

SD-WAN: The Secure Foundation for The New Landscape of Networking for Manufacturing



Protecting access to factory and business applications anywhere and anytime.

As manufacturers rapidly adopt a cloud-first strategy, the IT landscape has become significantly different. Enabling secure access to applications wherever users may be is a significant priority. While delivering speed and agility, the multicloud environment creates challenges such as an expanded attack surface and less control over the user experience.

Cisco® SD-WAN helps you address these issues.

With the power of multicloud access and integrated security, manufacturers can improve performance, reduce costs, and protect critical assets. As a cloud-native WAN overlay, Cisco SD-WAN ensures application performance and adapts to changing conditions—with minimal manual intervention. Cisco SD-WAN is the foundation for a Secure Access Service Edge (SASE)-enabled architecture and offers the ability to extend IT's visibility beyond the district or campus network and into the internet and cloud.

89% of companies use a multi-cloud approach.¹



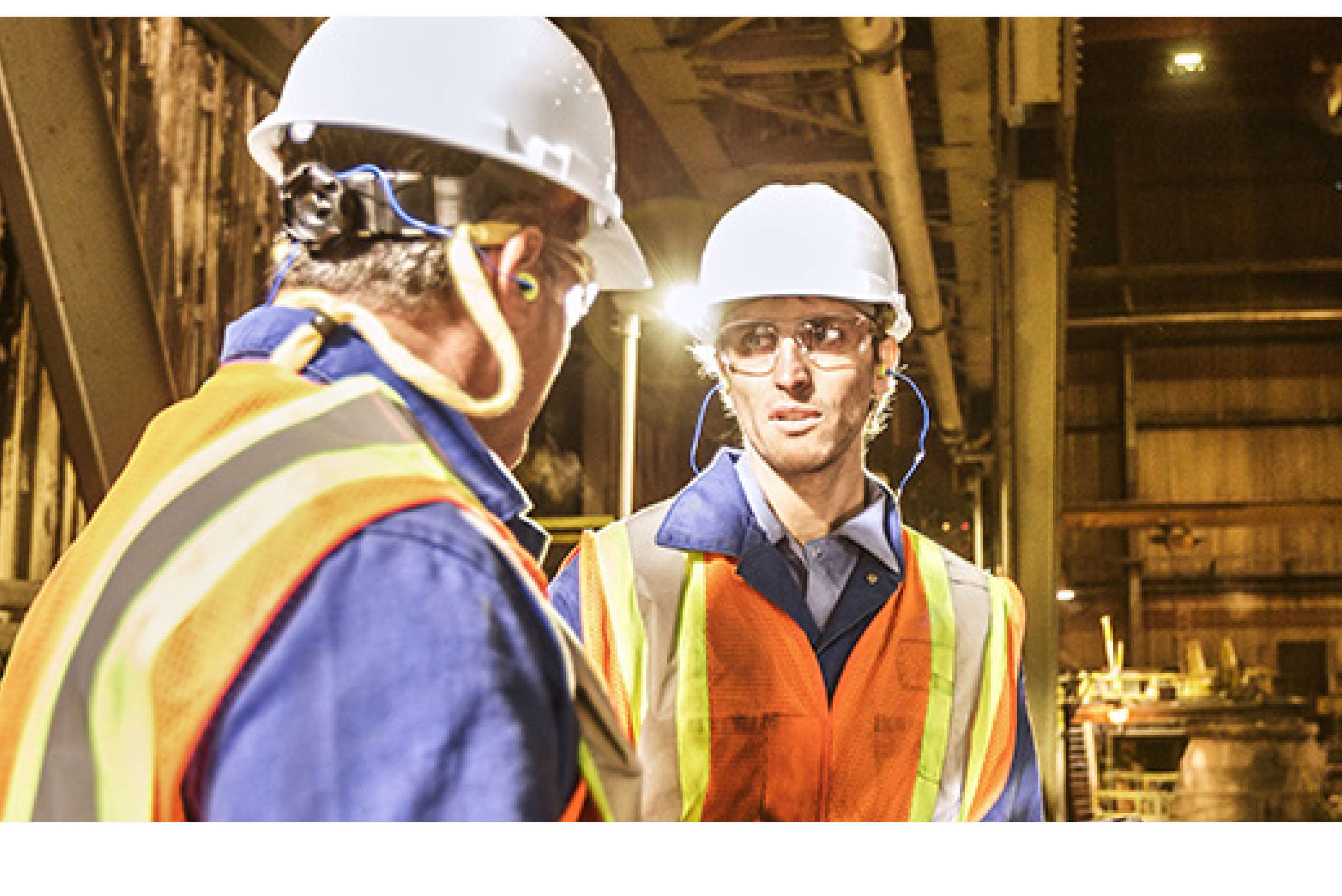
Harness the power of the cloud.

Today, your network must work harder than ever to deliver experiences over the cloud that manufacturers expect. With Cisco SD-WAN Cloud OnRamp, you can enable applications on any platform with consistent, predictable performance in minutes. Software-Defined WAN (SD-WAN) helps you optimize your district or multi-campus wide area network, which means better experiences for everyone.

Cloud OnRamp for Software as a Service (SaaS) uses real-time analytics to steer users onto the best-performing path for optimal application performance for applications like Microsoft 365, Google Docs, and other cloud-based apps. Enjoy up to 40 percent faster performance for Microsoft 365 with Cisco SD-WAN.²

Cloud OnRamp for Infrastructure as a Service (IaaS) delivers seamless, automated connectivity to the public cloud. The cloud networking solution simplifies workflows for Amazon Web Services (AWS), Azure, and Google Cloud, including application-aware policies that allow real-time policy enforcement for cloud and on-premises solutions. Worldwide end-user spending on public cloud services is forecast to grow 20.4% to total \$678.8 billion in 2024, up from \$563.6 billion in 2023.³

In addition, Cloud OnRamp automates on-demand connectivity to multiple sites and to the world's leading cloud provider networks through Software-Defined Cloud Interconnect (SDCI) providers like Equinix and Megaport.



76% of security decision makers reported they were attacked at least once in the past 12 months.⁴

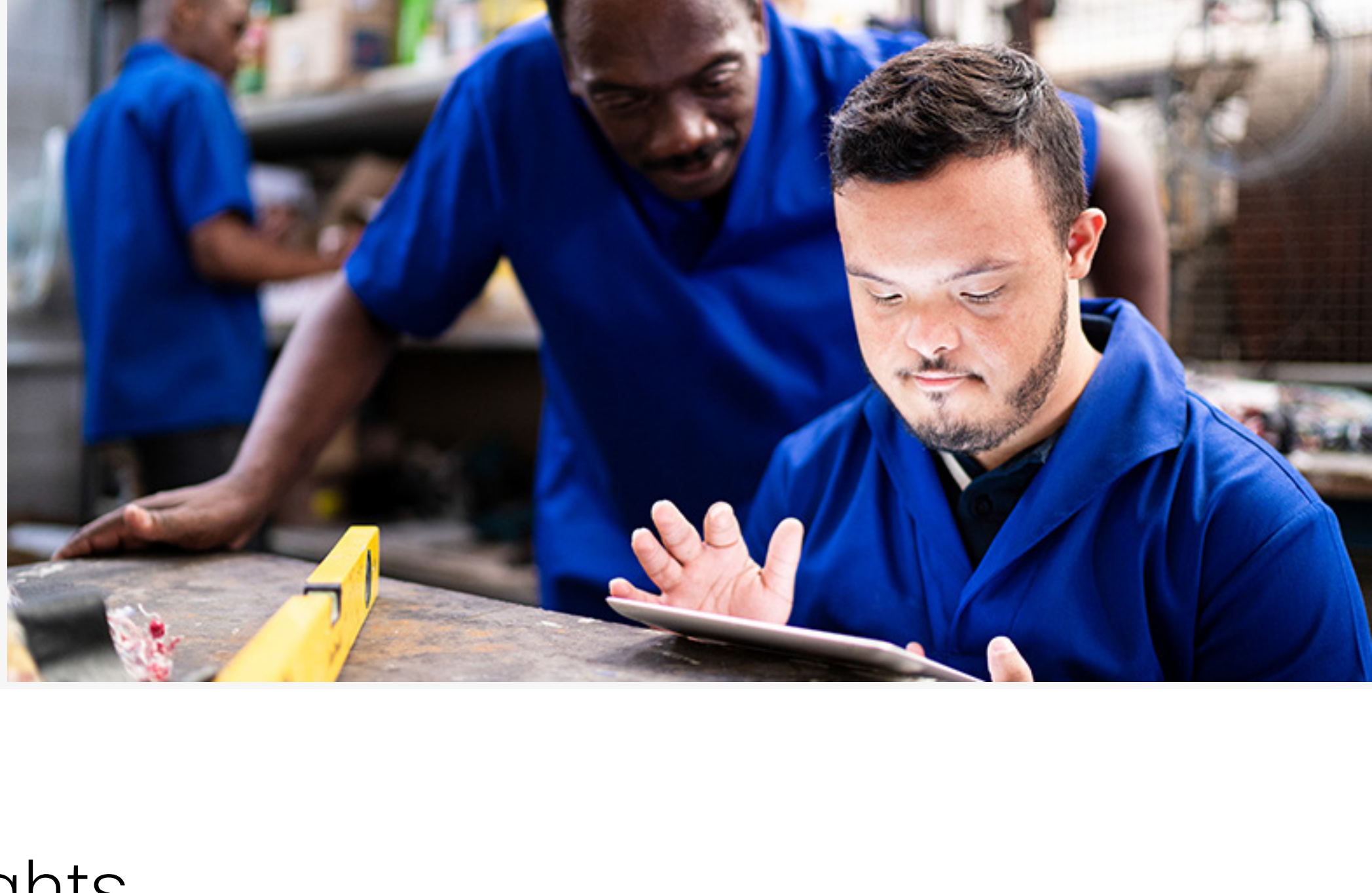
SD-WAN and cloud security lay the foundation for a SASE transformation.

With the expansion of hybrid learning, services, and work, the demand for anywhere, anytime access to applications has resulted in the transformation of networks to deliver uninterrupted connectivity while maintaining security. To protect anywhere, anytime access, education institutions need to provide security closer to the user and edge to support network agility and minimize network latency.

Cisco SD-WAN provides full-stack multilayer security capabilities for both on-premises and cloud. It bridges organizations' current security deployments with their SASE rollout by providing consistent security policy enforcement that can be deployed and managed anywhere.

Data breach costs rose from \$3.86M to \$4.24M, the highest average total cost in the history of data breach report.

67% of enterprise infrastructure is cloud-based.⁵



Gain analytics and get more insights.

Applications and users are more distributed than ever, and the internet has effectively become the new enterprise WAN. As manufacturers continue to embrace the internet, cloud, and SaaS, network and IT teams are challenged to deliver reliable connectivity, application performance, and security over networks and services they do not own or directly control.

Network teams often carry the burden of proving the network innocent when something goes wrong. Application issues might manifest themselves as network issues. Service disruptions can lead to endless finger-pointing. The resulting cycles pinpointing the source of issues can lead to prolonged service interruptions that can damage the reputation of the organization.

Cisco SD-WAN and ThousandEyes integration extend visibility into the internet, cloud, and SaaS applications for actionable insights beyond the traditional corporate network. Whether moving to the cloud or transitioning to SD-WAN from legacy infrastructures, ThousandEyes can assist businesses make informed decisions by leveraging real baseline data. Enterprises can expedite ThousandEyes agent deployment with vManage integration to quickly pinpoint the source of issues, get to resolution faster, and manage the performance of what matters. vAnalytics correlates application behavior and Quality of Experience (QoE) with the underlying SD-WAN network, translating real-time data into visualized insights.



37% of enterprise architects consider WAN complexity their top challenge.⁶

Manage global branches with simplicity.

Managing multiple factories has always been a major challenge within traditional WAN architectures, and deploying security across global factories adds even more complexity. This makes consistent policy enforcement a distant goal, made even more unattainable when a policy change needs to be rolled out across all sites. SD-WAN makes consistent policy not only possible but seamless, with automated integration with Cisco Umbrella.

Regardless of the number of locations you have, SD-WAN simplifies network management. With a single WAN fabric, all policies and configuration can be centrally managed, even across multicloud environments. Cloud security can be enabled to thousands of sites within minutes. The outcome is true simplicity at an enterprise scale.

In addition, relying on the internet for enterprise cloud access on a global level adds even more complexity. Link quality and the ease of doing business with internet service providers can vary from region to region. Luckily, Cisco SD-WAN can scale your business, thanks to its support for multigigabit wireless. To do this, the Cisco Catalyst® 8000 Edge Platforms family offers multigigabit Ethernet interfaces. With these high-performance ports, customers can connect Cisco Catalyst Cellular Gateways and get sub-6-GHz 5G wireless connectivity, reaching speeds of up to 3.3 Gbps and more with upcoming mmWave models. Get fast, flexible connectivity to the cloud that can be remotely activated and managed through the Cisco SD-WAN dashboard. Dual 5G SIM for failover and IP pass-through mean that multigigabit 5G for SD-WAN can either complement broadband internet connections or replace them entirely.

“Cisco SD-WAN security delivers simplicity and automation so that we can apply the right security controls where needed, when needed. We are very excited to bolster that solution with the Catalyst 8000 Edge Platforms family.”

Director of product management, Riedel Networks

The Cisco Catalyst 8000 Edge Platforms family provides customers the flexibility to increase memory, capacity, and performance. The portfolio offers investment protection with 5G technology. Cisco offers the highest-performing SD-WAN edge platforms in the industry, with end-to-end visibility through analytics for optimization of cloud applications and edge compute resources.

95% of enterprises are using or expect to use SD-WAN within 24 months.⁷



Bank on a successful deployment.

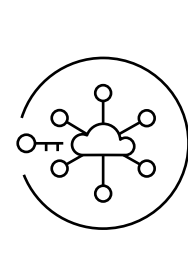
SD-WAN delivers rich benefits as far as costs, security, and simplicity. But the key to a successful SD-WAN transformation is to put the right focus on the initial setup and transition of the first one to two factories, then to expand SD-WAN across the rest of the sites rapidly. This is where services from Cisco Customer Experience can deliver the biggest value. Drawing from the best practices of successful deployments from multiple enterprises and industries, ranging from simple to complex, the Cisco Customer Experience team's focus is to make the transformation smooth and avoid major hurdles. Categorizing the various sites, establishing templates, defining global policies, and enabling the right security architecture are a sure way to a smooth and successful deployment. An IDC study found that organizations can reduce their total cost of operations by 38% over a 5-year period with Cisco SD-WAN.

Deploy with confidence on platforms that increase agility, security, and visibility for connectivity to the cloud.

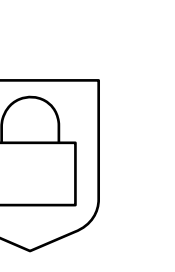


The SD-WAN market is forecasted to grow to more than \$8 billion by 2026.⁸

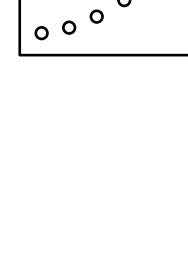
See SD-WAN use-case scenarios that can help you keep up.

 **Secure automated SD-WAN**

Provide comprehensive on-premises and cloud-based security, enabling enterprises to transition to a SASE architecture where and when it is needed, in a secure and agile manner.

 **Remote security**

Provide WAN access and help enterprises meet compliance demands on site while offering constant protection against all cyber threats from remote factories to multicloud SaaS environments.

 **Application performance optimization**

Design a global network where critical enterprise applications always maintain the highest Service-Level Agreements (SLAs) and optimal performance, even if problems occur in the network.

 **Multicloud access**

Connect factories and a remote workforce to multicloud applications seamlessly with unified visibility and management.

 **Secure Direct Internet Access (DIA)**

Optimize remote campus or site workloads while increasing security and improving application performance. The result is efficient and cost-effective secure access to the network.

“Thanks to Cisco SD-WAN, our network topology is now optimized and centralized across all of our operations and IT offices, making it easier to manage data and incrementally save costs.”

Head of IT enterprise, Vistara