

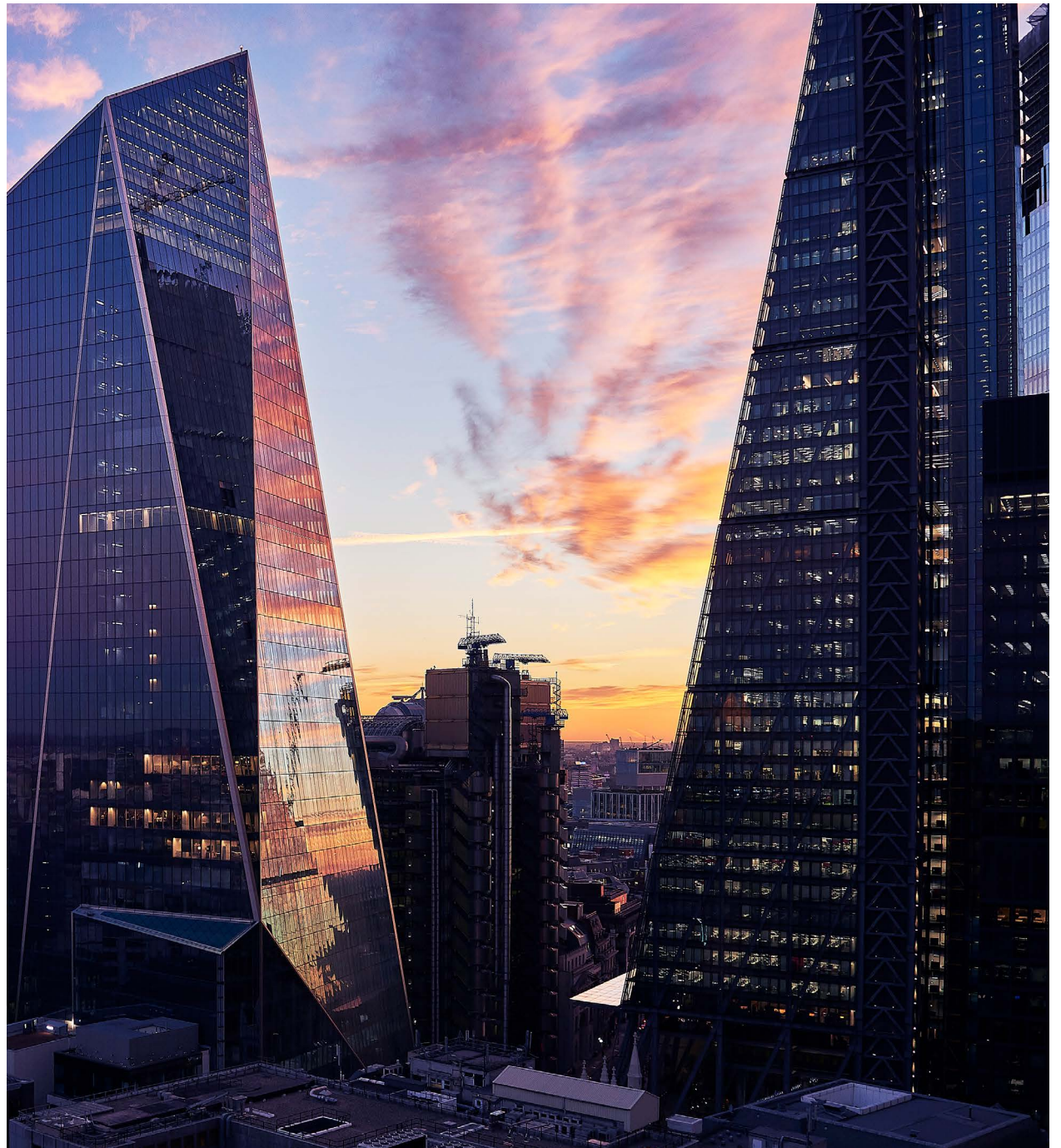


How **SD-WAN** is a key enabler for cloud adoption in the financial sector

Why SD-WAN has come of age for banking and
financial services organisations

Contents

A new wave of SD-WAN adoption in the financial sector	3
The historic barriers to SD-WAN adoption in banking and financial services	4
Cloud is resetting the SD-WAN landscape	5
Why cloud adoption makes SD-WAN the natural choice	8
How SD-WAN is answering the critical security question	10
SD-WAN in action in banking	12
Making the new age of SD-WAN a reality	13



A new wave of SD-WAN adoption in the financial sector



Historically, banking and financial services organisations have been slow to adopt SD-WAN technology. While other industries were eager to achieve a cost-efficient network with improved visibility and easier management, the finance sector found its hands tied by regulatory and security restrictions. The bottom line was that many organisations felt sticking with an MPLS infrastructure was the safest bet.

However, the sector's accelerated move to the cloud has reset their focus on SD-WAN. Pandemic pressures plus the need to be more agile and digital in an ever more competitive landscape have shifted how banking and financial services organisations operate. Now, instead of data centres at the heart of their infrastructure, it's the cloud, and this brings new requirements and a fresh perspective. But it takes a whole-architecture transformation – it's not just about moving to the cloud in isolation. They must transform their infrastructure to be able to control and deliver an outstanding cloud experience.

That leaves security as the final barrier to transformation. But, here, new security developments such as Secure Access Service Edge (SASE) are offering an effective way to integrate security with SD-WAN and cloud. Plus, organisations are increasingly accelerating their move to a Zero Trust strategy to combat the ever-growing threats from ransomware and other similar attacks. This is driving a transformation of their security strategy to one which is more reliant on micro segmentation and the detailed visibility and control of everything which is moving across their network.

This blend of security with visibility, control and an outstanding user experience in the cloud means SD-WAN has hit its sweet spot in the financial sector.

The historic barriers to SD-WAN adoption in banking and financial services

Recognising and addressing historic barriers are a key part of building a new business case for SD-WAN in a cloud-based financial world. The top four barriers:

1

Greater security, regulation and compliance concerns

Compliance-related due diligence means organisations must be confident all data transported on their networks is sufficiently encrypted and protected so they don't face sanctions or prosecution. Adopting SD-WAN is about more than an underlay swap because it involves taking on added risk and complexity, and that means buying in additional security infrastructure.



2

Previous business cases weren't sufficiently compelling

The need to add security infrastructure weakened the cost-reduction business case and pushed the payback period to a much later stage. Some early adopters thought they could also save money elsewhere by running a SD-WAN service completely inhouse. In reality, this often didn't stand up, because the increased complexity and need to bring more skills onboard quickly undermined their original cost case and stability.



3

Product maturity and procurement cycles

SD-WAN has only been around for five years but, realistically, the products available on the market have only started to mature in the last two. Limited case study information and early product iterations that had poorly integrated security features were off-putting.



4

Putting digital transformation on hold

During the last 18 months, pandemic priorities put many transformational projects on hold. Organisations had to react quickly to keep businesses operating smoothly, and this pushed more considered, longer-term change to one side.



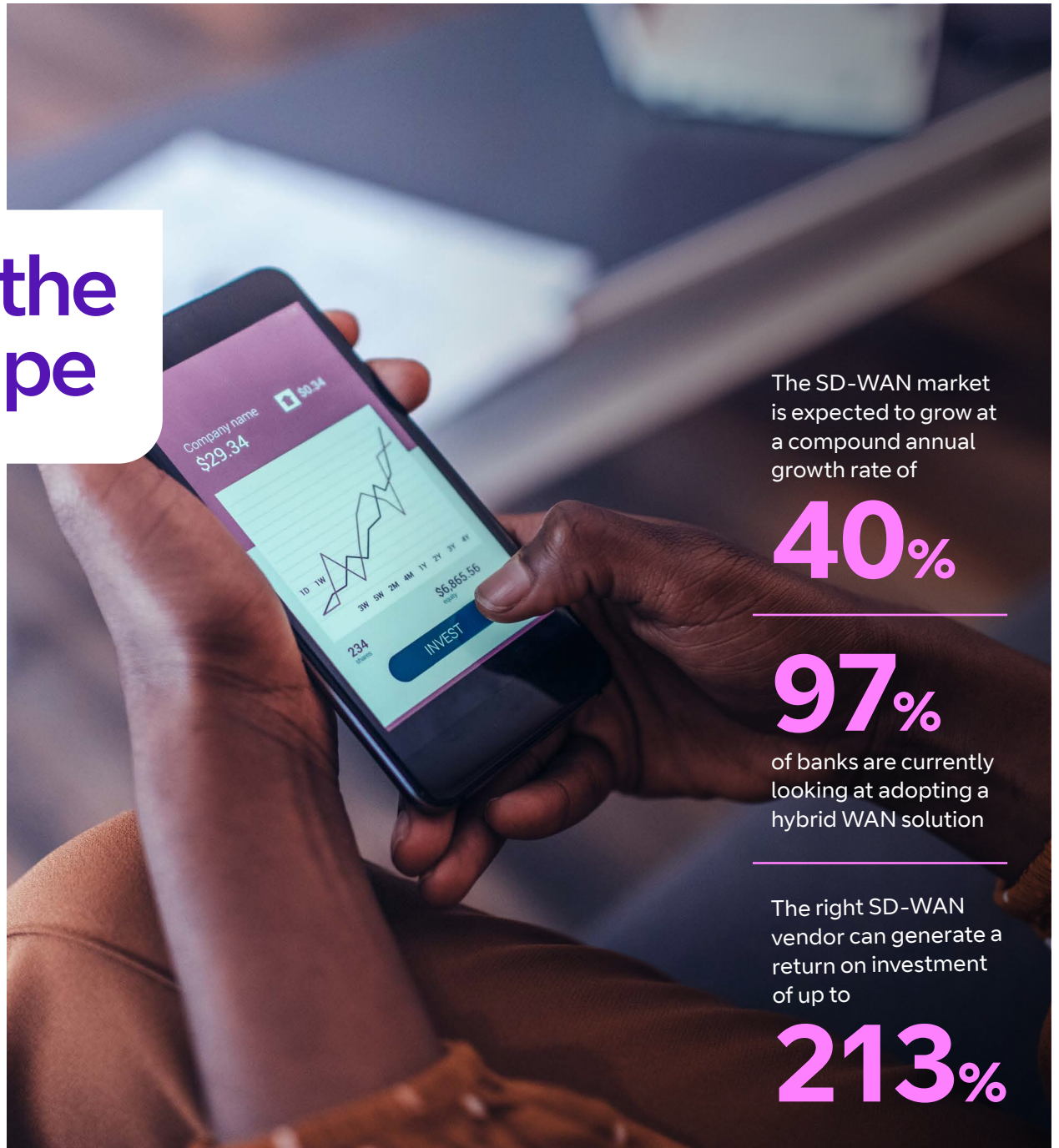
Cloud is resetting the SD-WAN landscape

SD-WAN is now an established technology with a booming market. By next year alone, the SD-WAN market is expected to grow at a compound annual growth rate of 40% and reach \$4.5 billion.

As part of this growth, the initially slow adoption of SD-WAN in banking and financial services is set to change. A recent study from Lavelle Networks revealed that 97% of banks are currently looking at adopting a hybrid WAN solution in the not-so-distant future. Increasingly, it seems that banks are starting to see that the benefits SD-WAN can bring to their operations, both online and in-branch, are starting to outweigh some of their initial reservations.

The proven track record that SD-WAN can show now it's maturing makes its case even more attractive to hesitant organisations. Deploying the right SD-WAN solution from the right vendor can generate a return on investment of up to 213% and cover deployment costs in less than six months.

But it's the rise in cloud adoption and the change in the architecture of banking and financial services organisations that remains the main driver in the sector's move to SD-WAN technologies.



The SD-WAN market is expected to grow at a compound annual growth rate of

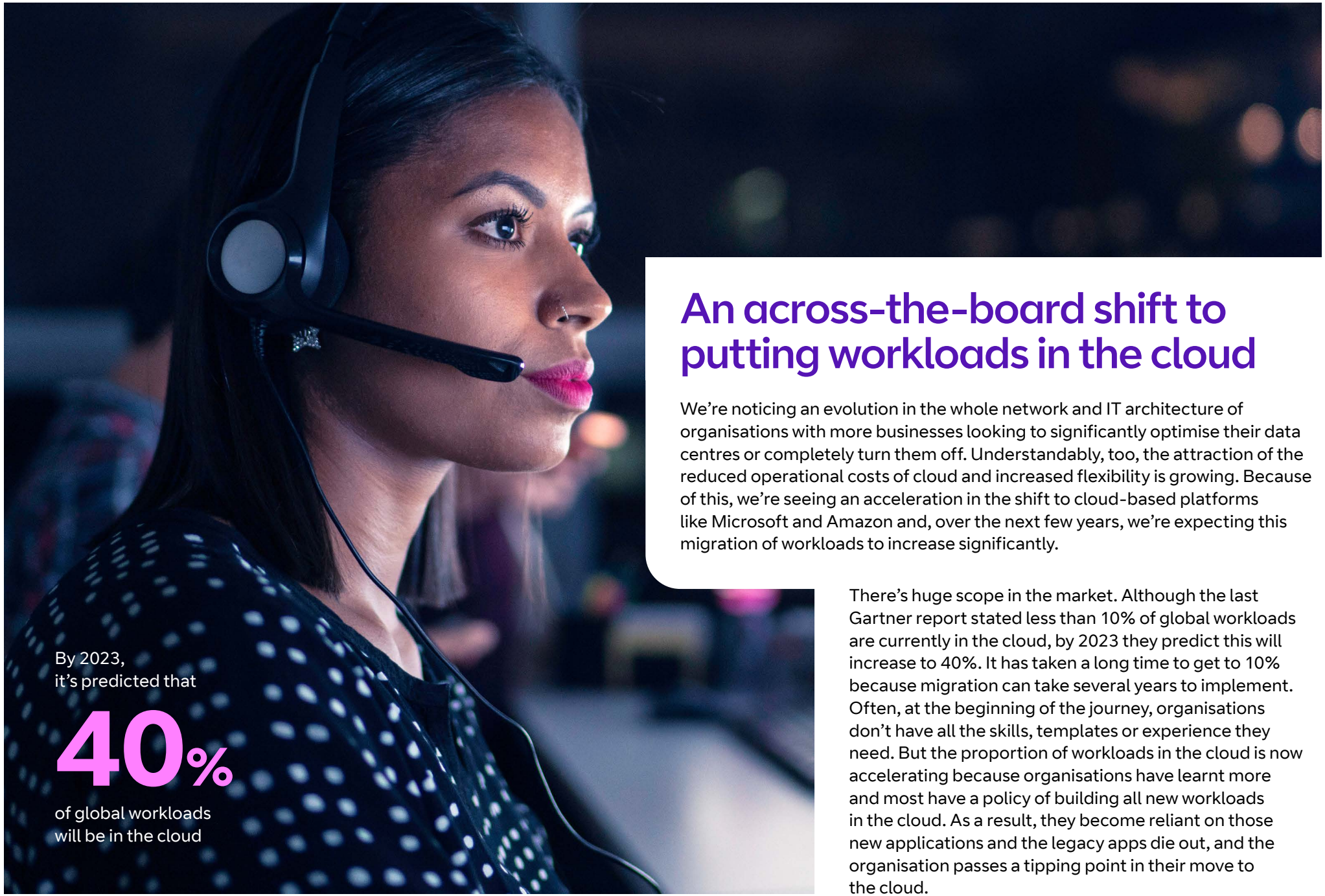
40%

97%

of banks are currently looking at adopting a hybrid WAN solution

The right SD-WAN vendor can generate a return on investment of up to

213%



By 2023,
it's predicted that

40%

of global workloads
will be in the cloud

An across-the-board shift to putting workloads in the cloud

We're noticing an evolution in the whole network and IT architecture of organisations with more businesses looking to significantly optimise their data centres or completely turn them off. Understandably, too, the attraction of the reduced operational costs of cloud and increased flexibility is growing. Because of this, we're seeing an acceleration in the shift to cloud-based platforms like Microsoft and Amazon and, over the next few years, we're expecting this migration of workloads to increase significantly.

There's huge scope in the market. Although the last Gartner report stated less than 10% of global workloads are currently in the cloud, by 2023 they predict this will increase to 40%. It has taken a long time to get to 10% because migration can take several years to implement. Often, at the beginning of the journey, organisations don't have all the skills, templates or experience they need. But the proportion of workloads in the cloud is now accelerating because organisations have learnt more and most have a policy of building all new workloads in the cloud. As a result, they become reliant on those new applications and the legacy apps die out, and the organisation passes a tipping point in their move to the cloud.

The four main drivers of cloud adoption in banking and financial services

1

Reacting to the pandemic

Though not as widespread as in other sectors, the pandemic significantly changed the pace of transformation for many financial organisations. In particular, the shift to hybrid and remote working has driven the move to cloud-based applications that are accessible from anywhere.



2

New entrants into the market

Many new entrants into the market, like fintech companies, are now entirely cloud based. This means they're agile, completely digital and, as a result, generally have lower overheads. Traditional banking and financial services organisations are feeling the pressure to keep up if they're going to stay competitive in an innovative market.



3

The growth in cloud-based apps

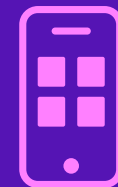
There's a growing number of new office applications, sales tools, finance systems, HR systems and trading applications emerging that are specifically designed for the banking and financial services sector that are completely reliant on the cloud. Organisations want this functionality and expect it to be cloud based. These new cloud-based IT applications are quicker to implement and cause fewer business interruptions.



4

The availability of new agile development processes

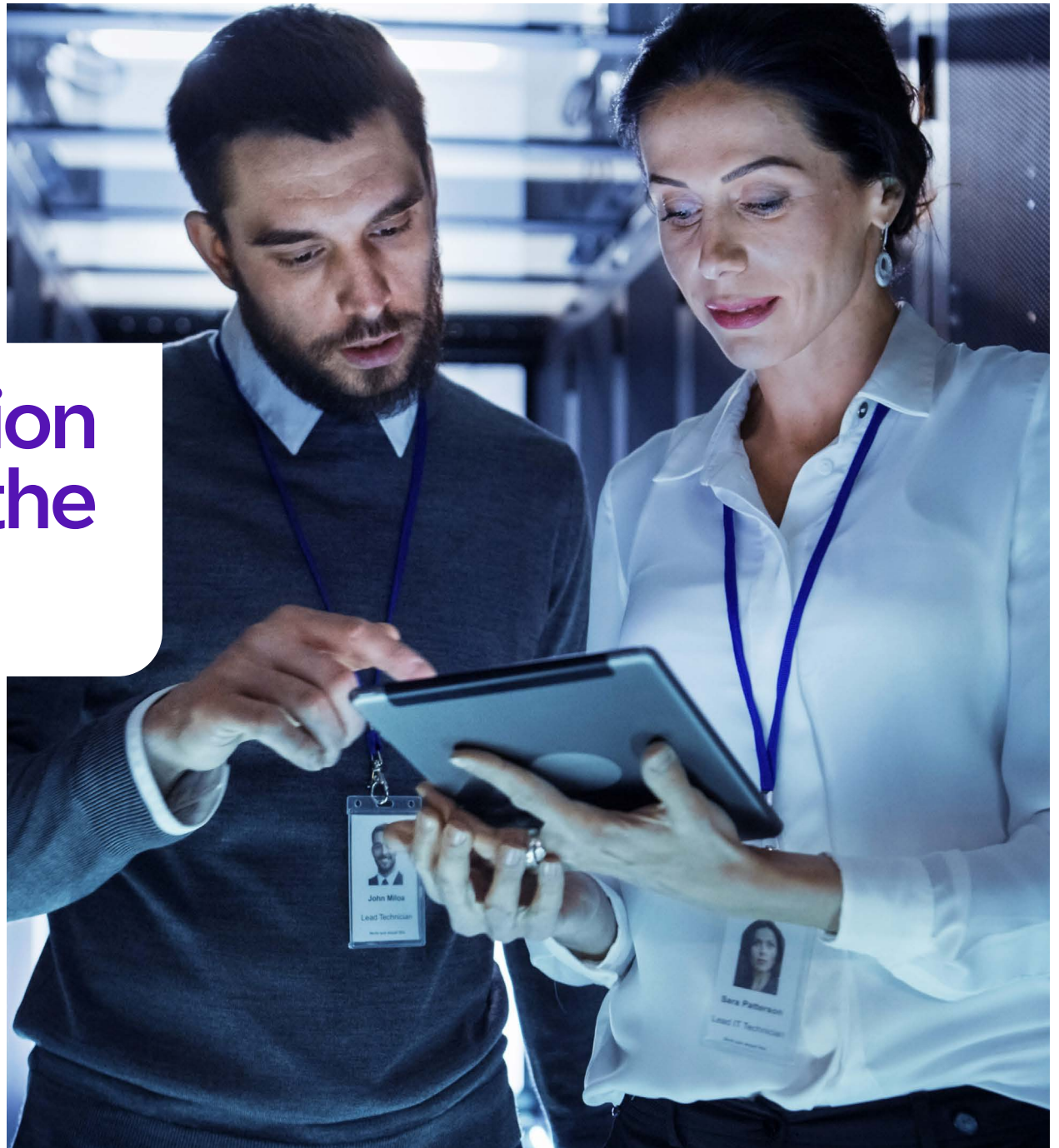
The cloud enables mobile application DevOps, which helps companies to continuously improve and update their software as they go. This maximises IT investments by ensuring they're using the best-of-breed technology at any moment in time, rather than waiting for waterfall development cycles to work through.



Why cloud adoption makes SD-WAN the natural choice

While we're seeing a wave of cloud adoption sweeping through banking and financial services organisations, we often see organisations aren't realising the benefits they expected or that cloud adoption is having an impact on the end-user experience. That's because the move to the cloud requires a fundamental restructuring of architecture that delivers new visibility, control and security capabilities.

With more financial organisations moving into the hybrid and multi-cloud world, they're connecting over a broader range of locations and must be able to support applications from wherever they need access. Traditional WANs were built to connect cores sites to the data centre. Organisations now increasingly need agile network solutions that can improve their day-to-day operations and overall experience, built around the cloud. This is where SD-WAN can take centre stage.



The key benefits of SD-WAN for cloud in the financial sector

Lower cost, internet-focused infrastructure

By swapping MPLS for internet connections, organisations can reduce the cost of their network and benefit from faster, simpler deployment. The control and visibility offered through SD-WAN helps to make up for any reduction in bandwidth and service from the new internet connectivity. SD-WAN also offers the control to allow local breakout onto the internet, making sure cloud-based traffic takes the optimum route to meet experience and organisational bandwidth requirements.

Improved visibility and control in the cloud

Moving to the cloud can reduce or remove your visibility and control over your cloud-based applications. Deploying an SD-WAN solution in the cloud can provide the visibility and control you need to maximise the experience on critical applications.

Improved flexibility and agility

Making the move to more cloud-based controllers and/or a virtualised environment which uses Virtual Network Function technology opens the way to significantly automating your infrastructure. This can reduce the amount of physical hardware onsite and the amount of physical local updates, enabling simple, faster scaling, pop-up sites and instant automated changes.

Opening the door to a digital future

Digital transformation is changing the way banks operate. They're realising this through new cloud-based applications or an escalation in connected devices or the Internet of Things (IoT). SD-WAN plays a big part in enabling the deployment of these applications and devices by offering bandwidth and connection flexibility, as well as easy programmability.



IoT technology brings transformational potential to branches

- Better ATM device management such as real-time monitoring and tighter stock keeping of bank notes.
- New alarm systems with advanced detection for burglaries, robberies and fires.
- On premises environmental monitoring to maintain healthy conditions such as oxygen levels, temperature and humidity.
- HD cameras with back-end analytics to provide actionable insights on operational efficiency.
- Hospitality robots to autonomously assist customers and reduce the strain on staff.
- Improved accessibility services for disabled people.

How SD-WAN is answering the critical security question

Secure data transactions are a core tenet of banking and financial services, and every new technology advance in the sector has to answer the question of how it'll keep data safe.

Security concerns are high

Security has to be a priority when handling huge quantities of personal information, and compromised security can put customers' finances at risk and, ultimately, impact on the organisation's reputation. As a result, regulatory pressures on the sector are high. Only recently, the Bank of England raised concerns about banks migrating all of their administration and accounts online or completely over to a single cloud provider, fearing that it could put customers' financial stability at unnecessary risk. Before organisations can safely make the leap to any new technology, they need to make sure they can stay compliant and adequately protected.

Meeting the need for advanced security

Typically, the levels of security and privacy expected for banking and financial services organisations isn't offered as a standard feature by internet services. To fill this gap, organisations have had to buy in

additional security infrastructure, and this can be extremely costly and cumbersome because it requires a whole new set of defences to keep data travelling on the private network.

For this reason, few financial sector organisations made the mass move to remote and hybrid working in the way so many other industries have over the last couple of years. The sheer number of new endpoints introduced across the network from these new ways of working requires a lot more compliance consideration. And, trying to manage this increasing volume of access points with the traditional manual controls already in place is almost impossible.

SD-WAN uses SASE to answer the crucial question of security

SD-WAN is now a serious contender for banking and financial services organisations because of a new security approach, SASE, that combines SD-WAN and

cloud-native security tools to deliver protected network access to the source or 'edge' of each connection.

What is SASE?

Across the IT world, SASE has been a gamechanger for many organisations. Originally coined by Gartner in 2019, the term describes a new form of networking architecture that embeds security visibility and controls directly into the network, as an all-in-one solution. Since then, a range of SASE products have started to appear on the market which offer these embedded features. Now, we're seeing many of our customers, regardless of industry, start to move towards a more converged networking and security approach.



One of the key challenges in implementing SASE is the procurement cycle. Many financial organisations have to procure technology in two separate stages – perhaps, network one year and then security the next. To make a success of a SASE implementation, financial organisations need to better align their network and security strategies and their wider Zero Touch approach. Once aligned, this becomes a huge enabler for financial services to confidently adopt SD-WAN, knowing they can extend a consistent security policy to wherever their network needs to go.

By bringing remote access security, policy management, threat prevention and full content inspection into one place, you get accurate visibility and control of these elements from a single source and dashboard. And the value this brings to financial service organisations is a reduction in operational costs combined with the ability to diagnose and resolve network and security issues and problems much faster. It's no surprise then that 29% of banking and financial services organisations are already adopting this technology, with a further 55% set to follow in the next two years.

We're seeing the emergence of two key routes for SASE delivery in the market. The first is via a single-vendor ecosystem integrated with SD-WAN, and the other takes a broader approach, offering a blended multi-vendor hybrid stack solution that combines SD-WAN with cloud security.

At BT, we're putting SASE at the heart of our cloud security architecture strategy. We're bringing together our experience in network underlay and SD-WAN capabilities with both network and cloud-based security capabilities. We're using our digitally native orchestration platforms to make it possible for you to underpin and execute provisioning and change via a single policy, control and event data framework.

We're continually evolving our cloud security architecture so that it will meet your current and future needs. Through the convergence of our software-defined networking capabilities with cloud-native security functions like secure web gateways, cloud access security brokers, firewalls, and Zero Trust network access, you'll stay secure - however your business develops.

Working with us, you'll be able to migrate your existing brownfield architectures, tapping into our expertise in managing at volume and scale. Plus, you'll get an integrated solutions wrap and advisory expertise in identity management, cloud security, Zero Trust and mobile services – capabilities that we can support in new domains such as Carrier Neutral Facilities.

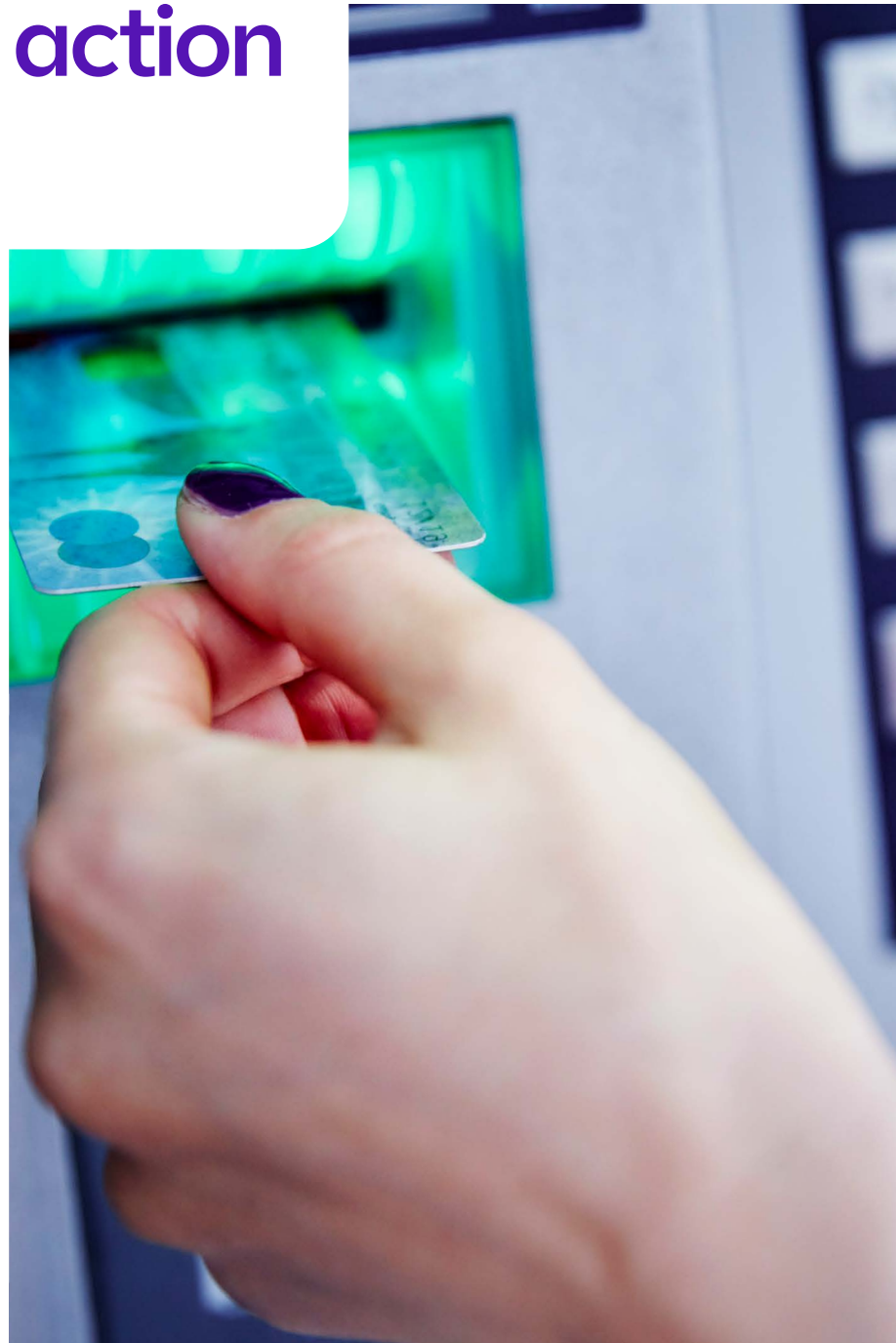


SD-WAN in action in banking

Widespread High Street bank branch closures have put banks under increasing pressure to make sure they're accessible to every customer, regardless of their needs. Since the pandemic has accelerated closures and increased the shift to online services, regulators have complained that rural communities, the elderly and the vulnerable are amongst those at risk of being left behind - even going as far as to try and prevent organisations from shutting down any more outlets.

Today's branches are using SD-WAN to evolve

In response, we're seeing interesting new commercial models emerging, including a pilot scheme for shared banking hubs in an attempt to cut costs and preserve access for all. SD-WAN enables branch technology and essential services to connect from anywhere, securely, and offers organisations the flexibility and agility to experiment with new models and strategies. In the future, we expect to see more evolution and innovation in the ways banks use SD-WAN to address these challenges.



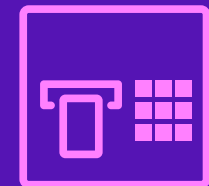
'Branch on wheels' – a case study

We recently helped to build and deploy a new mobile banking vehicle or 'branch on wheels', as part of a High Street bank's pledge to continue to provide face-to-face support for its customers, countrywide. Built into the back of a vehicle, it recreates the look and feel of a traditional High Street branch and offers the same facilities you'd expect.

With the help of our SD-WAN solution, we were able to deliver a reliable, stable connection wherever it needed to be, and support a range of IoT technology inside the vehicle.

As part of this service, customers could access:

- ATM machines
- meeting rooms
- teller windows
- promotional information and advice.



Making the new age of SD-WAN a reality

Banking and financial services are faced with an exciting range of transformational technologies at the moment, all of them packed with potential. What could hold them back is tackling each of their challenges individually, with no thought for how that solution or approach will impact on other elements of their operations. The true benefits of these established transformational technologies can only be delivered in combination.

At BT, we're woven into the fabric of the financial services community and have been for decades. We bring that deep experience together with our combined expertise in network infrastructure, cloud services and security to create and deliver the end-to-end experience financial services organisations need.

In the SD-WAN arena, we offer a choice of any of the market-leading technologies, combined with the managed services, network infrastructure and security that make those technologies work for your organisation. We can bring to life any approach to SD-WAN you choose.

To find out more, talk to your BT account manager about how we can help you securely realise the benefits of cloud through a move to SD-WAN.





Offices worldwide

The services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any part of any contract.

© British Telecommunications plc 2020. Registered office: One Braham, Braham Street, London, England E1 8EE. Registered in England No. 1800000.

November 2021