Navigating Disruption

The future of agile business success

Contents

Foreword

Doing business in 2021 is not easy. It requires resilience, foresight, and nerve.

The uncertainty and volatility have not only been created by the global pandemic, but by ongoing climate concerns, trade squabbles and geopolitical upheaval. But one thing remains consistent: businesses want to connect, collaborate and trade around the globe.

We found that disruption & digital transformation has accelerated over the last few years.

While many businesses were already investing in strategic ICT projects to drive differentiation and growth, the events of the past 18 months made it clear that the way to survive – and even thrive – was to embrace digital transformation.

Comprising some of the world's fastest growing economies, the eyes of the world are on North Asia. So, how are ICT and business decision-makers adapting to the new reality? How are businesses using digital transformation to boost not only resilience, but future-proof their strategies to realise new opportunities? And what adaptive technologies are businesses investing in to drive agility, security, and business outcomes?

Our research has found digital transformation in North Asia is driving business opportunity and growth, despite the many challenges. But there's still work to do. The importance of holistic business digital transformation plan, that brings together connectivity, cloud, collaboration, and cyber security has never been higher.

I hope the insights in this report inspire new ideas and drive your business toward truly adaptive business success.

Paul Abfalter
Head of North Asia & Global Wholesale
Telstra

Methodology

Telstra commissioned Kantar, an independent market research company, to research the impact of the 2020 events on digital transformation as well as shifts in future transformation strategy.

The insights in this report were derived from 512 ICT and business decision-makers in Mainland China, Hong Kong, Japan, South Korea, and Taiwan in March 2021. Respondents came from businesses operating in a range of industries and with a range of annual IT budgets. Respondents were all key decision-makers, holding titles including CIO, CTO, CDO, Director of IT and Security Management, and Digital Transformation Lead.
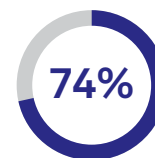
Executive Summary

While digital transformation in North Asia was progressing strongly, it was accelerated by the COVID-19 pandemic.
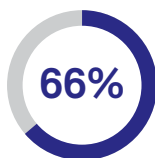
66% Of businesses have fully or close to fully implemented their digital transformation strategies
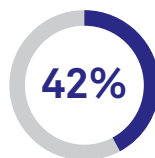
42% Of businesses say the need for new digital transformation projects has increased

74% Of businesses have seen an increase in digital transformation project investments

The future of digital transformation does not have a single focus. Instead, businesses are balancing priorities and investments across four key transformation priorities:

Empowering collaboration in a modern workplace

Optimising experience through connectivity

Future-proofing business with cloud innovation

Protecting your business with a comprehensive cyber security posture

Empowering collaboration	Optimising experience	Future-proofing business	Protecting your business
96% Of businesses say remote working has fundamentally changed their approach to digital transformation.	**97%** Of businesses say an adaptable, secure, and resilient communications network is critical for digital transformation.	**75%** Of businesses are accelerating the migration of workloads to cloud services.	**62%** Of businesses say cyber security was their biggest remote working challenge.
67% Of businesses say hybrid work will be the norm over the next year.	**74%** Of businesses are focusing on their Wide Area Network strategy to address the increase in traffic.	**58%** Of businesses will move the majority of apps to the public cloud as part of their employee support strategy.	**58%** Of businesses are increasing their cyber security policies to support remote workers in the next 18 months.
79% Of businesses say collaboration and communication solutions are key to future success.	**94%** Nine in ten businesses are looking to expand either within Asia or globally.	**54%** Of businesses are using a hybrid multi-cloud strategy as part of their digital transformation.	**78%** Of businesses say introducing measures to protect against cyber security threats is top of their ICT investment priorities.

As such, businesses are spending on a wide range of ICT priorities.
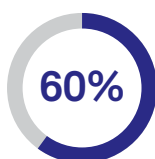
60% Cyber security

54% Cloud infrastructure and services

50% Unified communications and collaboration solutions

46% Network and connectivity

Digital Transformation in North Asia

Transformation through disruption

Digital transformation maturity

Businesses across North Asia had embraced digital transformation even before the pandemic made the use of digital processes critical.

More than two thirds of North Asian respondents have either fully implemented, or are close to implementing, their digital transformation strategy. Just 5% of businesses have recently started the transformations, with most of their implementations still to come.
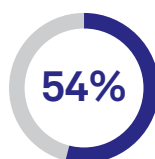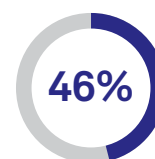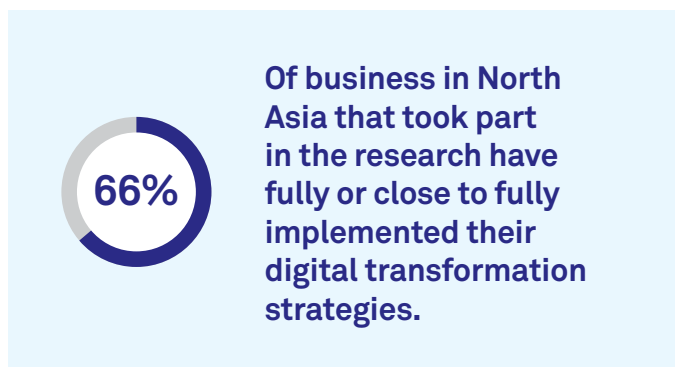
66% Of business in North Asia that took part in the research have fully or close to fully implemented their digital transformation strategies.

South Korea leads the way, with 70% of businesses almost fully digitally transformed, with respondents in Japan showing 63% of their businesses fully transformed. Notably, in a country with a lot of smaller businesses, about one in seven (15%) of Japanese respondents say they have only just started their transformations and still have a long way to go.

Figure 1: Current status of digital transformation strategy

28% Fully implemented and activated

38% Implemented most (near completion) of it

28% Implemented some but still need to achieve quite a lot (implemented about half)
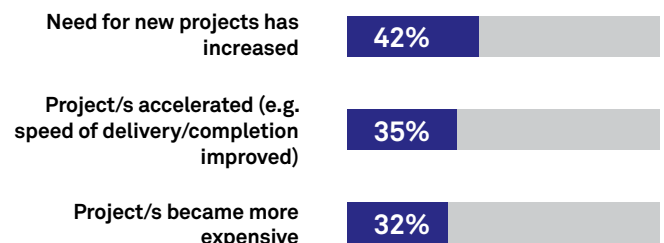
6% Just started and need to execute a major part

The impact of lockdowns on transformation

Priority on digital transformation was already high on the agenda for many businesses, but everything changed as lockdowns began. As businesses in North Asia and around the globe worked from home and moved services online, the demands on networks, IT systems, and transformation projects changed immediately.

42% of North Asian businesses say that the need for new digital transformation projects has increased, with the respondents in Hong Kong (46%) seeing the highest percentage of new transformation projects.

Figure 2: Impact of coronavirus on digital transformation and innovation

Need for new projects has increased	**42%**
Project/s accelerated (e.g. speed of delivery/completion improved)	**35%**
Project/s became more expensive	**32%**

And it is not only new projects but increasing demands on existing programs. Over a third (35%) of businesses say their digital transformation projects were accelerated to deliver more quickly. Increasing priority and turnaround time is only possible with more resources. Luckily, almost three quarters of businesses say they saw an increase in digital transformation project investments. Respondents in Taiwan are most likely to state they had seen new digital transformation investment (82%), with more than four in ten (44%) of those Taiwanese businesses seeing a funding increase of more than 10%.

74% Of businesses have seen an increase in digital transformation project investments as companies shifted to remote work.
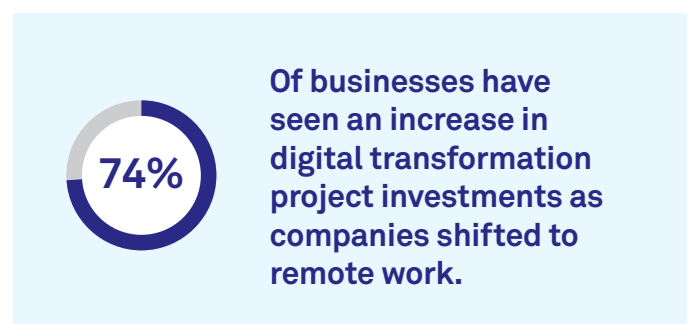
Barriers to digital transformation

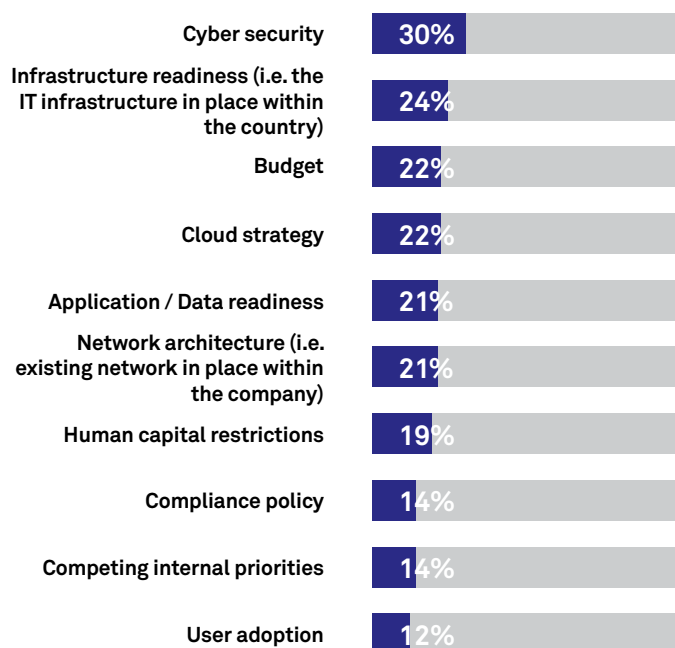So, what are the main challenges businesses see when implementing digital transformation projects?

The wholesale move to remote working creates specific challenges for IT departments to maintain business continuity. The biggest challenge quoted is increasing connectivity capacity to empower people to work remotely (42%), followed by adding new cloud collaboration apps (41%).

But, as businesses move beyond enabling remote workers to wider transformation projects, new barriers are emerging.

Unsurprisingly, cyber security emerges as the top challenge for every market except China, where businesses see bigger challenges in their readiness to deal with change, whether in terms of their own data and applications, or their wider IT infrastructure.

But, after cyber security, it is clear that there are a wide range of equally important challenges businesses must balance. From infrastructure readiness to funding, cloud strategy to app and data readiness, and network architecture to skills gaps, a wide range of potential challenges were all identified by between 19% and 24% of businesses.

Figure 3: Barriers in achieving digital transformation

Barrier	%
Cyber security	30%
Infrastructure readiness (i.e. the IT infrastructure in place within the country)	24%
Budget	22%
Cloud strategy	22%
Application / Data readiness	21%
Network architecture (i.e. existing network in place within the company)	21%
Human capital restrictions	19%
Compliance policy	14%
Competing internal priorities	14%
User adoption	12%

Strategic transformation focuses

The path to agile outcomes
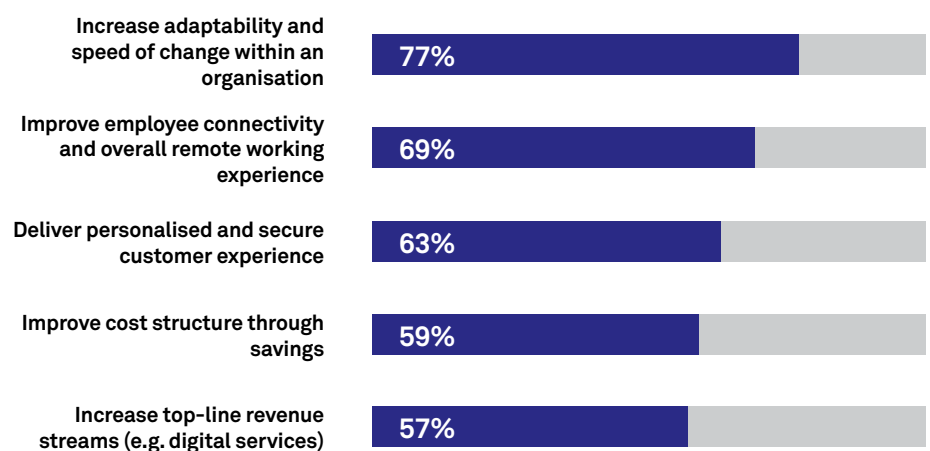
Adaptive business priorities

Digital transformation is not an end by itself, it needs to deliver tangible business outcomes.

It is clear that businesses are placing increasing priority on their ability in order to adapt to new circumstances to best prepare their organisations for future success.
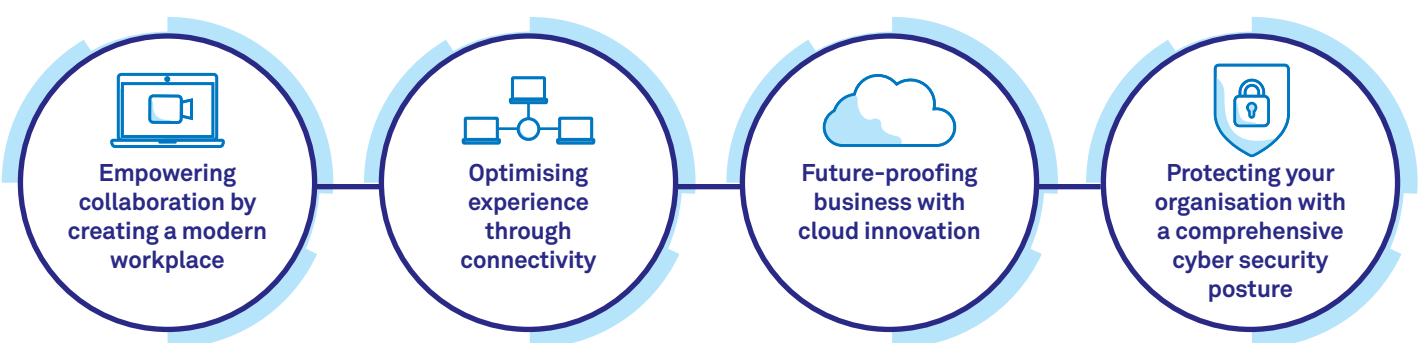
The top driver for digital transformation strategy is increasing agility and speed of change (77%), followed by boosting remote working experience (69%), and delivering personalised customer experiences (63%).

So, how do businesses achieve those outcomes?

Figure 4: Key drivers of a digital transformation strategy

Driver	Percentage
Increase adaptability and speed of change within an organisation	77%
Improve employee connectivity and overall remote working experience	69%
Deliver personalised and secure customer experience	63%
Improve cost structure through savings	59%
Increase top-line revenue streams (e.g. digital services)	57%

The future of digital transformation does not have a single focus. Instead, businesses are balancing priorities and investments across four key transformation priorities:

Empowering collaboration by creating a modern workplace

Optimising experience through connectivity

Future-proofing business with cloud innovation

Protecting your organisation with a comprehensive cyber security posture

Exploring adaptive transformation in detail

Empowering collaboration by creating a modern workplace

The rise of the remote business

When businesses started to implement remote working, few would have thought quite how drastically the experience would change the way we view work in the future. While the initial impact of remote work on business and on our IT infrastructure is now in the past, what is clear is that the changes to the way we work are permanent.

96%
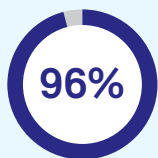
Of businesses agree that the need to work remotely has fundamentally changed their businesses' approach to digital transformation.
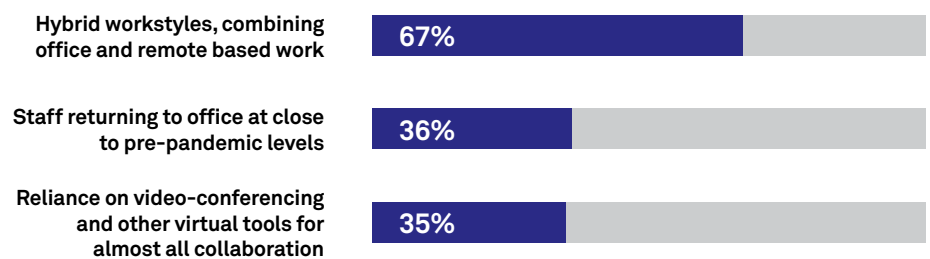
In fact, almost all (96%) of businesses agree that the move to remote work fundamentally changed their business, with South Korean respondents seeing the biggest (98%) impact.

Part of that change has been the emergence of new tools and processes to replace in-person collaboration. Today's modern workplace is investing in employee experience through digital transformation. More than half (58%) of businesses cite unified communications and collaboration as crucial to their recovery.

The need for ongoing collaboration investment

The need for collaboration solutions is here to stay as hybrid working models, combining office and remote working, emerge.

Figure 5: Staff working style over the next year

Hybrid workstyles, combining office and remote based work	67%
Staff returning to office at close to pre-pandemic levels	36%
Reliance on video-conferencing and other virtual tools for almost all collaboration	35%

More than two-thirds (67%) of businesses say hybrid work will be the norm over the next year in North Asia generally, with the figure reaching as high as 77% in China.
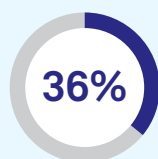
36% On average, more than a third of employees will work remotely in the next 12 months.

Overcoming challenges to define future ways of working

The road to a modern workplace is not smooth. Every business has to tailor its approach, iron out kinks, improve workflows, and create a workplace culture unique to its business.

The biggest obstacles to fostering a successful hybrid environment and enabling successful remote working for employees are primarily digital:

62%
Cyber security, including data retention and data loss protection
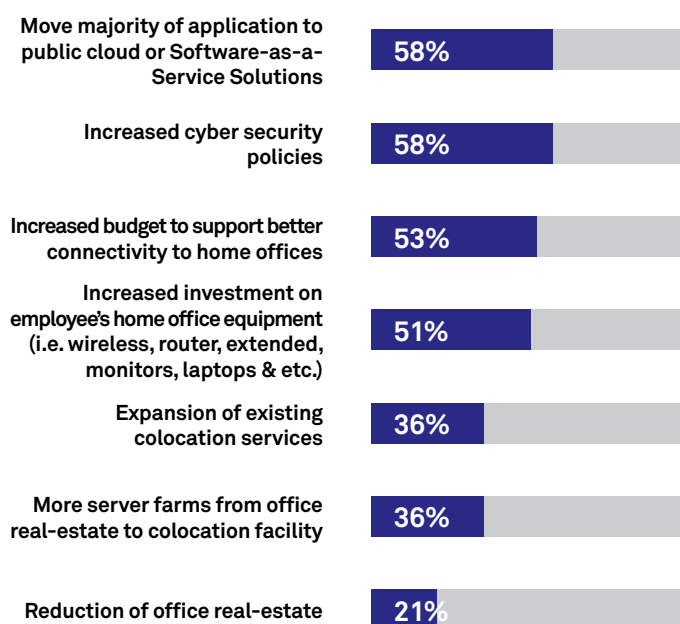
51%
Connectivity and infrastructure issues

50%
Provision of technical support to remote workers

There are key regional differences within those challenges. Businesses in China are 11 points more likely than the average to find connectivity and infrastructure issues a big challenge, while respondents from Hong Kong are the only businesses to rank audio and video conferencing issues in their top three barriers.

As businesses look to boost employee experience, it is clear that cloud, connectivity, and cyber security will form the basis of future workplace strategies.

Figure 6: Employee support strategy for next 12-18 months

Strategy	%
Move majority of application to public cloud or Software-as-a-Service Solutions	58%
Increased cyber security policies	58%
Increased budget to support better connectivity to home offices	53%
Increased investment on employee's home office equipment (i.e. wireless, router, extended, monitors, laptops & etc.)	51%
Expansion of existing colocation services	36%
More server farms from office real-estate to colocation facility	36%
Reduction of office real-estate	21%

It is not just collaboration: The move online is driving automation too

While the impact of employees working remotely has seen demand for data and collaboration rise, the lack of staff in the office had a much wider impact on IT teams. Consider that on-site visits are severely limited and that physical access to digital infrastructure has been largely put to a stop. That's why as many as 68% of businesses are investing in automation and remote IT management to offset those problems, potentially with more focus in the future. The practice has already become popular in South Korea (79%) and China (70%) and is likely to see more uptake as hybrid models continue to become the norm.

Optimising experience through connectivity

Demand for data exploded over the past year

Many businesses became digital businesses over the past year. As employees, customers, and partners moved their operations online, the demand for data exploded.

As a network provider, Telstra had a front row seat to understand the extent of the impact. Data demands spiked significantly through 2020, resulting in an increase of up to 50% on our international networks.

Looking more broadly, the global telecommunications market experienced 35% growth in international internet capacity last year, according to analyst firm Telegeography.

The reason is clear. While consumers were streaming video to connect with friends and family and stay entertained, businesses were enabling employees and customers with software-as-a-service cloud apps to optimise their remote experience.
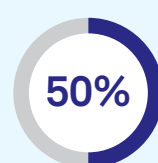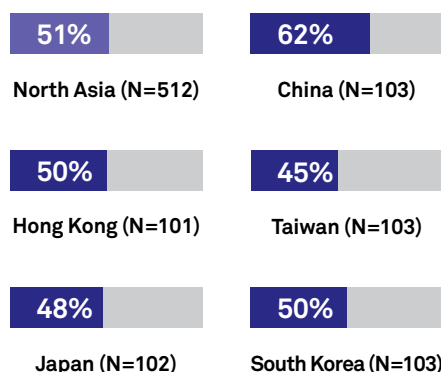
50%

Data demands spiked significantly through 2020, resulting in an increase of up to 50% on our international networks.

Your business is only as good as the network it runs on

But those experiences are dependent on the strength of the networks they run on. As mentioned previously, more than half of respondents say connectivity and infrastructure issues which cause poor application performance through bandwidth availability, poor coverage and other issues are their biggest challenge with the dramatic and rapid shift to remote work.

Figure 7: Remote working challenges

Connectivity and infrastructure issues which cause poor application performance (bandwidth availability, non-urban coverage & etc.)

51%		62%	
North Asia (N=512)		**China (N=103)**	

50%		45%	
Hong Kong (N=101)		**Taiwan (N=103)**	

| 48%		50%	
Japan (N=102)		**South Korea (N=103)**	

Yet, there are significant disparities across North Asia when it comes to network challenges. Respondents in China see the worst issues, with more than six in ten (62%) citing connectivity as their biggest remote working challenge. Meanwhile, businesses in Taiwan (45%) and Japan (48%) state connectivity as less of a barrier than provision of technical support.

Connectivity underpins digital transformation

Despite the challenges, businesses across North Asia understand the importance of their networks to their ongoing success.

Three quarters (75%) of businesses in North Asia say their work is reliant on critical digital infrastructure and is dependent on the 100% uptime of that infrastructure. Investment in that infrastructure therefore is important for their businesses. Similarly, our respondents almost unanimously say that the performance of their network infrastructure is closely related to their ability to digitally transform.
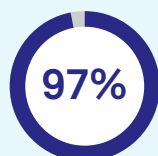
97% Of businesses say an adaptable, secure, and resilient communications network is critical for their organisation's ability to implement digital transformation.

Future business growth requires strong networks

The good news is that businesses are now looking to future growth, built on a solid foundation of infrastructure. And businesses are putting their focus – and their budgets – on improving their connectivity to support new ways of working over the next 18 months.

77%
of businesses are introducing networking solutions for remote workers and suppliers as a priority

74%
are focusing on uplifting overall Wide Area Network strategy and investment to address the increase in traffic

53%
have increased budget to support better connectivity to home offices

That is because businesses are increasingly looking to realise new opportunities. Almost one in two (49%) businesses are looking to expand within Asia Pacific, and 45% are looking to expand globally (including within Asia Pacific).

Figure 8: Future market expansion plans

49%
Looking to expand within APAC

45%
Looking to expand globally

6%
Not looking to expand
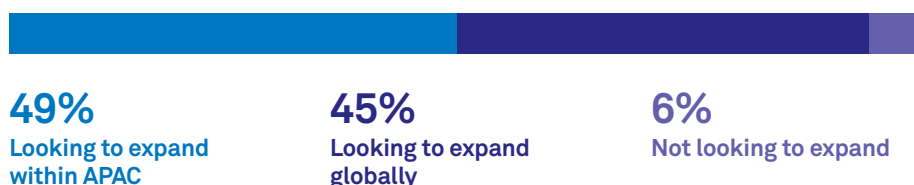
Future-proofing businesses with cloud innovation

The accelerated move to the cloud

Cloud migration was an established part of many businesses' digital transformation strategies even before global social distancing mandates.

Yet we have still seen that the cost optimisation, speed, and agility boosts that businesses enjoy from cloud will likely only accelerate as remote working goes full scale.

Nearly all businesses across North Asia in the research say that the impact of the pandemic has seen the cloud become more critical to their business. In fact, 94% of respondents indicate an increased importance of cyber security and accessibility to cloud applications for remote workers.

Indeed, that view was held by every single respondent in China, underlining the widescale move to the cloud in the country. While Japan is the country with the lowest acknowledgement of an increased importance of the cloud (14% unsure or disagreeing), that may be because of a high existing priority on cloud in a mature technological market.

Cloud migrations to support new ways of working

That priority is seeing more investment in cloud migration.

Three quarters of businesses have accelerated their migration of workloads to the cloud to support remote work mandates for their employees and customers, led by businesses in China and South Korea.
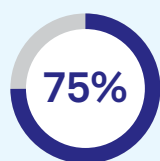
75% Of organisations in North Asia are accelerating the migration of workloads to cloud services.

That migration is largely being implemented to support modern ways of working over the next 18 months.

More than half of businesses (58%) say they will move the majority of their applications to the public cloud or use software-as-a-service solutions as part of their employee support strategy – the top answer across North Asia.

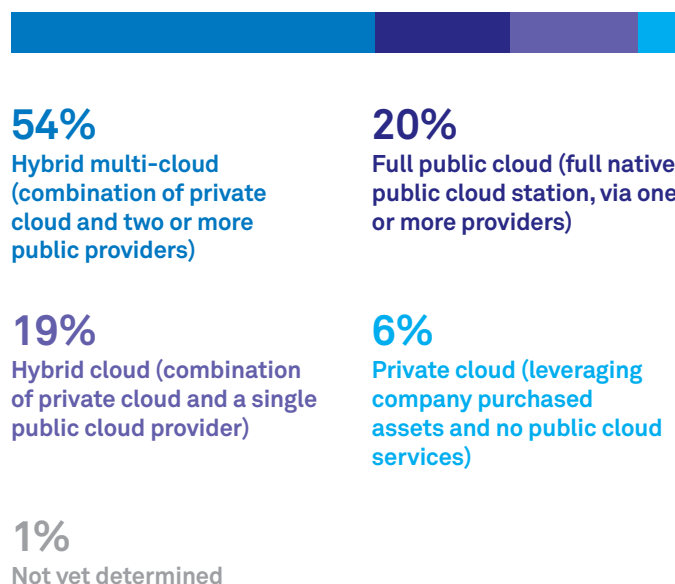## One cloud is no longer enough

As IT environments grow in complexity, most organisations have realised that having just one cloud will not deliver the outcomes that they need. The future is multi-cloud.

According to Flexera's 2021 State of the Cloud report, a massive 92% of enterprises have a multi-cloud strategy today. That averages out at 2.6 public clouds and 2.7 private clouds being used by every organisation.

That trend has been reinforced across North Asia. Hybrid multi-cloud, bringing together private cloud infrastructure with two or more public cloud providers, is the chosen strategy for the majority of businesses.

Hybrid multi-cloud is the top choice for businesses in every country we surveyed, including almost two-thirds of businesses in China (64%). Full public cloud and hybrid cloud with a single public provider came in a distant second and third place, respectively.

Figure 9: Cloud architecture to enable digital transformation

54%
Hybrid multi-cloud (combination of private cloud and two or more public providers)

20%
Full public cloud (full native public cloud station, via one or more providers)

19%
Hybrid cloud (combination of private cloud and a single public cloud provider)

6%
Private cloud (leveraging company purchased assets and no public cloud services)

1%
Not yet determined

Protecting your organisation with a comprehensive cyber security posture

Cyber security remains the biggest challenge to digital transformation

It is no surprise that cyber security is front of mind for every IT executive when you consider that, according to IBM, the global average cost of a data breach in 2020 was USD$3.86m.

We found that cyber security is the number one barrier businesses identified when considering what would impede their successful digital transformation.

30% **Of businesses cite cyber security as the top barrier to achieving digital transformation.**

Three in ten businesses identified cyber security as their biggest digital transformation challenge, ahead of infrastructure readiness and budget.

Cyber security challenges are most apparent in Taiwan (34%) and lowest in China, where only 23% ranked it a top challenge.
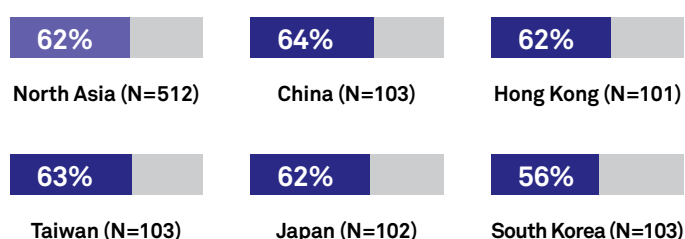
It is also the top barrier to successful remote working

It follows that cyber security is also the biggest problem for businesses looking to empower employees through remote working.

Across North Asia, 62% of businesses say cyber security is their biggest remote working challenge – the top answer in every single country.

Figure 10: Remote working challenges

Cyber security (data retention, data loss protection)

62%	64%	62%
North Asia (N=512)	China (N=103)	Hong Kong (N=101)

63%	62%	56%
Taiwan (N=103)	Japan (N=102)	South Korea (N=103)

Meeting the challenge with new policies and tools

Cyber-attacks are growing at an exponential rate and cyber criminals often specifically target employees based on their lack of understanding when it comes to cyber security best practices.

More than half of businesses (58%) are boosting the breadth and depth of their cyber security policies as a means to support their employees over the next 12 to 18 months. This focus is most apparent in Japan, where 64% of respondents agree it is a key priority – making it their biggest focus in the coming years.

58% **Of businesses are increasing their cyber security policies to support remote workers in the next 18 months.**

In the more immediate term, 78% of businesses in North Asia say introducing measures to protect against cyber security threats is top of their ICT investment priorities – describing this shift in importance as a direct result of the pandemic.

Businesses are spending to boost their cyber security posture

As employees work from home and businesses increase their use of public cloud, the threat surfaces the IT team must protect increases in size. Businesses need to consider a holistic cyber security approach that protects all of their data, wherever it resides.

That is why businesses across North Asia are investing significantly to maintain a strong cybersecurity posture.

60% of businesses say they will increase their ICT spend on cyber security to protect themselves against threats. This figure is highest in Taiwan (66%) and Hong Kong (65%), though it is a key investment priority everywhere.
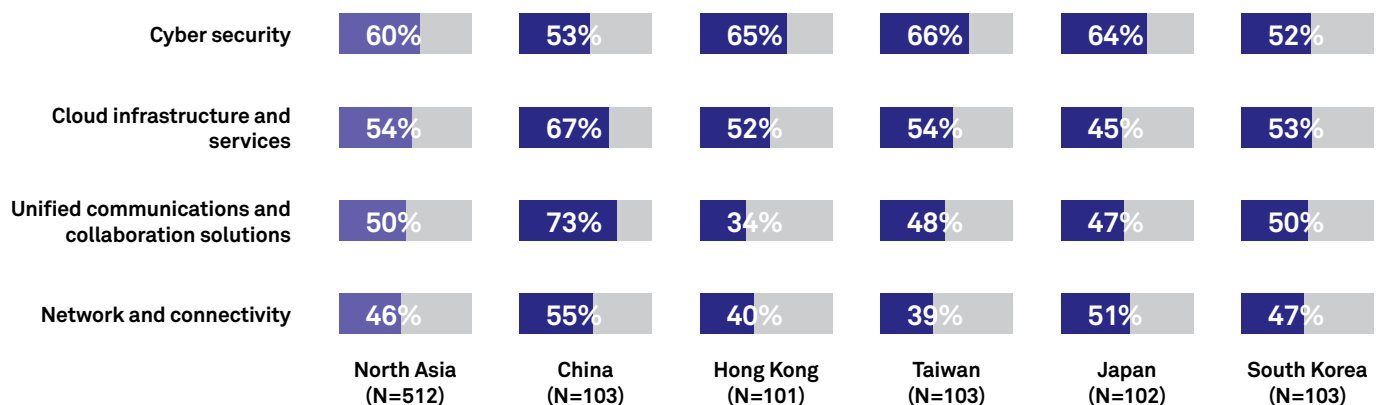
What comes next for transformation in North Asia

Investment plans highlight need for experience, expertise, and partnership

Businesses are spending on a wide range of transformation priorities

The future of digital transformation in North Asia requires investment – and it is clear that businesses have to balance their budgets across a range of priorities.

Figure 11: Avenues for increased ICT spending

	North Asia (N=512)	China (N=103)	Hong Kong (N=101)	Taiwan (N=103)	Japan (N=102)	South Korea (N=103)
Cyber security	60%	53%	65%	66%	64%	52%
Cloud infrastructure and services	54%	67%	52%	54%	45%	53%
Unified communications and collaboration solutions	50%	73%	34%	48%	47%	50%
Network and connectivity	46%	55%	40%	39%	51%	47%

While, on average, cyber security is the area set to see the biggest increase in ICT spending, there are significant differences in investment priorities across countries. Businesses in China, for example, are set to spend more money on unified communications and collaboration as well as cloud infrastructure and services, while Japan is focusing on cyber security and connectivity.

What is clear is that, with such a breadth of investment areas, nobody can do everything.

Partnership is critical for adaptive digital transformation success

Bringing together an ecosystem of partners with the right experience and expertise is critical. Cloud service providers stand out as the most sought-after partner to support companies with their digital transformation strategy and execution, but businesses are also looking toward systems integrators, application vendors, and telecommunications operators to help them navigate uncertainty and transform through disruption.

Navigating uncertainty toward a prosperous, adaptive future

The last 18 months have been marked by turbulent and at times uncertain change, but with this uncertainty, a raft of new opportunities for businesses in North Asia has emerged. These changes have enabled businesses across the region to leverage expansion plans, paving the way for long-term growth.

And change is happening fast. Social distancing mandates and travel restrictions have forced businesses to transform quickly: empowering employees to work remotely through collaboration, accessing cloud applications seamlessly, driving performance through connectivity, and maintaining the cyber security of their businesses. By and large, it is an amazing feat that the majority of businesses in North Asia have not only managed that acceleration but managed it so successfully they can now look toward future growth.

There is no doubt turning vision into strategy and action can be difficult, and the dramatic shift to support remote working has made things even harder. That is why it is crucial to find the right transformation partner for your business – because no one can do everything at once. The right partner can help your business design a transformation strategy, implement the technologies, manage the new systems, and future-proof your business with new innovation. At Telstra, we have decades of experience partnering with businesses across North Asia, helping them transform to connect with the world.

While the future remains uncertain, we firmly believe that with a strong transformation purpose, plan, and partner, your business can navigate disruption to define your own future success.

Telstra

SD-WAN: Guide to higher valued deployment

Learning from real-life
SD-WAN adopters

Contents

OMDIA | **Telstra**

Real-life learnings in SD-WAN

Part 1: Discover how real businesses have responded to industry disruptions—and succeeded in SD-WAN
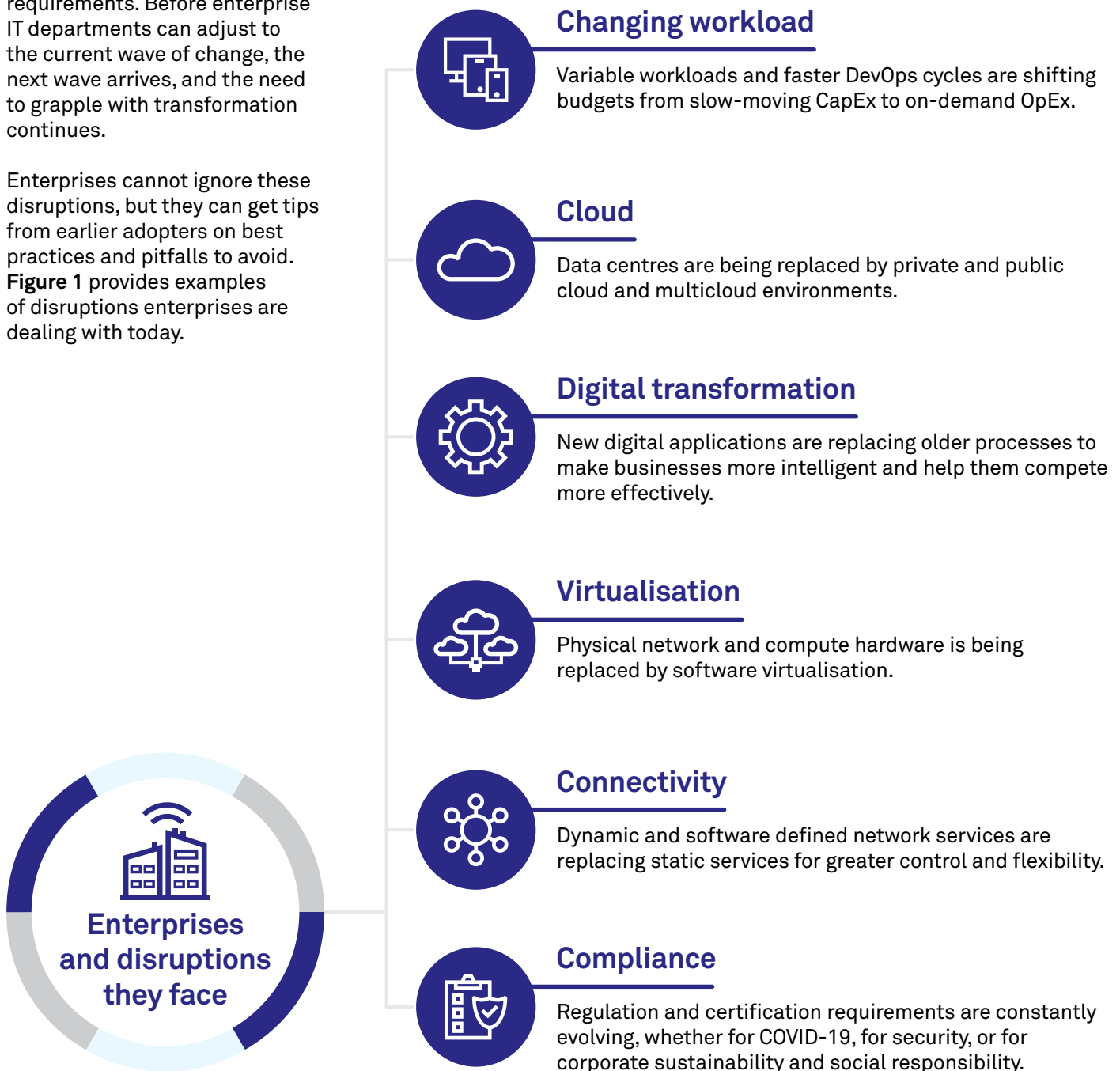
Enterprises face a myriad of disruptions each day, but the networking technology to help businesses adapt to change is evolving fast, too. Learn how companies address COVID-19 challenges with adaptable solutions.

Respond to industry trends with best practices for the win

Enterprises contend with ever-evolving information and communications technology (ICT) requirements. Before enterprise IT departments can adjust to the current wave of change, the next wave arrives, and the need to grapple with transformation continues.

Enterprises cannot ignore these disruptions, but they can get tips from earlier adopters on best practices and pitfalls to avoid. **Figure 1** provides examples of disruptions enterprises are dealing with today.

Figure 1: Inevitable disruptions faced by all enterprises

Changing workload
Variable workloads and faster DevOps cycles are shifting budgets from slow-moving CapEx to on-demand OpEx.

Cloud
Data centres are being replaced by private and public cloud and multicloud environments.

Digital transformation
New digital applications are replacing older processes to make businesses more intelligent and help them compete more effectively.

Virtualisation
Physical network and compute hardware is being replaced by software virtualisation.

Connectivity
Dynamic and software defined network services are replacing static services for greater control and flexibility.

Compliance
Regulation and certification requirements are constantly evolving, whether for COVID-19, for security, or for corporate sustainability and social responsibility.

Enterprises and disruptions they face

Source: Omdia

These disruptions affect all aspects of IT from basic infrastructure to applications and security. The trends are interdependent. For example, a move to the cloud affects network traffic patterns, changes the security model required to protect the expanded attack surface, and needs migrated applications to be optimised for the cloud to perform optimally end-to-end.

The technology architecture itself is becoming more complex as enterprises pull apart infrastructure—from centralised applications to microservices, from central data centres to distributed multi-cloud environments, and from a single private WAN, public internet, dedicated and broadband, wireline, and wireless.

The complexity between all these elements is immense, yet corporate leaders demand flexibility from IT and require changes to be made in hours or days.

Enterprise IT leaders face many pressures with it comes to adopting new technology. The technology must be the right price-performance fit. It must be flexible to scale up or down, and must be compatible with, sync with, and optimise with existing assets. The technology should have a long lifespan so that the organisation does not need to revisit its choice in a year or two.

The challenge to IT leaders is to find the right balance, but IT leaders are not on their own—there are experienced service providers that can help with the transformation process.

Transforming the network is fundamental to addressing overall disruptions to technology. Enterprises use hybrid networks, software-defined wide-area network (SD-WAN), virtualised networking, bandwidth-on-demand, and cloud connectivity to become more flexible and adapt to changing needs.

Network transformation equips business leaders with the tools to build adaptable networks that match evolving business needs. Enterprises on this journey can tap on the best practices defined by earlier adopters.

Enterprises respond to COVID-19 by seeking adaptable solutions

As the world emerges from COVID-19's worst impacts, enterprises are resuming stalled projects and initiating new projects with lessons learned.

No industry was left unscathed by COVID-19. For example, financial institutions moved further online to serve their customers; manufacturers facing labour shortages leveraged technology for more automation; enterprise IT teams that could not access sites favoured virtual functions over physical appliances.

Figure 2 highlights what IT leaders learnt from the pandemic.

During the peak of the pandemic, a Europe-based retailer of essential goods closed over 20% of its branches, consolidated its resources, digitally transformed, and changed its business model. As circumstances improve, the retailer is choosing to open a smaller number of new branches at more appropriate sites.

An Asia-based retailer of non-essential goods kept its doors closed during the pandemic as part of government mandates. The retailer digitally transformed its business to reach customers online. Both retailers become more agile through an adaptable and flexible architecture that conserves and redirects resources as needed.
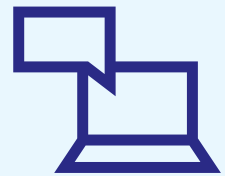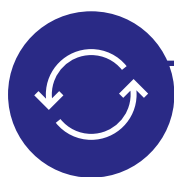
Figure 2: Enterprise IT leaders' observations as the world recovers from COVID-19

Expect change

Business requirements move quickly, and change is inevitable. Be ready to respond. Technology architecture, licence, and service subscriptions can be designed to be more flexible and support changing requirements.

Take speedy action

Be able to react quickly to support remote workers during the pandemic and to meet changing government and corporate emergency policies for remote working. The faster a business can pivot, the smoother the transition back to regular day-to-day operations.

Make security universal

A changing IT architecture impacts the potential attack surface. Rethink security to cover all bases. Assess each access request as a potential threat regardless of where the request originated. A 2021 Omdia global enterprise survey found that 59% of organisations experienced a significant increase in cybersecurity incidents since the start of the pandemic.

Avoid lock-in restrictions

Contracts can be restrictive, making it costly and difficult to change terms. Static, long-term contracts are unsuitable for uncertain business environments. Negotiate separate shorter term contracts for different services with built-in flexibility that allows for changes during the contract period to limit lock-in.

Favor supportive partners

Service providers are necessary. Continue to work with service providers who were trustworthy, flexible partners during COVID-19. Drop suppliers who were rigid and unsupportive. Ultimately, a supportive partner can work hand in hand to solve any problem. An inflexible partner becomes an obstacle.

Source: Omdia

Findings and recommendations to help you win in SD-WAN in a post-COVID world

Based on Omdia's research and discussions with IT executives, network transformation is a pressing issue for enterprises and is a fundamental part of digital transformation.

IT decision-makers are trying to build a long-term strategy in an uncertain environment with unpredictable business requirements, conflicting technology vendor messages, and restrictive budgets. IT executives need the flexibility to adapt, channel resources efficiently, and still deliver high standards of security and performance.

Omdia uncovered fundamental points in research, including:

87% of enterprises expect to have some form of SD-WAN deployment by 2023.

SD-WAN deployment is complex and companies do experience teething issues.

To minimise surprises, almost all enterprises rely on partners to help them with their SD-WAN deployment.

Adopters gain more value when SD-WAN is deployed together with hybrid networking.

Enterprises prefer large network operator partners for their network transformation initiatives.

Business needs are constantly evolving. IT executives appreciate flexible service provider partners that support changing business requirements.

Enterprises that are considering, embarking, or looking to expand their SD-WAN deployment can pick up tips from early adopters on how to make the project a success:

For outstanding non-adopters, it is high time to evaluate SD-WAN.

61% of enterprises globally are testing or have deployed SD-WAN, and penetration should increase to 87% by 2023. COVID-19 pushed the need for remote administration and made enterprises realise the necessity for greater management control. SD-WAN gives administrators visibility into the network and applications, allows for more intelligent traffic handling, and brings value to the business.

Adopters can consider new applications of SD-WAN.

SD-WAN can be applied in many ways in an organisation. Many large enterprises already have several SD-WAN platforms playing different roles. Some SD-WAN platforms manage the enterprise WAN, some address security, some handle site wireless LAN (WLAN), and some administer remote workers. Adopters can consider how they might use SD-WAN in roles where functionality, at least for now, does not overlap at all.

Network transformation is well-managed by experts with full-service offerings.

Full-service providers have the network assets and expertise to provide and manage a broad range of network services. This includes multiprotocol label switching (MPLS), virtual private networks (VPNs) and internet; wireline and wireless; and a host of managed network, security, and professional services. Full-service network providers supply networks and support over wide geographical areas. They are well positioned to combine best-suited network underlay and SD-WAN overlay for each site and circumstance.

Unlock more value by combining SD-WAN deployment with hybrid networking.

Enterprises that deploy both SD-WAN and hybrid networking are more satisfied and derive higher net benefits than those with only SD-WAN. Full-service providers are uniquely positioned to help enterprises balance these factors in network transformation. This includes recommending complementary network transformation options to enterprises that leverage both hybrid networking and SD-WAN.

Outsource more of the job to the experts for higher satisfaction.

More than 90% of SD-WAN adopters are satisfied with their deployment to date. Enterprises that outsource more tasks to partners are more likely to be highly satisfied compared to those that outsource fewer tasks.

Work with a service partner that offers flexibility.

Enterprise IT departments face fast-changing technology and market conditions. They need ways to respond quickly to unexpected change. Static, restrictive, long-term contracts do not meet the need for flexibility. Enterprises can choose partners that limit lock-in, allow changes to contracts, and offer more dynamic pricing options.

Look beyond cost savings for even more valuable benefits.

Cost is typically an early driver for enterprises to explore SD-WAN. Mature adopters rank benefits such as greater security, improved network performance, and improved reliability with faster troubleshooting and recovery as top benefits. In the end, cost savings become a low-priority benefit.

# SD-WAN Deployment: Learning from earlier SD-WAN adopters

Part 2: Rapid, continuing adoption of SD-WAN highlights the technology's benefits resonating with enterprises across the world

SD-WAN has matured greatly in less than a decade, and the security and network performance it offers makes it more appealing than ever. The journey doesn't have to be complex—here's what earlier adopters have learned so far.

SD-WAN adoption and deployment

Software-defined wide-area network (SD-WAN) has greatly matured since the concept rose to popularity in 2016. Omdia's survey of enterprises in 3Q21 revealed that 61% of enterprises globally have SD-WAN deployments and a further 26% intend to deploy SD-WAN in the next 24 months. By 2023, 90%, 86%, and 87% of enterprises in the Americas, Europe, and Asia, respectively, intend to have some level of SD-WAN deployment (**Figure 1**). Earlier surveys showed that enterprises based in North Asia, in particular, wanted better visibility over applications in the network, and SD-WAN addresses this requirement. SD-WAN's continuing rapid adoption shows how the technology's benefits resonate with enterprises.

Figure 1: Enterprise SD-WAN penetration by 2023

90% Americas   **86%** Europe   **87%** Asia
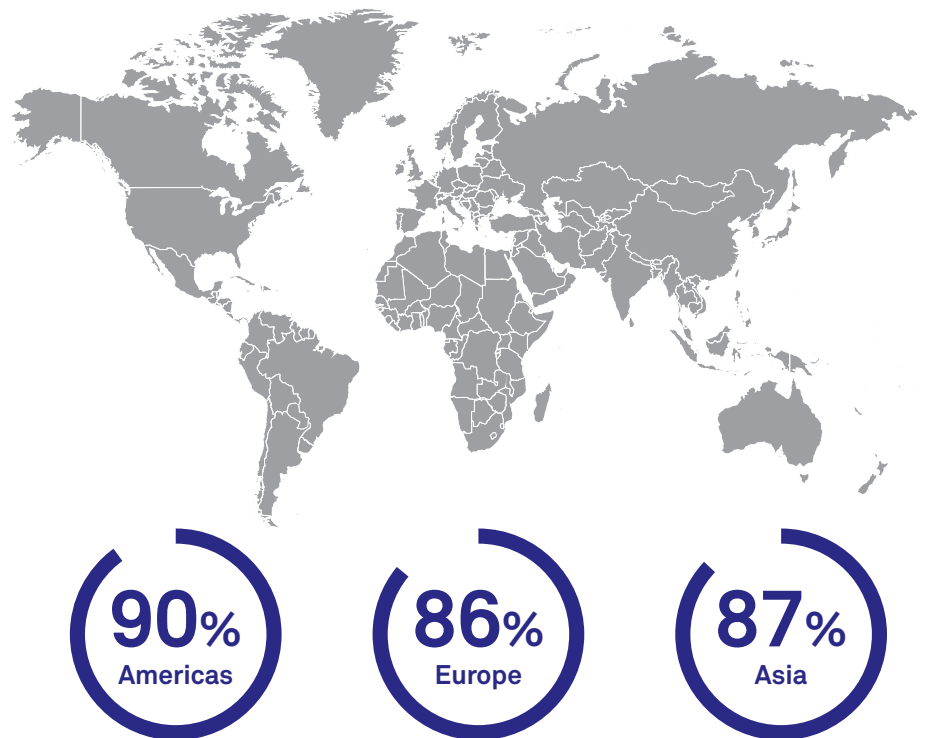
Notes: n=404
Source: Omdia

The adoption journey is complex. There are dozens of vendors to choose from and different flavours of SD-WAN that inherit elements from routers, wireless local area network (WLAN) gear, WAN optimisation, network probes, and security firewalls. All SD-WAN vendors have ways of managing the application layer, but each goes about this differently. In addition, technology vendors have very different perspec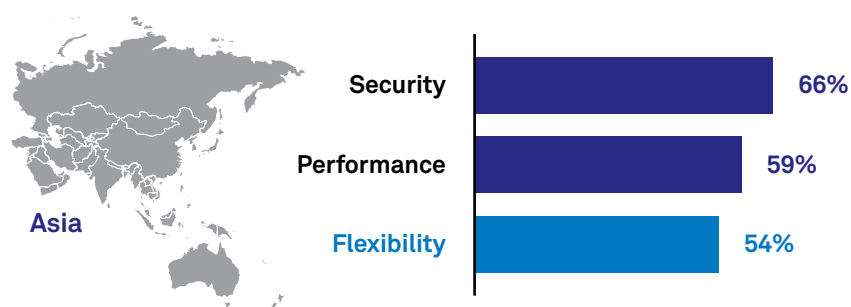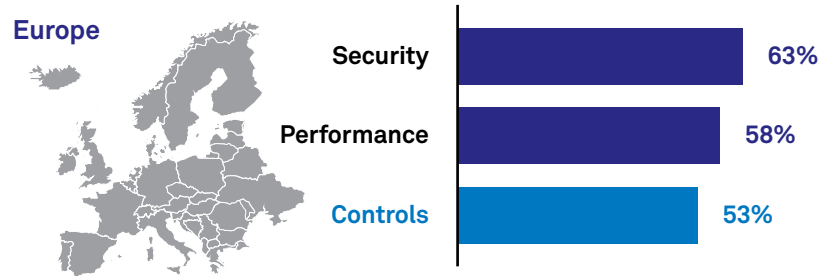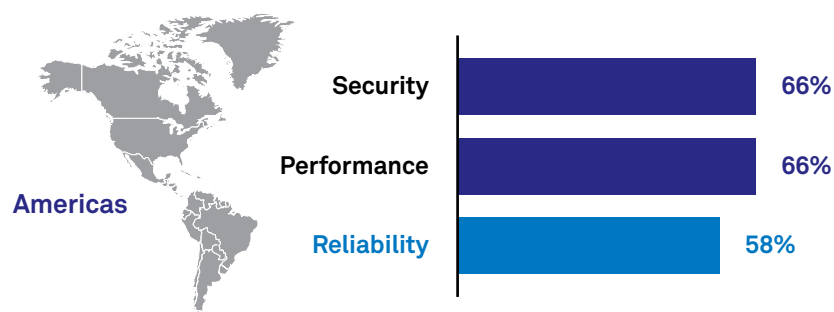tives on technology migration. Some push all-new appliances, others encourage existing equipment upgrades, still others press software options. Enterprises evaluating platforms must consider many factors that are not directly comparable. This may result in choice paralysis or worse, bad choices that are regretted later. Enterprises starting on their SD-WAN journey can learn what the potential challenges are from experienced SD-WAN adopters.

Valued SD-WAN benefits: Security and performance

Enterprises are motivated by cost savings and return on investment (RoI). Vendors tout SD-WAN cost savings to attract new businesses. While enterprise SD-WAN adopters agree that cost savings helped start conversations, once SD-WAN is deployed, cost savings become the least-valued benefit. Instead, enterprise SD-WAN adopters around the world rate security features such as centralised applications policy management and built-in firewalls as the most highly valued benefits. Also important is improved applications performance, with lower latency and guaranteed transactions (see **Figure 2**). **The most valued SD-WAN benefits globally are security, followed by performance. However, the third most valued benefit varies by region:**

- **Americas:** Adopters prioritise reliability in terms of WAN availability and faster troubleshooting.

- **Europe:** Adopters appreciate the ability to centrally manage and configure the network, and the option to manage applications at a more granular level.

- **Asia:** Adopters value the flexibility for faster site activation and the ease of network reconfiguration at selected sites as and when required.

Figure 2: Enterprises' top three SD-WAN benefits valued (by region)

Americas

Security	66%
Performance	66%
Reliability	58%

Europe

Security	63%
Performance	58%
Controls	53%

Asia

|	
Security	66%
Performance	59%
Flexibility	54%

Notes: n=245
Source: Omdia

Many SD-WAN platforms are in deployment

As enterprise SD-WAN swept the industry, network equipment vendors were under immense pressure to add SD-WAN capabilities into their portfolio to remain relevant. Router, security, WAN optimisation, and wireless vendors have added SD-WAN to existing solutions.

SD-WAN standalone vendors such as Cisco Viptela, VMware SD-WAN, Versa, HPE Silver Peak, and Nokia Nuage are also options for enterprise SD-WAN adopters. Service providers add value by assembling SD-WAN solutions and by integrating SD-WAN with managed security as a bundle. In short, there is a sea of SD-WAN options for enterprises to assess on their SD-WAN journey. **Figure 3** shows the types of SD-WAN platforms that enterprises currently use.

Figure 3: Enterprises' currently used SD-WAN platforms by type

Notes: n=245
Source: Omdia
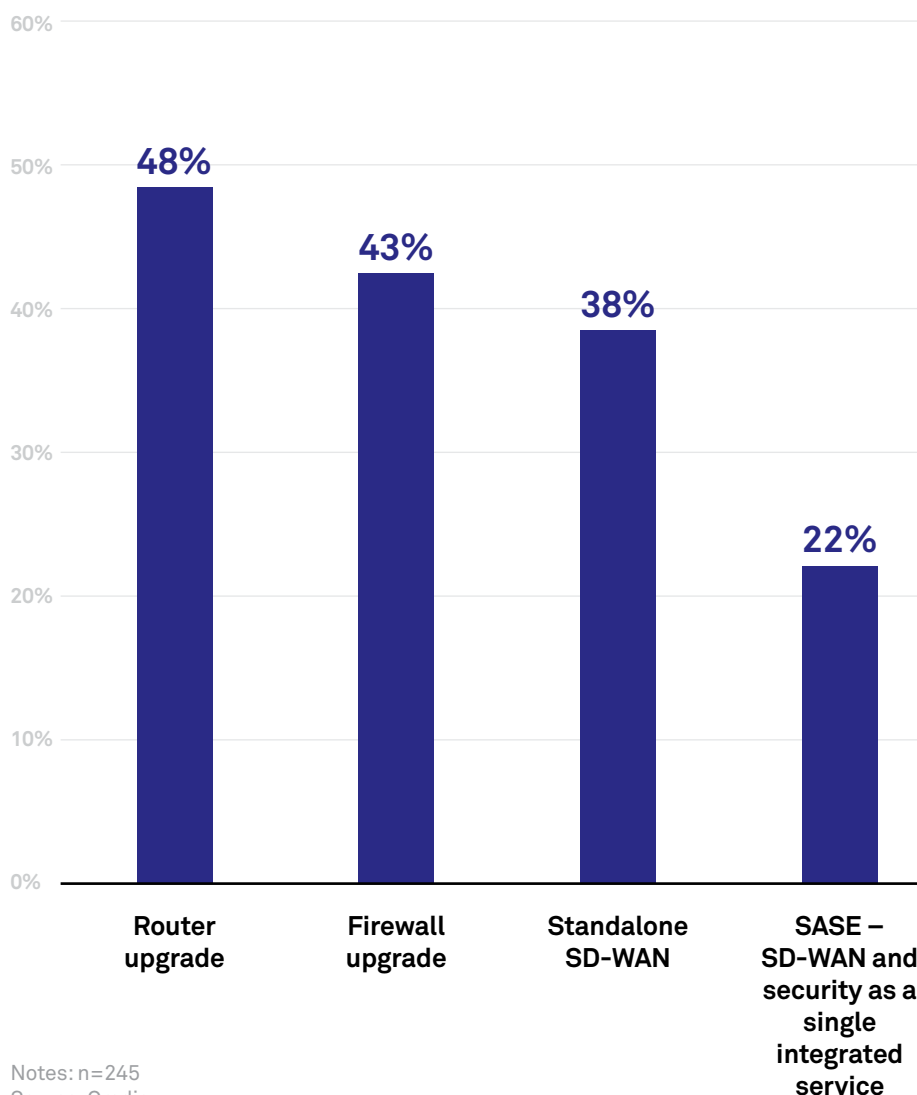
There are some regional differences in platform selection. Enterprises based in the Americas, for example, are more likely to deploy white-label options from service providers or new, standalone SD-WAN platforms. Enterprises based in Europe and Asia more often choose to SD-enable their existing routers through upgrades.

Keeping the management of mixed SD-WAN platforms simple

Many large enterprises already have several SD-WAN platforms inside their organisation, with each taking a different role. Enterprises may choose to build a network-wide SD-WAN to manage the WAN and use another platform to handle security or WLAN at selected sites. Enterprises doing cross-border business with China may specifically set up separate SD-WAN platforms, controller, and underlay that are better suited for the Great Firewall.

Deploying SD-WAN in China: What MNCs should consider in a service partner

Gateway to support crossing borders

Service partner must have a gateway as an entry and exit point between China and the rest of the world.

Reliable underlay in China

Service partner should have points of presence (PoP) across China to support intra-country traffic.

Local team

This gateway should be managed by teams on the ground to support any requirements.

Experienced partners

Partner with providers who have experience in deploying and managing SD-WAN between China and the rest of the world.

Enterprises find that deploying SD-WAN across all sites simplifies management. When a global retailer of sporting goods headquartered in Germany embarked on their SD-WAN deployment for all its retail outlets around the world, they initiated the project with a trusted partner based in Hong Kong. They found that global standardisation simplified policy management and was more effective for troubleshooting since learnings can be easily applied to other sites.

Enterprise SD-WAN adopters and service providers caution against overlapping SD-WAN platforms for the same functions. There is no off-the-shelf integrated management platform to put different SD-WAN solutions under a single pane of glass. It will be challenging to manage multiple SD-WAN solutions in the same role, each with its own functionality.

Enterprises are still inexperienced with SD-WAN deployment

SD-WAN is a relatively new technology. Few enterprises have an in-house IT team with solid platform deployment and operations experience. IT departments undergoing technology migration and transformation should not be distracted by teething issues that come with SD-WAN migration. An experienced SD-WAN partner plays a vital role in making a deployment easier.

Enterprises have dozens of platforms to choose from. The first challenge will be selecting the SD-WAN platform best suited for their needs. **Table 1** shows the commonly asked questions about SD-WAN that enterprises might not be able to answer themselves. An experienced service provider can guide enterprises away from the common pitfalls that happen during deployment and provide answers on how to get more value from their SD-WAN deployment.

Table 1: Enterprises' considerations while on their SD-WAN adoption journey

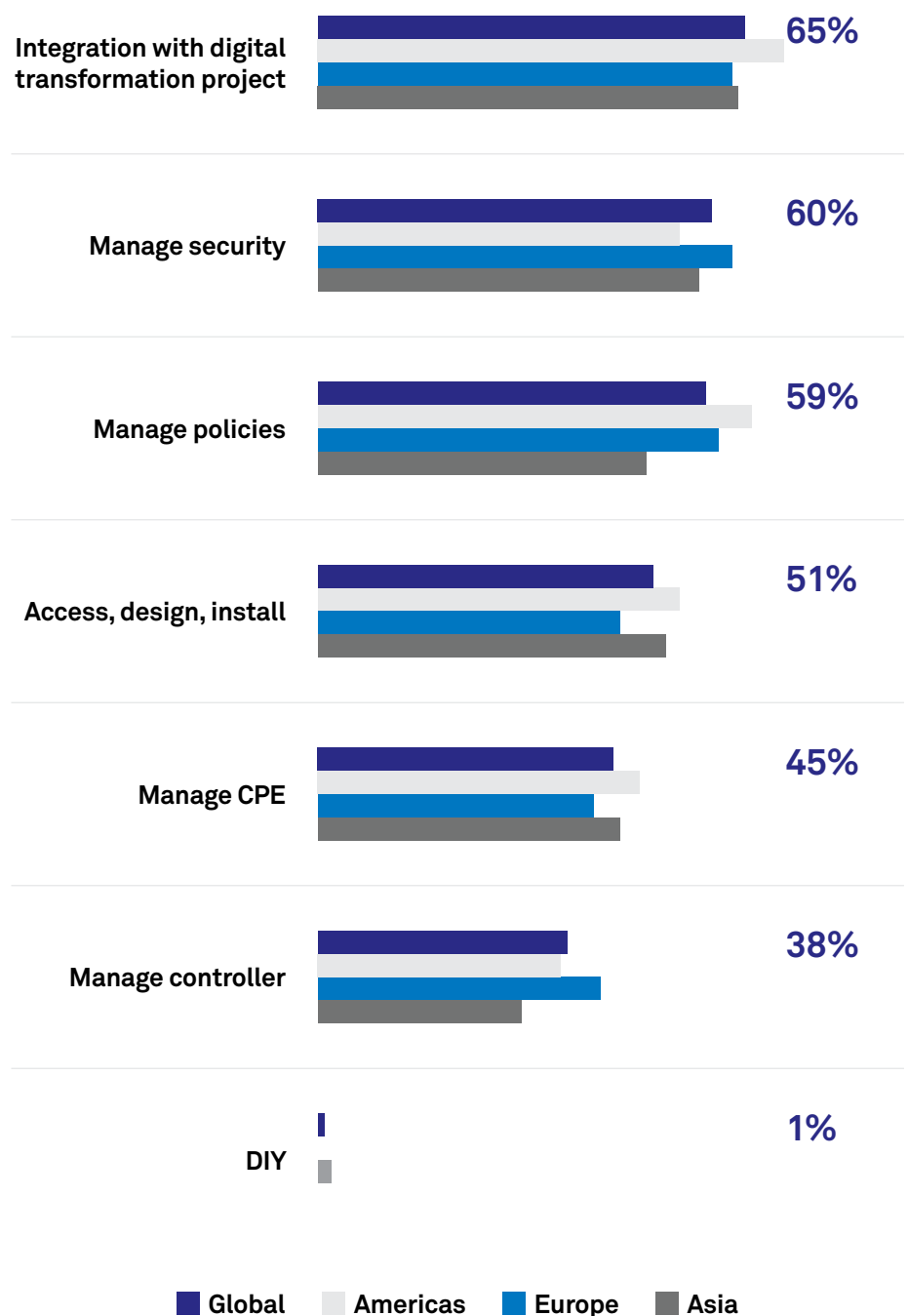| IT infrastructure	Business operations	Sourcing	Management
How well can my current equipment support SD-WAN?	What do I expect SD-WAN to do for my business?	Which vendors/ partners best match my needs?	What tasks will be handled in-house, and which should be outsourced?
Is any incompatible equipment ready for refresh?	What do I expect SD-WAN to do for my business?	Which vendors/ partners best match my needs?	What administrative policies do I need to implement?
Is physical or virtual better suited for my needs?	Which sites need to be SD-WAN enabled? How do I prioritise the sites to be enabled?	How will SD-WAN connect to other network assets?	How do I ensure the SD-WAN infrastructure is secure?
How will the SD-WAN deployment impact connectivity needs?	What resources do applications need to reach on the network?		
Bottomline: How do I get more value and satisfaction from my SD-WAN deployment, for my business?			

Source: Omdia

SD-WAN adopters seek help from service partners

99% of enterprises outsource aspects of SD-WAN deployment and management to service partners (**Figure 4**). 65% of enterprise adopters add SD-WAN services to a larger digital transformation project, tapping into the expertise of partners. Enterprises may not fully outsource every aspect of SD-WAN deployment and operations, but nearly all adopters bring in partners to assist at key points.

Enterprises based in the Americas and Asia are more likely to make SD-WAN services part of a larger digital transformation project.

Enterprises based in Europe, by contrast, are more likely to prioritise bringing in partners for managed security services.

Figure 4: Enterprises seek managed services partners to help deploy and manage aspects of SD-WAN

Integration with digital transformation project — **65%**

Manage security — **60%**

Manage policies — **59%**

Access, design, install — **51%**

Manage CPE — **45%**

Manage controller — **38%**

DIY — **1%**

Legend: Global, Americas, Europe, Asia

Notes: n=245
Source: Omdia

Full-service providers are often enterprises' preferred partners

Enterprises have a universe of potential partners to choose from. They may call on SD-WAN vendors, system integrators, specialist service providers, or full-service providers for their SD-WAN deployment. Each has a different set of strengths and capabilities.

Enterprises recognise that for SD-WAN deployment, network ownership is an advantage. Sixty per cent of enterprises across the world rate big international and/or incumbent carriers, which offer a full spectrum of network and managed services, as a preferred partner for their network transformation projects. Enterprises in Singapore (74%), followed by Germany (69%), have the highest preference for big international and/or incumbent carrier partners. Large enterprises benefit from full-service providers' extensive partnerships and geographical coverage, bringing more value and higher satisfaction.

Some countries impose national restrictions around the delivery of managed and professional services. Multinational enterprises with branches in mainland China, for example, need service providers that can help with the intricacies of operating cross-border networks, professional and managed services. This includes optimal performance with China's Great Firewall. Full-service providers will have local partnerships and expertise that comply with national requirements.

Full-service providers bring in-house expertise, offer a broad range of products and services, have wide geographical coverage, and can combine the underlay network infrastructure with overlay managed SD-WAN and other services to ensure service-level agreements (SLAs) are met. Full-service providers have the tools to customise a network mix that best fits an enterprise's needs. **Figure 5** highlights that capabilities of each type of partner and why enterprises prefer full-service providers as network transformation partners.

Figure 5: Why enterprises prefer full-service providers as network transformation partners

Services	Full-service providers	Specialist service providers	System integrators	SD-WAN Vendors
Professional services expertise and experience				
SD-WAN deployments	Y	Y	Y	Y
Other network transformation technologies	Y	M	Y	N
Full range of products and services	Y	Y	Y	N
Wide geographical coverage (24/7) support capabilities	Y	M	M	M
Product Coverage				
Other network transformation technologies	Y	M	Y	N
Updated with latest network transformation technologies	Y	Y	Y	N
Ownership				
Network underlay (fixed line, mobile, and broadband)	Y	M	N	N
Overlay service management	Y	Y	N	N
Future-proof solutions				
Turnkey migration to next-gen SD-WAN	Y	Y	Y	Y
Turnkey migration spanning multiple networks (e.g., 5G and fibre)	Y	M	N	N

Legend:

Yes: Have such capabilities
No: Does not have such capabilities
Maybe: May or may not have such capabilities

Full-service providers:

Operate fixed, mobile and broadband infrastructure, supported by in-house professional services.

Specialist service providers:

Operate some network (fixed, mobile or broadband) infrastructure, supported by limited professional service capability.

Integration of SD-WAN and security with SASE

Enterprises are expanding their traditional network perimeter beyond headquarters, data centres, branches, and smaller sites. Today, data and compute resources are distributed across public clouds, network edge, site edge, and work-from-home. Attackers are trying to take advantage of this expanded attack surface, and it needs to be secured. According to Omdia's Global Cybersecurity Services Survey in 2021, 59% of enterprises experienced a significant increase in cybersecurity attacks since the start of the pandemic.

Enterprises are working to secure their changing network architectures with features such as threat detection and prevention, zero-trust networking, secure cloud access, and secure web and applications process.

SASE—secure access service edge—is an umbrella term coined to describe network and security merging with SD-WAN as a key element. Under a zero-trust model, a network assesses requests at its edge to determine the source's digital identity, device, and request context. If the identity, device, or application type does not align, traffic is not authorised to enter the network.

SASE solutions can be provided by vendors such as Fortinet and Cisco, or even managed service providers who can integrate the best-of-breed security platforms available with SD-WAN platform in use, or best-of-breed SD-WAN suited to the enterprise.

This zero-trust approach aligns with the trend of a more distributed workforce. It adds a layer of security by denying any action by default that has not been explicitly permitted.

Unlock the most value and satisfaction from SD-WAN

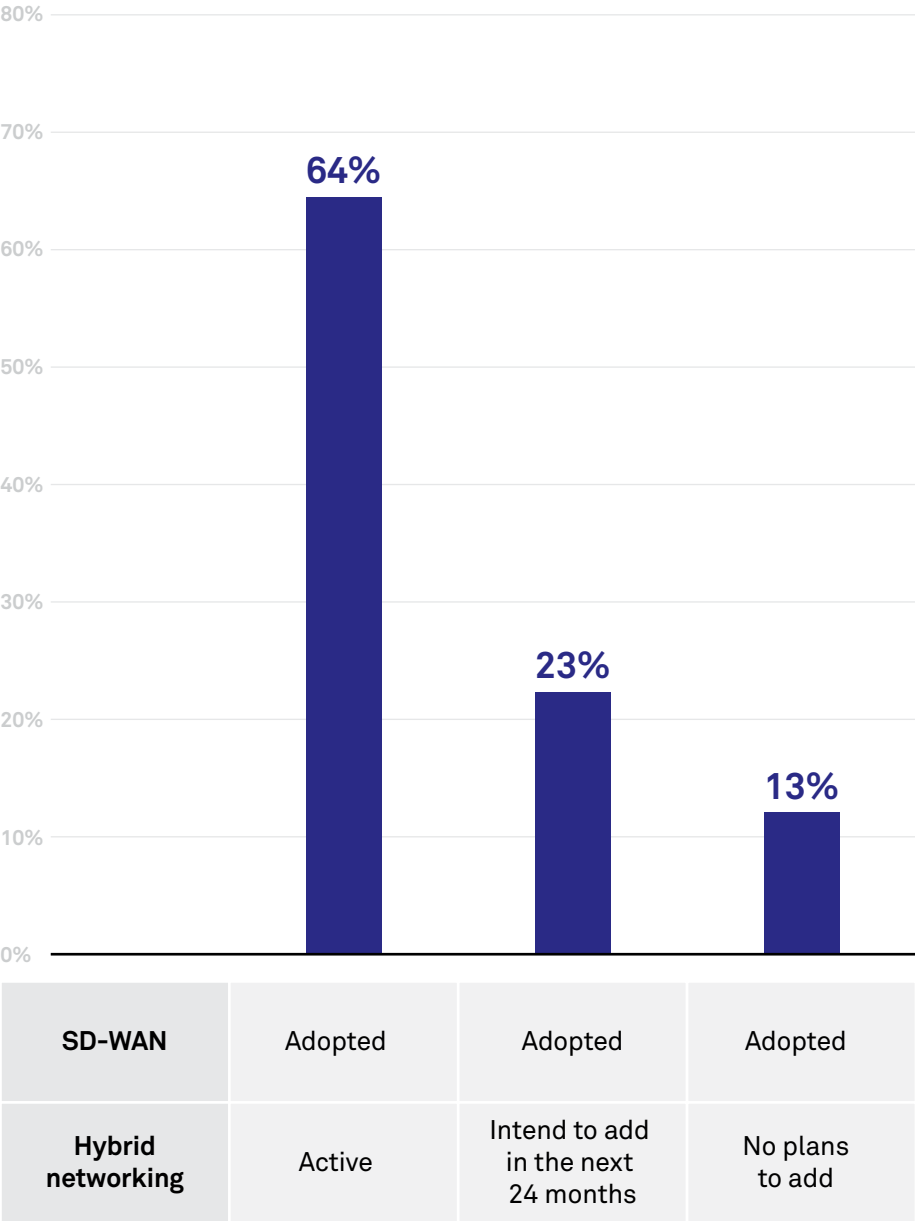**Part 3:** How enterprises are making the most of SD-WAN

SD-WAN enables businesses to do and achieve more—but with the right technology combination, an enterprise can unlock more features and benefits to thrive today and tomorrow.

Enterprises combine SD-WAN with hybrid networking for more value

Enterprises already frequently pair SD-WAN and hybrid networking together. SD-WAN lets administrators centrally monitor the network and apply policy controls for performance and security. Combined with hybrid networking, enterprises can better manage different networks (e.g., internet access, multiprotocol label switching [MPLS] virtual private network [VPN], LTE, or 5G).

Enterprises can optimise cost by architecting different network combinations for different types of sites based on the applications used and performance required. For example, the head office with more critical applications in use may combine MPLS VPN with internet, whilst a remote branch may use a combination of internet and LTE. For this reason, 87% of enterprises that have deployed SD-WAN have already added or intend to add hybrid networking in the next 24 months (**Figure 1**).

Figure 1: By 2023, 87% of SD-WAN adopters would have deployed hybrid networking

| SD-WAN	Adopted	Adopted	Adopted
Hybrid networking	Active	Intend to add in the next 24 months	No plans to add

Chart values: 64%, 23%, 13%

Enterprises that adopt SD-WAN recognise the added value and benefits from the new functionality. When enterprises adopt both hybrid networks and SD-WAN, they report a tailwind that generates more value and satisfaction from their SD-WAN deployment. As **Figure 2** shows, 34% of enterprises that deployed both SD-WAN and hybrid networking gave a satisfaction score of 9 or 10. This is compared to 22% of enterprises that deployed only SD-WAN.

> "
>
> **Hybrid networking was too difficult to manage, and we had to pull the plug on the project. But we know the benefits of hybrid networking and will relook together with our SD-WAN deployment.**
>
> Enterprise based in Europe

Figure 2: Enterprises report higher satisfaction when they combine SD-WAN and hybrid networking

**% of SD-WAN adopters with a satisfaction score of 9 or 10/10**
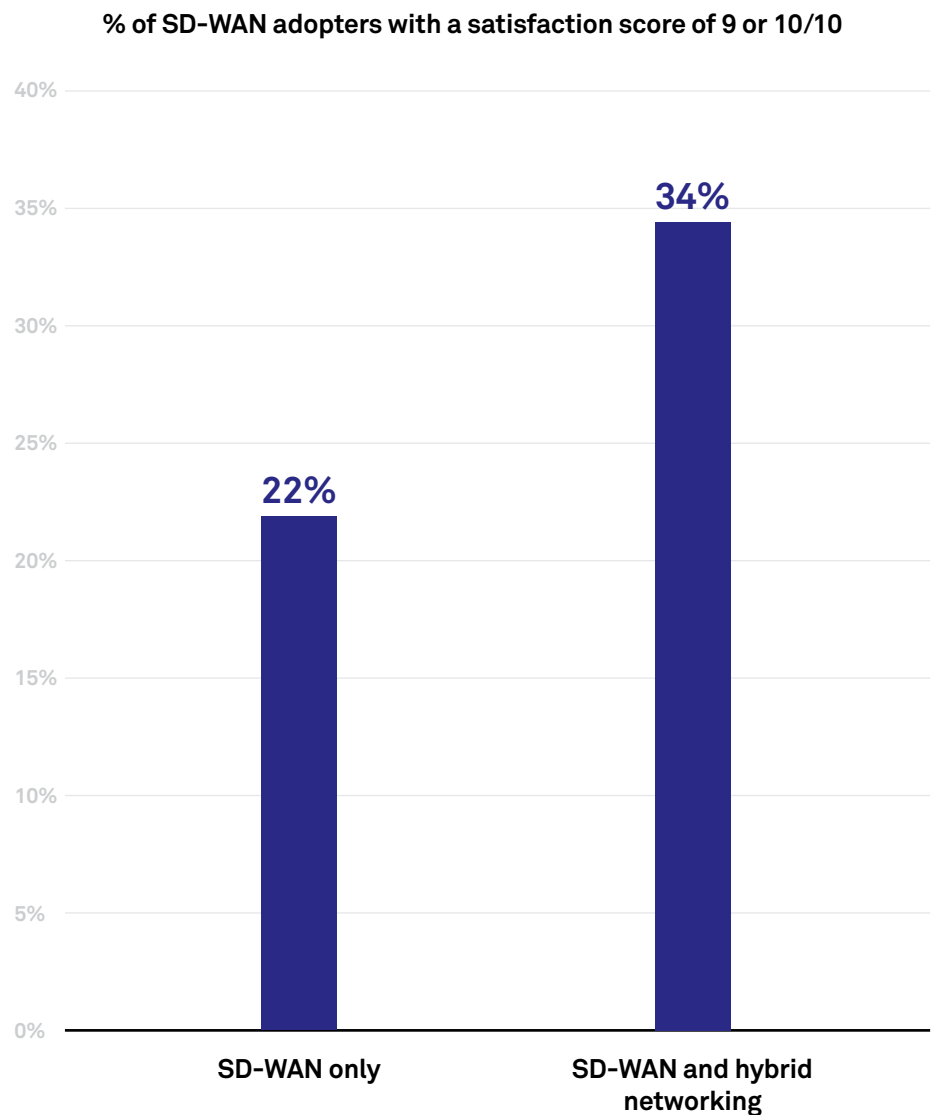
Notes: n=231
Source: Omdia

Enterprises that outsource SD-WAN tasks to partners are more satisfied

Enterprises recognise that once their new SD-WAN goes fully operational, it will quickly add value to their business. However, when SD-WAN is part of a sweeping network or IT transformation project, the deployment process is likelier to have teething issues. That is one reason why enterprises prefer to outsource tasks to managed services partners and have higher SD-WAN satisfaction levels when they do (Figure 3). Managed services tasks include the initial stages where consultants are brought in to assess, design, and install the SD-WAN solution; managed services that include operating, patching, and maintaining the controller; managed CPE (customer premise equipment); managed routing policies; and managed security.

Figure 3: Enterprises who DIY are less satisfied with their SD-WAN deployment

Average satisfaction score
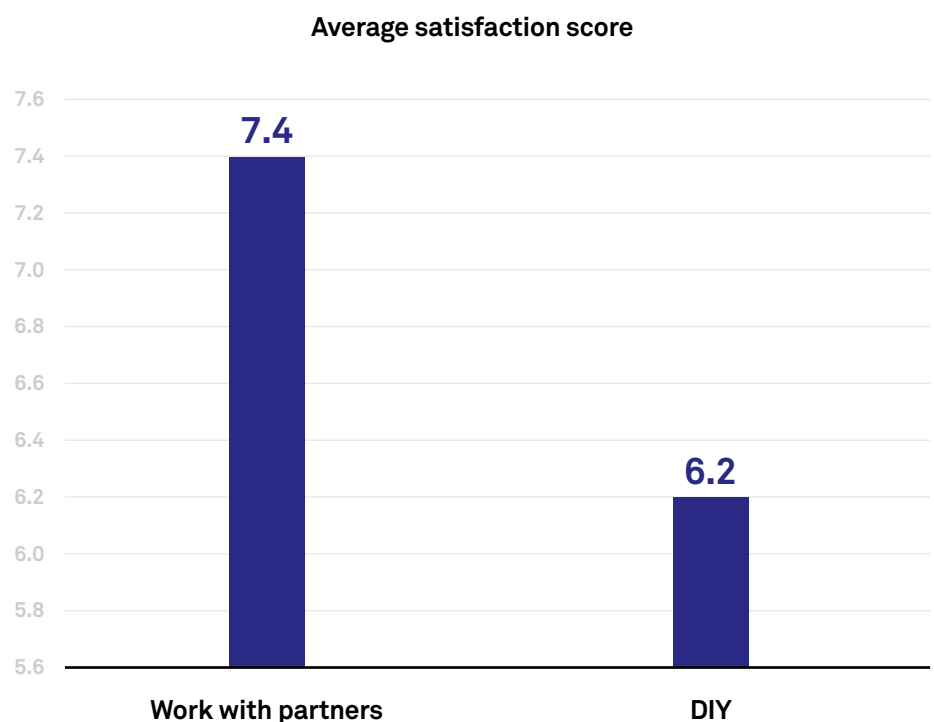
Notes: n=231
Source: Omdia

SD-WAN is not a perfect technology, and there will always be at least a few adopters (Omdia's surveys report about 7%) that are dissatisfied with their SD-WAN experiences to date. These adopters note that they should have performed more testing and troubleshooting, especially at the onset of the deployment. During the planning, design, and validation stages, there is still a chance to change course if a new architecture fails to deliver on reliability or performance.

Nonetheless, none of these dissatisfied adopters blame the technology—SD-WAN. Instead, dissatisfied adopters note other factors where mistakes need to be corrected: choosing the wrong platform provider, subscribing to the wrong services, selecting under-performing partners, or an improperly designed or misconfigured network architecture.

Key recommendations to help you succeed in SD-WAN

Network transformation is well-managed by experts with full-service offerings.

Full-service providers have the network assets and expertise to provide and manage a broad range of network services. This includes MPLS VPNs and internet, wireline and wireless, and a host of managed network, security, and professional services. Full-service network providers supply networks and support over wide geographical areas. They are well positioned to combine best-suited network underlay and SD-WAN overlay for each site and circumstance.

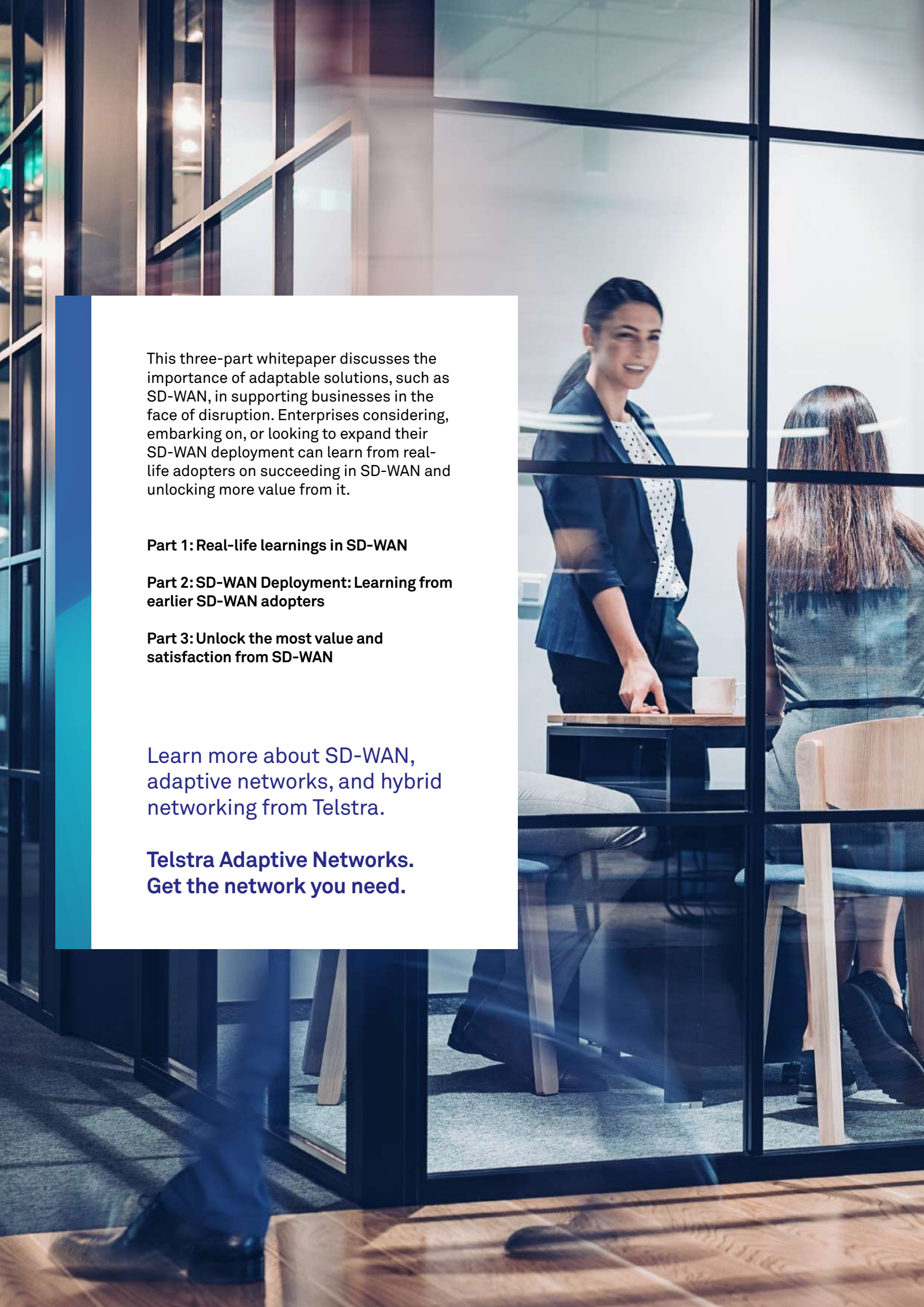**Unlock more value by combining SD-WAN deployment with hybrid networking.**

Enterprises that deploy both SD-WAN and hybrid networking are more satisfied and derive higher net benefits than those with only SD-WAN. Full-service providers are uniquely positioned to help enterprises balance these factors in network transformation. This includes recommending complementary network transformation options to enterprises that leverage both hybrid networking and SD-WAN.

For higher satisfaction, outsource more of the job to the experts.

Over 90% of SD-WAN adopters are satisfied with their deployment to date. Enterprises that outsource more tasks to partners are likelier to be highly satisfied compared to those that outsource fewer tasks.

Work with a service partner that offers flexibility.

Enterprise IT departments face fast-changing technology and market conditions. They need ways to respond quickly to unexpected change. Static, restrictive, long-term contracts do not meet the need for flexibility. Enterprises can choose partners that limit lock-in, allow changes to contracts, and offer more dynamic pricing options.

This three-part whitepaper discusses the importance of adaptable solutions, such as SD-WAN, in supporting businesses in the face of disruption. Enterprises considering, embarking on, or looking to expand their SD-WAN deployment can learn from real-life adopters on succeeding in SD-WAN and unlocking more value from it.

Part 1: Real-life learnings in SD-WAN

Part 2: SD-WAN Deployment: Learning from earlier SD-WAN adopters

Part 3: Unlock the most value and satisfaction from SD-WAN

Learn more about SD-WAN, adaptive networks, and hybrid networking from Telstra.

Telstra Adaptive Networks. Get the network you need.

Appendix

Methodology

The data used in this white paper is drawn from Omdia's Global Enterprise Network Services Insights 2021 survey. Omdia conducted this global survey in 2Q21 across nine markets. The survey reached 404 enterprise executives across a range of industries, polling about their experiences related to a range of network transformation practices. Surveyed companies ranged in size from 100+ employees to 10,000+ employees. Respondents had executive IT and network/WAN specialist roles and were involved in ICT purchase decisions for their companies.

Author

Adeline Phua
Principal Analyst, Network Transformation Services
adeline.phua@omdia.com

Get in touch

askananalyst@omdia.com

www.omdia.com

Omdia consulting

Omdia is a market-leading data, research, and consulting business focused on helping digital service providers, technology companies, and enterprise decision-makers thrive in the connected digital economy. Through our global base of analysts, we offer expert analysis and strategic insight across the IT, telecoms, and media industries.

We create business advantage for our customers by providing actionable insight to support business planning, product development, and go-to-market initiatives.

Our unique combination of authoritative data, market analysis, and vertical industry expertise is designed to empower decision-making, helping our clients profit from new technologies and capitalise on evolving business models.

Omdia is part of Informa Tech, a B2B information services business serving the technology, media, and telecoms sector. The Informa group is listed on the London Stock Exchange.

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Omdia's consulting team may be able to help your company identify future trends and opportunities.

About Telstra

Telstra is a leading telecommunications and technology company with a proudly Australian heritage and a longstanding, growing international business. Today, we operate in over 20 countries outside of Australia, providing data and IP networks and network application services to thousands of business, government, carrier and OTT customers.

Get in touch

tg_sales@team.telstra.com

Select your region:
Americas, EMEA, North Asia, South Asia

www.telstra.com/international/adaptive-networks

Regional office headquarters

Americas
44th Floor, 40 Wall Street, New York, NY 10005

EMEA
2nd Floor, Blue Fin Bldg. 110 Southwark Street, London, SE1 0TA

North Asia
Level 19, Telecom House 3 Gloucester Road, Wan Chai, Hong Kong

South Asia
8 Cross St, PWC Building #22-01, Singapore, 048424