seveso Directive, making automation a challenging task. Another challenge for a Seveso company is cybersecurity. "A security breach that blocks production or changes the composition can have catastrophic consequences. That is why we are increasingly focusing on IT security and the protection of data," says Mark Renders, European ICT Coordinator at SBHPP. The COVID-19 pandemic required the IT team to go beyond enabling efficient work to facilitating efficient remote work. In doing so, they had to review and reduce costs at the group level.

## Solution

VMware SD-WAN came into the picture quickly because it would reduce the monthly cost for the data lines by as much as 60 percent. "But what won us over, in addition to the cost reduction, in choosing VMware SD-WAN was the greater independence it offered. We are no longer tied to one provider and can now even work with multiple providers simultaneously," says Renders. Having multiple connectivity providers grants SBHPP with greater business continuity during network outages. Furthermore, "The new setup works faster. Copying data to the data center is effectively faster. Ping tests prove this. Previously the speed was 14 ms, now it's only eight ms," clarifies Renders.



*"VMware SD-WAN reduced our monthly cost for the data lines by as much as 60 percent. This is €72.000 yearly. The new setup is faster than the old MLPS connection and gives us more flexibility to choose any provider."*

Mark Renders, European ICT Coordinator, SBHPP

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# Schoeller Allibert

Schoeller Allibert is one of the world's largest manufacturers of returnable plastic packaging for material handling. The company has been inventing, developing, designing and manufacturing Returnable Transit Packaging (RTP) for more than 60 years. Today, Schoeller Allibert is the European market leader in returnable plastics. The company employs over 2,000 people worldwide, has 13 production locations and a local presence in 50 countries.

[Read the full case study here](#)

## Challenges

Peter Koning, Director Global IT Infrastructure at Schoeller Allibert: "I joined Schoeller Allibert in June 2019. At that point we were running behind on IT innovation as well as management and control of our infrastructure. Even with a lot of hard work, the team was not able to keep their knowledge and our systems up to date. We decided upon an ambitious cloud strategy to catch up with the current state of technology and add more value to the business. But if you want to make a successful move to the cloud, you have to ensure that the foundation – the network – is reliable, easily scalable and flexible."

## Solution

Peter Koning: "Our business case was more qualitative than quantitative and we established significant improvements from a network control and security perspective as well as for our users by no longer having the VPN-related problems. We also have a much better alignment with our future cloud agenda. Innovation is high on our agenda. For example, we now offer a variety of solutions to monitor our products real time with the application of Schoeller Allibert SmartLink® based on the Internet of Things (IoT) concept. We can now roll out new functionality for the business, without having to worry about the network."



*"Our SASE implementation project with Videns was delivered on time and within scope during 6 months of challenging COVID-19 times."*

Marc Schmitz, CIO, Schoeller Allibert

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# Bilfinger

Bilfinger Industrial Services is the industrial benchmark for projects and maintenance on industrial assets. Bilfinger contributes to the safety and availability of these assets for clients in Belgium and the Netherlands. HSEQ, cooperation, efficiency and innovations are the core of the companies' strategy. Bilfinger Industrial Services employs approximately 1,300 employees. On top of that, up to 1,200 people are subcontracted.

[Read the full case study here](#)

## Challenges

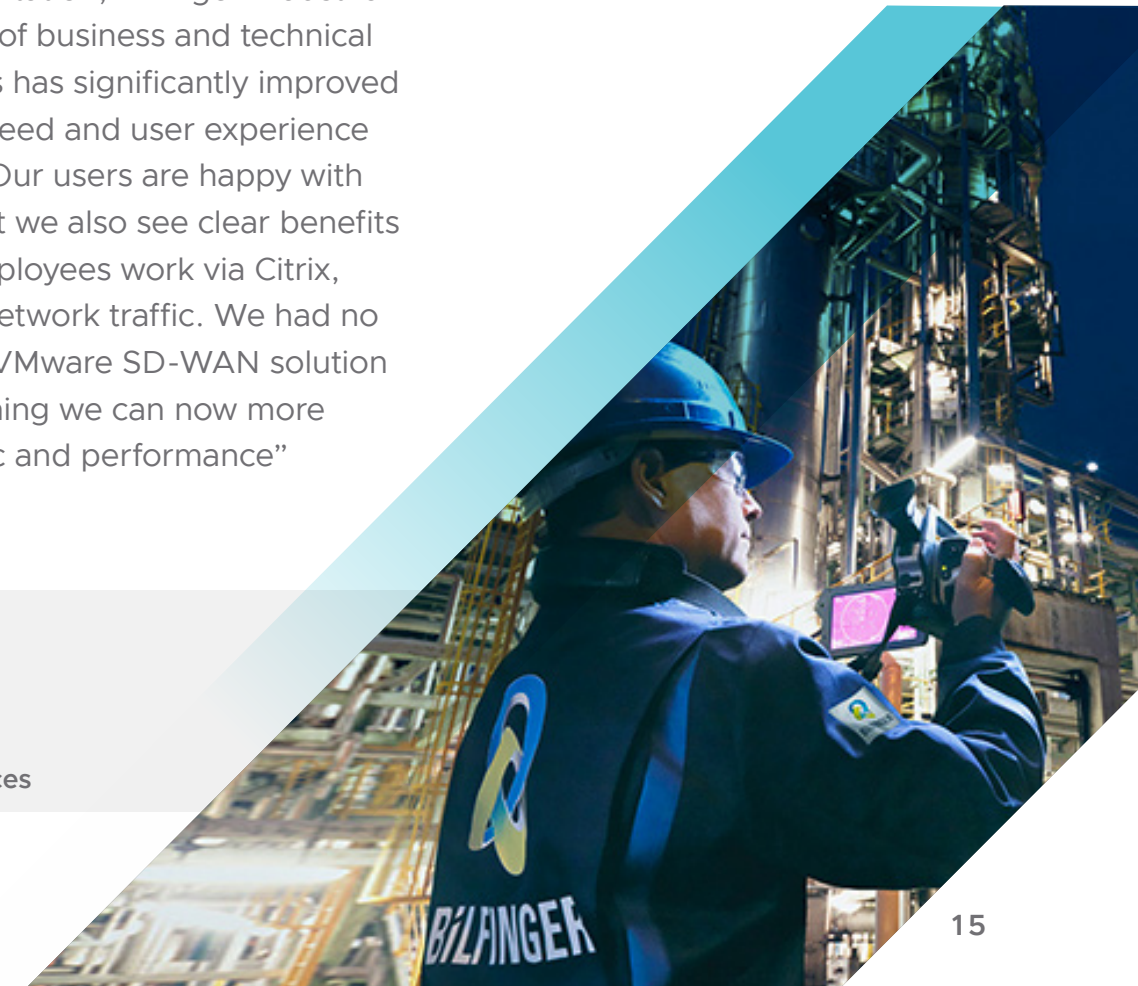
For Bilfinger, innovation and digitisation are important drivers for improved efficiency. Digitisation of business processes, smart apps, big data and sharing of information with clients has also helped the organisation to differentiate themselves from their competitors. "Our primary objectives were the ability to add new connections fast and improve control through centralised management of our WAN. Another driver was that we didn't want to be dependent on our telco partner anymore; we wanted to have the ability to 'mix and match' providers and connection protocols, ranging from MPLS to ADSL and 4G. We also established increased availability and stability through redundant connections on every location, for example an ADSL connection with 4G as back-up" Anton Hooijdonk, Senior Systems Engineer at Bilfinger Industrial Services

## Solution

As a result of the SD-WAN implementation, Bilfinger Industrial Services has experienced a number of business and technical benefits. The stability of connections has significantly improved on all locations. Furthermore, the speed and user experience have increased. Anton Hooijdonk: "Our users are happy with the new situation, which is great. But we also see clear benefits from an IT perspective. Our own employees work via Citrix, which is highly efficient in terms of network traffic. We had no insight into that traffic, but with our VMware SD-WAN solution we have full network visibility—meaning we can now more effectively manage application traffic and performance"

*"I don't exaggerate if I say VeloCloud makes me, and my team, very happy and enthusiastic. The software is really easy to configure through a simple and intuitive web user interface. In addition to that, VeloCloud offers all the tools we need for troubleshooting."*

Anton Hooijdonk, Senior Systems Engineer, Bilfinger Industrial Services



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[Click here to start your free SD-WAN / SASE evaluation today.](#)

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