September 2021

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How to unleash Europe's competitiveness on the Cloud Continuum

Voices of Change

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Charting a course for Europe's competitiveness on the cloud

Early 2020 saw **European companies take a global lead in cloud migration**—moving workloads to the cloud in months rather than years as COVID-19 changed almost everything in our daily lives. Our research of almost 4,000 global executives found **nearly all European companies**[1] **are on the cloud today.** European companies have moved **four out of 10 workloads to the cloud** this past year, compared to three out of 10 in North American companies.

Their early lead notwithstanding, many European companies now **risk falling behind in extracting the full value of the cloud.** While focusing on cost competitiveness to keep their businesses financially secure, **many hold a limited view of cloud only as a cheaper, public data center** and not as a strategic enabler of digital capabilities. Others struggle to balance world-class cloud innovation while **navigating a complex regulatory landscape of data sovereignty and trust.** These factors weigh down organizations and create data silos that impede interoperability. At the current pace of investment, it will take European companies **three years to catch up with their US peers** when it comes to achieving bigger business goals with the cloud. And this **gap will widen if they don't step up investment** and leverage cloud in more significant ways.

Only **a small subset of European companies**—one out of 10—are using the cloud for more strategic business objectives. For them, cloud isn't just about on-demand compute, storage and network, as it was 10 years ago.

This subset of companies **recognizes cloud as a launchpad for innovating and offering new ways of operating that can position them for growth in the next three to five years.** They understand the cloud is a continuum of capabilities and opportunities which can be leveraged for global competitiveness, navigating uncertainty with agility, as well as deliver on sustainability by meeting and exceeding Europe's climate-neutral goals. We call these companies **Continuum Competitors.** They make choices from across the Cloud Continuum to create a seamless technology and capability foundation that best serves their needs—now and into the future.

This report follows on from our global report and explains how you can become a European Continuum Competitor.

Building Europe's competitiveness on the cloud

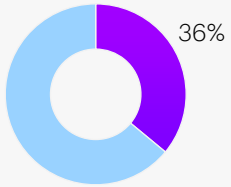
Europe is at an inflection point in its digital transformation with cloud. The pandemic has pushed European companies to rapidly embrace basic forms of cloud migration.

But a vast majority of these companies view cloud as mere shared, public data centers to host workloads only to reduce costs. As a result, they are not investing appropriately to use cloud as an operating model to achieve bigger business goals, such as sustainability and improved customer experience.

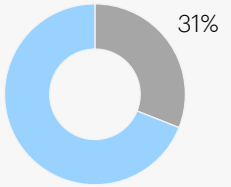
Europe is marginally ahead of the US on basic cloud adoption, buoyed by post-pandemic shifts

Early 2020 saw European companies take a global lead in compressed migration—moving their workloads to the cloud in months rather than years as the COVID-19 outbreak changed almost everything in our daily lives: from how and what we buy, to how and where we live and work, to how we interact with others. Compared to the US, Europe leads marginally in SaaS adoption and workloads on the cloud. However, it lags behind fast-growing China on both these fronts.

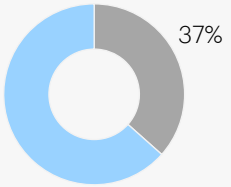
36% European workloads on the cloud already



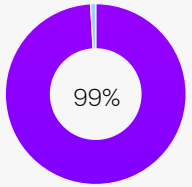
US: workloads on the cloud



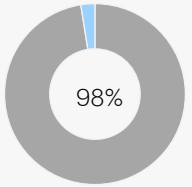
China: workloads on the cloud



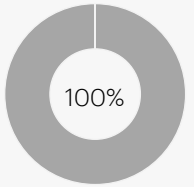
All European companies adopted at least basic cloud (SaaS)[1]



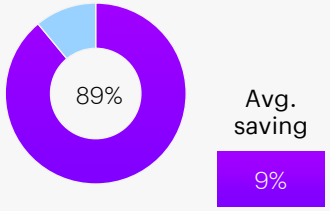
US: adoption of basic cloud (SaaS)



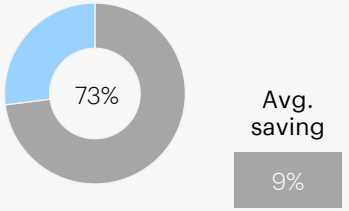
China: adoption of basic cloud (SaaS)



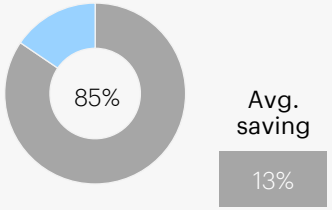
9 of 10 European companies getting cost savings from cloud



US: % getting cost savings from cloud

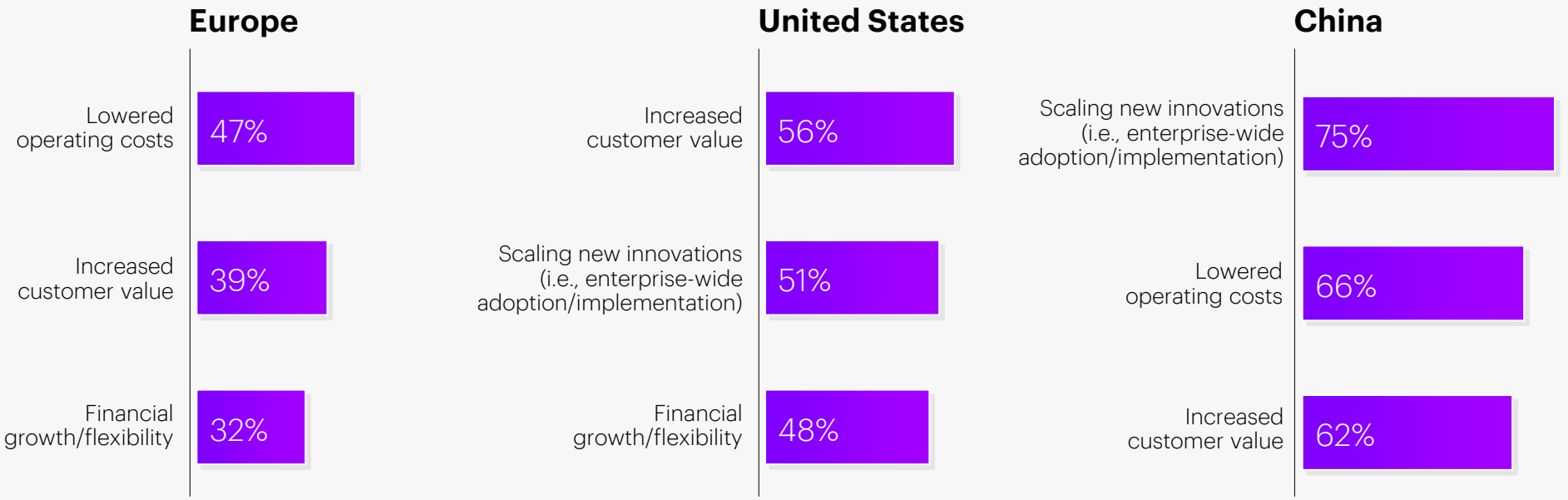


China: % getting cost savings from cloud



But European companies view cloud in limited ways – mostly for cost savings, and not for bigger business goals

Europe is the only region where lowering operating costs came out as the top priority for business leaders during the pandemic, compared to the US, where they chose to increase customer value, and China, where the focus was on faster time to market.

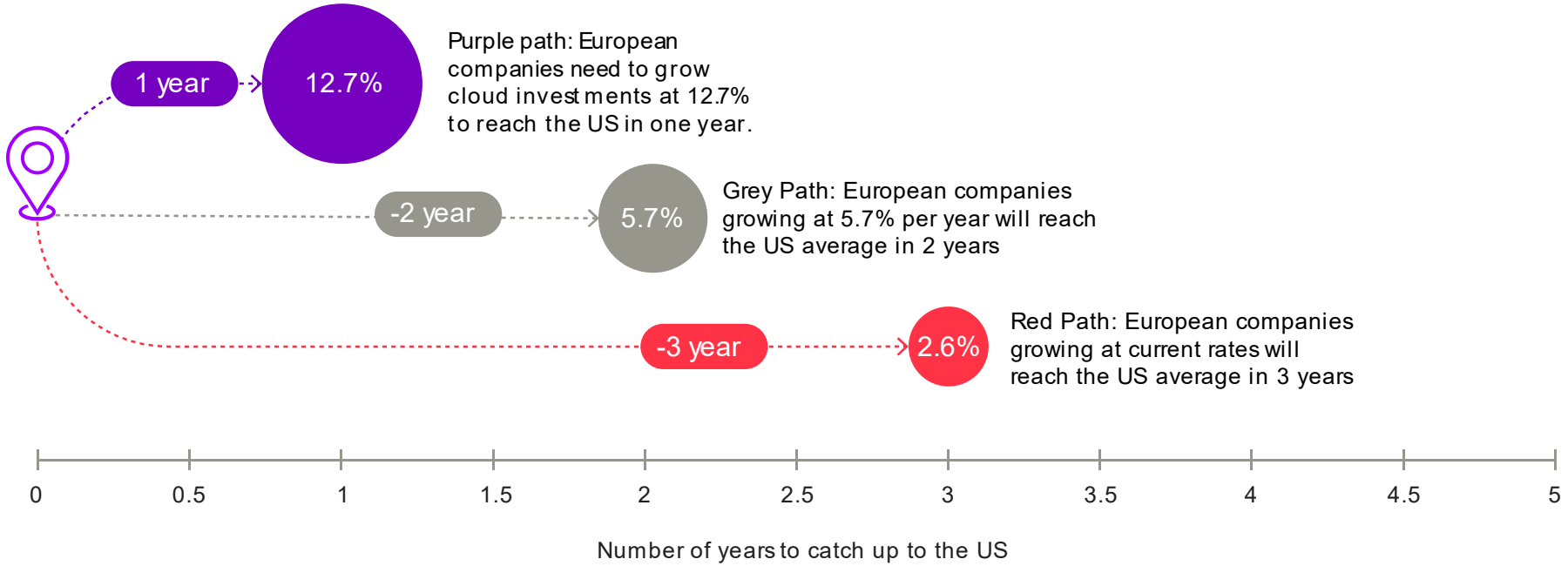


The gap in adoption is highly visible when looking at next-generation, value-creating technologies

Technology	Adoption GAP (Europe vs US)
Cloud SaaS/Software as a service (i.e., Salesforce Sales Cloud, Workday)	Europe 1% ahead
Cyber Threat Intelligence (CTI)/ Active Defense	Europe marginally ahead
Cloud IaaS/Infrastructure as a service (i.e., Amazon Web Services EC2, Azure IaaS)	Europe 15-25% behind
Big data analytics	Europe 15-25% behind
Internet of Things (IoT)	Europe 30-40% behind
Deep Learning	Europe 40-50% behind
Containers (i.e., Running on Docker, Microsoft containers)	Europe 40-50% behind

How long will it take Europe to catch up to the US average adoption rate?

At the current pace of investment, European companies would take three years on average to catch up with their peers in the US when it comes to adopting cloud for advanced technologies that support business growth (red path below). Those include leveraging cloud to achieve ambitious goals, such as sustainability and improved customer experience. If they grow IT investments annually at 12.7%, or 3x their current levels, they can catch up to global peers in one year (purple path below).

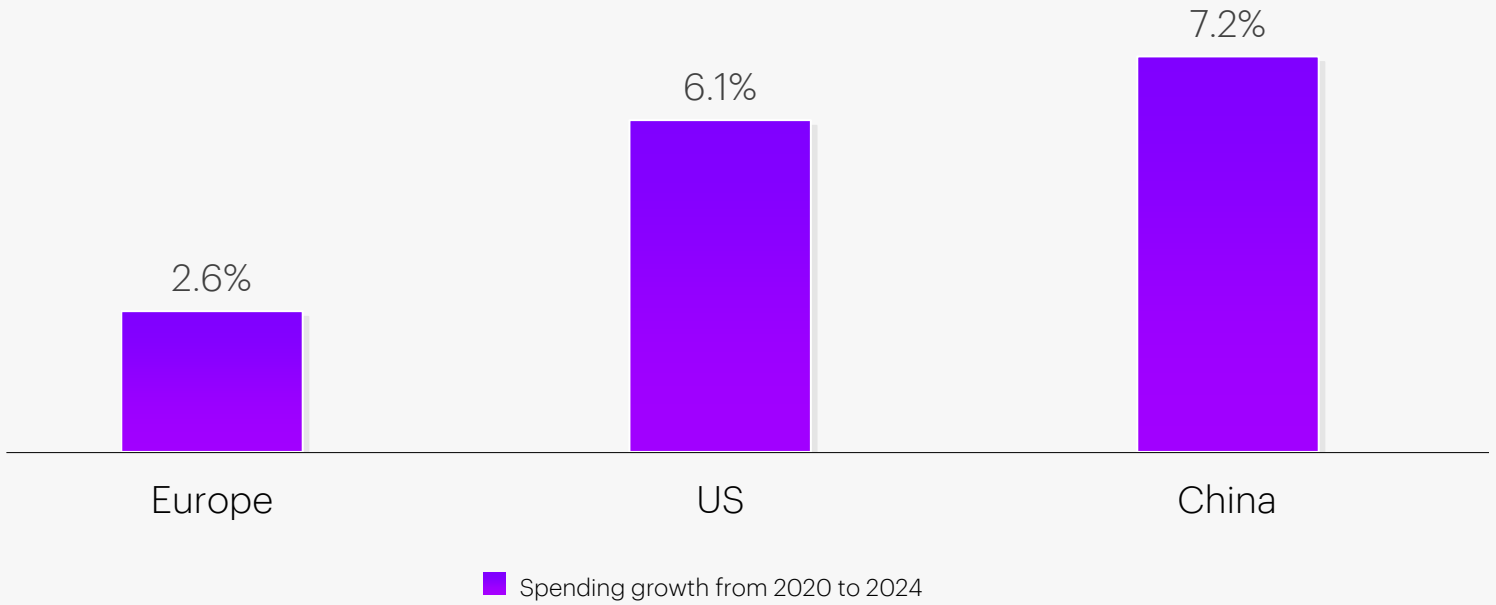


Note 1: Size of bubble measures the average % growth in cloud spending per year.

Note 2: This graph illustrates the time it will take for an average European company to reach where an average US company is today. It accounts for organic adoption of technologies only, without externalities.

Europe's limited view of cloud, however, is holding back appropriate levels of investment needed to advance on it

Compared to global peers, European companies are investing less in cloud. In the US and China, companies expect to grow investments between 5 to 8% in cloud between 2020 and 2024. In stark contrast, European business leaders say they will grow investments less than 3%.



Operational complexities slow Europe's cloud advancement

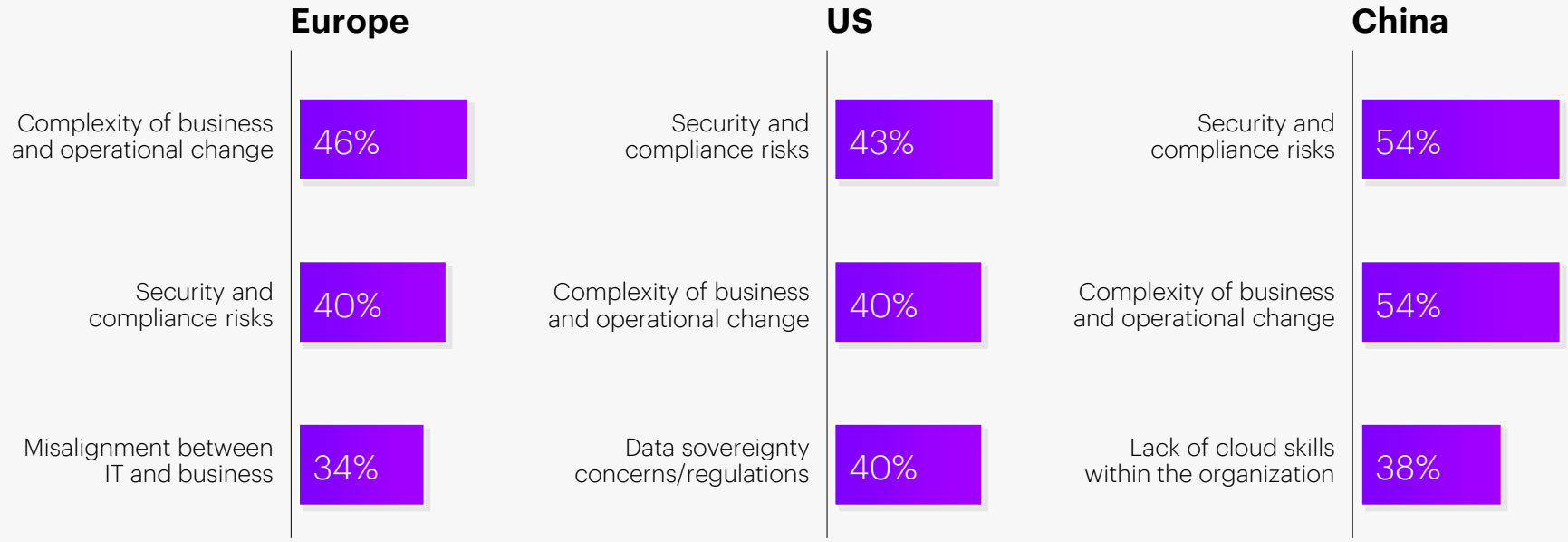
Coupled with their cost-centric view of cloud are real-world issues of complex operational and business changes that are obstructing European companies from embracing cloud in more significant ways.

Our research found 100% adoption of SaaS among the 1,000+ European respondents.

A vast majority, however, lag their global peers in adoption of sophisticated cloud models like PaaS (65% of North America) or technologies like AI (45% of North America).

Complexity of business and operational change, security and compliance risks, and misalignment between IT and business are top reasons for their lag.

Top pain points



Europe's unique pain points in cloud operations

European executives reported two primary drivers of operational complexity that prevent them from advancing on cloud. These are:

Fragmentation and data sovereignty: The European Union itself has 27 countries and 24 languages, with their own local jurisdictions and regulations. Europe is even larger with non-EU countries such as UK, Norway, etc. Organizations that operate across European countries need to adhere to all local regulation, while catering to customers in different languages.

Data trust: It's important, not just in Europe. Our global survey of 25K consumers found that over half feel that they are losing control over their data.

Historically, public sensitivity and increased concerns around processing of personal data in Europe over privacy has been a key force driving change in European business environments. This has contributed to the creation of world-leading data standards such as GDPR, sector specific regulations and an increased scrutiny on data location and processing. Data sovereignty is the latest layer of complexity. Given that many data and cloud providers are global, there is an increasing interest among European governments to ensure global players take extra steps to guarantee that personal data of its citizens is strongly protected.

About 50% of European CXOs consider data sovereignty the most important issue, or one of the most important issues, while selecting cloud vendors.

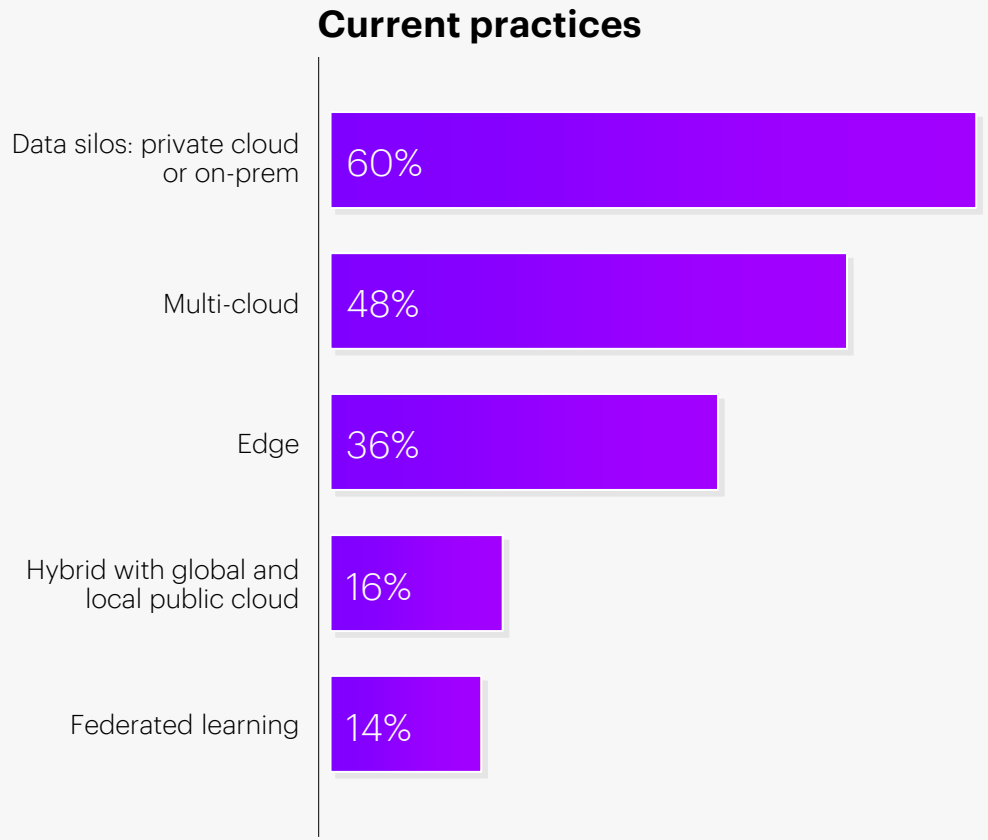
Data silos and issues of interoperability

Many European companies fall back on data silos as an easy way to comply with data sovereignty and instill trust among stakeholders.

However, data silos impede interoperability among systems and can prevent organizations from unlocking the full potential of their cloud and investments. In fact, six out of 10 European companies resort to creating data silos for sensitive data. These silos, which may seem unavoidable, can impede the development of robust data supply chains necessary to fuel innovation and value maximization.

In our Future Systems analysis, we found that one of the reasons technology leaders succeed in outpacing laggards is their focus on systematically connecting silos and enabling boundary-spanning innovation. In fact, European leaders target 2x more business processes with technologies they adopt than laggards. As a result, their systems allow for a seamless flow of product and service innovations from one process to another.

European companies are opting for data silos as a way around data sovereignty and regulatory fragmentation, and that's affecting their interoperability and impeding growth.



The way forward

The Cloud Continuum

A subset of overachievers–one in 10–
in Europe show the way forward.
These companies see the cloud as a continuum of capabilities and opportunities that can make them globally competitive and locally responsible–by achieving financial goals while meeting or exceeding Europe's climate-neutral targets.

They are using cloud not as a destination, but as a critical enabler of advanced digital capabilities.

Continuum Competitors

European companies could reduce their cloud lag compared to US companies **by a whole year** on average if they adopt cloud technologies at the rate of Continuum Competitors.

For these companies, cloud isn't just about on-demand compute, storage and network, as it was 10 years ago. Even five years ago, cloud mostly involved choosing public shared data centers.

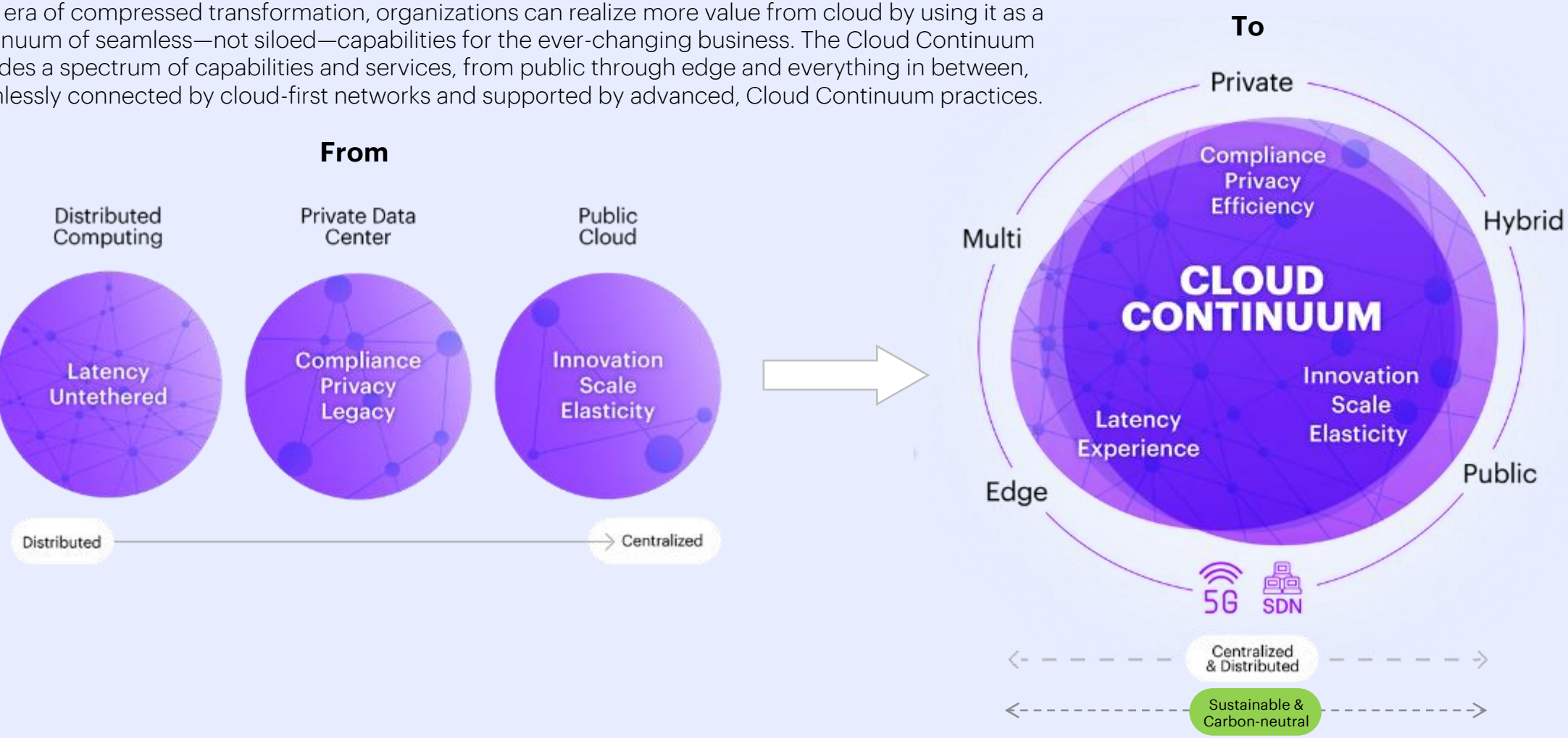
Today, the Cloud Continuum spans different types of ownership and location (from public/private/hybrid, co-location, edge, etc.), all dynamically supported by next-generation connectivity, such as 5G and software-defined networks. These companies make choices from across the Cloud Continuum to create a seamless technology and capability foundation that best serves their business needs—now and into the future.

We call them **European Continuum Competitors** because they are using the cloud not just as a single, static destination, but as a future operating model.

Continuum Competitors are transforming how they interact with customers, partners and employees, make and market their products and services, and build and operate their IT systems. And they're reimagining the role of data and compute. **Critically, this approach allows them to outpace their peers on many fronts.**

Cloud and innovation with the Cloud Continuum

In an era of compressed transformation, organizations can realize more value from cloud by using it as a continuum of seamless—not siloed—capabilities for the ever-changing business. The Cloud Continuum includes a spectrum of capabilities and services, from public through edge and everything in between, seamlessly connected by cloud-first networks and supported by advanced, Cloud Continuum practices.

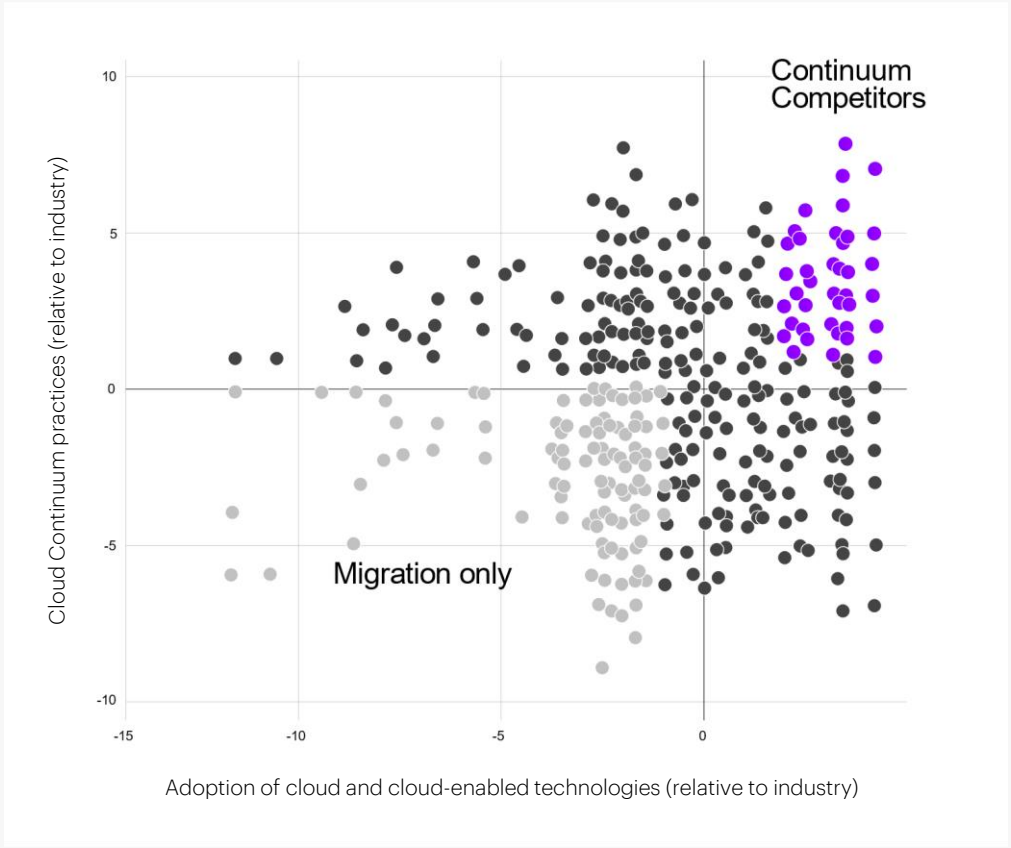


European Continuum Competitors forge ahead

Our research clearly shows that Continuum Competitors represent a minority of businesses today, despite the number of years that cloud has been around. Globally, including in Europe, **Continuum Competitors (purple dots in figure to the right)** distinguish themselves from their peers, both beginners on the continuum (grey dots) and those still on migration (light grey dots), by getting two things right: **choosing the right type of cloud and complementary technologies and implementing advanced practices to leverage those technologies.** These enable them to quickly adapt to changes by capturing feedback on products and services on an ongoing basis.

Continuum Competitors in Europe are:

- Achieving **three times more in cost reduction** than migration-only players
- More than **three times more likely to humanize work:** re-engineer how they work to make jobs more interesting, or how knowledge work is performed
- **2x more likely to use cloud to reduce their impact on the environment** by using more efficient servers and less power to achieve the same task
- Achieving **2x higher reduction in their carbon footprint** with the cloud, of about 15% on an average

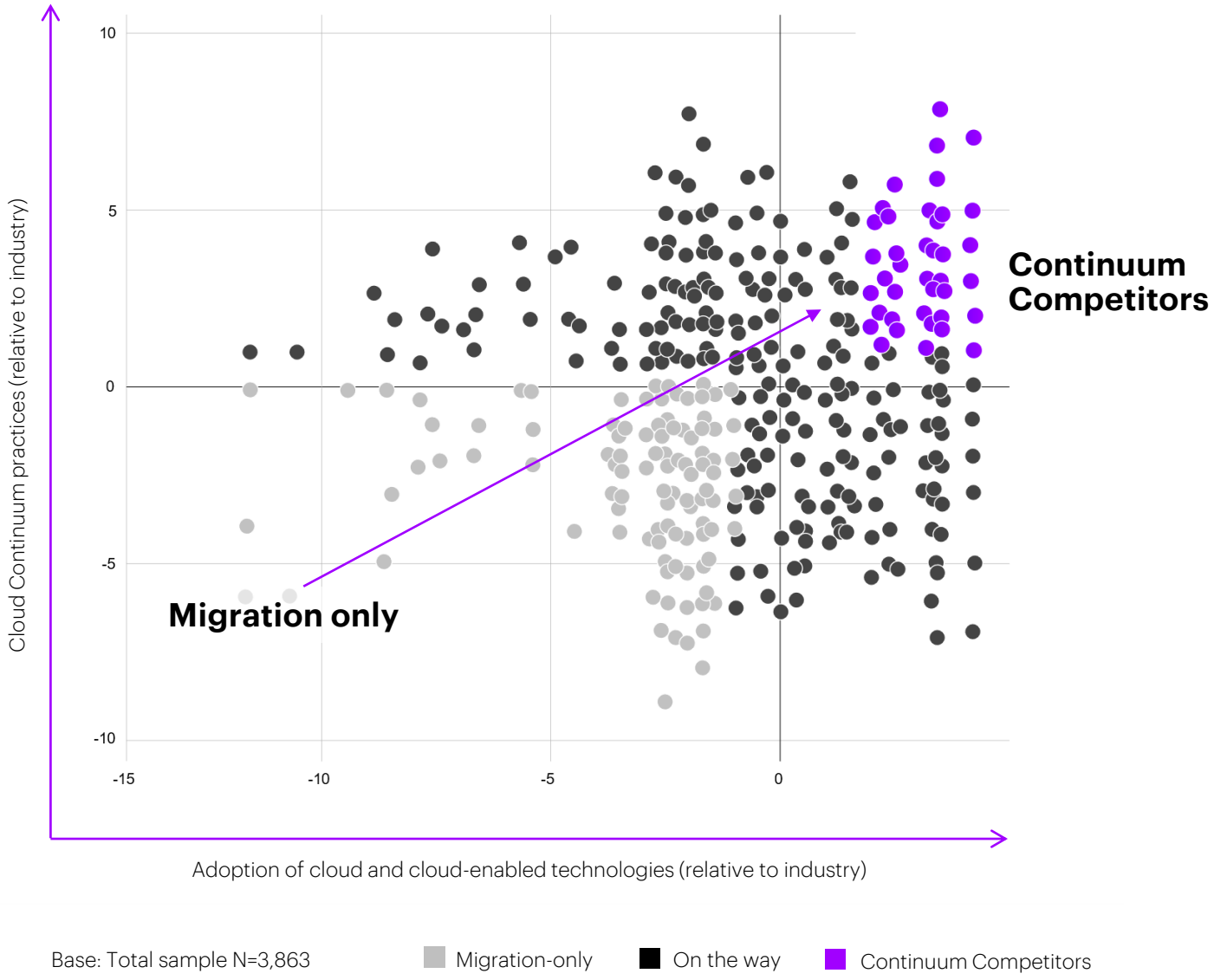


Globally, Continuum Competitors secure their advantageous position in two ways

First, they choose the right types of cloud and cloud-based services.

Second, they implement advanced practices to leverage those technologies.

Similar to global Continuum Competitors, European Continuum Competitors adopt up to 80% more cloud technologies by following at least 4-5 out of 6 Cloud Continuum practices. For a description of the technologies and practices surveyed, see the appendix.



Base: Total sample N=3,863

Migration-only | On the way | Continuum Competitors

25 technologies

enabled by the Cloud Continuum

A spectrum of capabilities and services from public through edge and everything in between

Cloud

- Cloud SaaS
- Cloud IaaS
- Cloud PaaS
- Hybrid Cloud (mixed computing, storage and services environment made up of on-premises infrastructure, private cloud services and a public cloud)
- Serverless Computing
- Cloud-Native Applications
- Containers
- Microservice Architectures
- Multi-cloud

Real-time Data Capture and Analysis

- Data Lakes (Data Repository)
- Streaming/Real-Time Data
- Big Data Analytics

AI and Automation

- Deep Learning
- Physical Robots
- Vision Systems
- Natural Language Systems
- Tiny ML
- Federated Learning
- RPA (Robotic Process Automation)

Security

- Cyber Threat Intelligence (CTI)/Active Defense
- Endpoint Detection and Response
- SIEM (Security Information and Event Management)
- Trust-based Architectures

Internet of Things

- Internet of Things (IoT)
- Edge/Fog Computing

Six practices

for the Cloud Continuum

Advanced cloud practices that support permanent reinvention

Feed-it-forward Agility:
Speed time to future markets, again and again

Continuous Goals:
Alignment is continuous, not episodic

Cloud-first Apps:
Cloud is the developers' default

Talent Transformation:
Compress transformation continuously

IT Experimentation:
Unremittingly upgrade experiences

Scale Awareness:
Predict the power requirements for a new generation of cloud-AI services

In-depth: Schneider Electric switches the innovation on

Schneider Electric, the French multinational company that is a global specialist in energy management and automation, is a Continuum Competitor. Schneider's journey to the cloud began with the first step–the adoption of a SaaS solution–in 2010. At that time the stated goal was to acquire a new customer relationship management (CRM) solution and replace multiple vendors with a single solution shared by all employees. "Before Salesforce, we had maybe a hundred different systems with little silos of customer data. Now, it's one transversal customer platform," said CIO Hervé Coureil. Initially, the goal was simply to give its global sales teams a 360-degree view of each of their customers and help teams collaborate across disciplines and geography. **But quickly, the company realized that cloud could be so much more**–it could provide a secure, trusted platform for all customer data and provide access to a growing array of tools to leverage that data. Today, the company has more than 43,000 Salesforce users around the world and 400,000 partners working together through Community Cloud.

Fast-forward to 2016: Schneider Electric was racing ahead on the Cloud Continuum–and it was **time for a role reversal from consumer to creator.** Schneider Electric launched its own IoT cloud platform (developed with partners Microsoft, Intel and others) in 2016 called EcoStruxure™ to deliver IoT-enabled solutions at scale for building, grid, industry and data-center customers. EcoStruxure offers innovation at multiple levels from connected products to edge control, apps, analytics
and services.

Using the Continuum, **Schneider Electric is expanding to other industries with unique use cases.** For example, when it saw an opportunity to help healthcare customers with industry challenges, the company partnered with ThoughtWire to deliver an end-to-end solution for facilities and clinical operations management in healthcare settings.

The joint Digital Hospital solution uses IoT technology and Microsoft Azure cloud services to help hospitals and clinics reduce costs, minimize their carbon footprint, promote better patient experiences and outcomes, and increase staff satisfaction.

As a company that cares deeply about sustainability, **Schneider Electric is also funding and crowdsourcing innovative technology solutions to increase efficiency and lower emissions.**

In-depth: IKEA makes a better way

Take IKEA, founded in Sweden and a name synonymous with ready-to-assemble furniture globally. Responding to the pandemic-fueled online shopping frenzy, Barbara Martin Coppola, Chief Digital Officer, Ikea Retail, said, “Imagine having orders through ecommerce that correspond to a Black Friday every single day. We have more than double the [ecommerce] volume in a very short time.” Thankfully, **IKEA had started laying the groundwork for its own digital transformation efforts several years ago,** with the help of the Google Cloud team. **Firmly a Continuum Competitor,** IKEA was able to instantly transform its technology infrastructure, convert closed stores into fulfillment centers and enable contactless ‘Click & Collect’ services whilst increasing the capacity to manage large web traffic volumes and online orders. By using Google Cloud, among other key serverless technologies, they achieved within weeks and days things that would normally take years or months.

Going forward, the company has a permanent commitment to reinvention using the cloud. “Thanks to cloud, we’re able to have a real data analytics and AI revolution. This is only possible through cloud [because it’s] just not possible, capacity and computing-wise [with on-premise]. That has been a very important evolution into starting to embed algorithms across everything we do,” said Coppola.

Four keys to unlocking Europe's Cloud Continuum success

Investment strategy, architecture, practices, innovative experiences: 4 keys to Europe's cloud success

So, what will propel European companies to advance beyond mere migration? Some steps toward becoming a Continuum Competitor are obvious, others less so. Before you get started, however, the first step is to understand the nature of the Cloud Continuum: Speed and change are its fundamental facets. Agile practices that can harness the continual improvements and expansion of cloud capabilities are crucial.

01

Build a strategy backed by business cases to step-up investment

To demonstrate that benefits outweigh costs, business executives need to quantify long-term benefits as well as intangible benefits of cloud, while underscoring the role of cloud in a company's overall business transformation, including workforce and operational transformation. Cases must establish cloud's innovative capabilities to create new products and services for future revenue streams. The business case for investment needs to be founded on the strategy to accelerate value.

02

Architect for unique preferences with balance, trust & control

For any cloud solution to work given Europe's regulatory landscape and business environment, it must be a three-legged stool comprising balance, control and trust. Mix and match a variety of clouds to achieve balance, actively control where data resides and is processed with technology, and hold your cloud providers to the same level of trust standards that your customers expect of you.

03

Establish cloud practices to support and augment your technologies

In a world where roughly one-third of workloads are in the cloud, migrating and sitting back to enjoy the ride is not a winning strategy. The key is to couple technology adoption with practices that bring discipline and help bring your non-technology areas up to speed. Agility is critical to being a Continuum Competitor. After agility, there are five other top practices detailed in this report that a company must embrace to successfully expand on the Cloud Continuum.

04

Accelerate innovation to deliver exceptional experiences

Continuum Competitors use a combination of human-centered design and cloud-based technologies to rethink experience and disseminate throughout the entire organization, including products and services, employee experience and delivery models. To them, experience-obsessed reimagination of their business is a competitive differentiator, enabled only by the Cloud Continuum.

01

Build a strategy backed by business cases to step-up investment

01 **Any successful business case must establish three things about cloud: benefits outweigh costs, brings business transformation, innovates new products/services**

Most European companies understand that cloud is a competitive necessity and are migrating workloads with a "lift and shift" mindset. Their challenge lies in recognizing the enormous capabilities of cloud today–and to view it is an enabler of advanced digital technologies that are critical to achieve ambitious business goals such as sustainability, exceptional user experience and highly efficient value chains.

A business strategy that goes beyond cost savings and is backed up by strong business cases that consider long- and short-term outcomes will help business leaders better understand and make informed decisions about investing into advanced cloud projects. Business cases must include digital and innovation outcomes, but also illustrate the role of cloud in workforce and business transformation, and its ability to create new products and services that are sustainable.

Three essential facets of a cloud business case in Europe

Carlsberg brews up future growth

Tech companies aren't the only ones accelerating and innovating through the cloud. Danish brewer Carlsberg's Sail '22 project—a strategy to cut operational costs by one-third and invest those savings in future growth—illustrates how to advance on the Continuum, with clear priorities, unwavering commitment to migration and heavy involvement of top leaders.

Carlsberg was struggling to grow amid rising costs and evolving tastes. Consumers were shifting consumption from beer to wine, spirits and craft beers—or moving away from alcoholic beverages altogether. Leaders recognized Carlsberg would need to transform into a digital business enabled by the cloud to deal with disruption and position the company for future growth. Launched in 2016, Sail '22 prompted Carlsberg to transition 100% of its global process workloads to the cloud, choosing Microsoft Azure as a partner.

Many organizations may not have the appetite for ambitious visions or the scale and scope of resources as Carlsberg. But they do set goals that can be achieved by leveraging the Continuum.

Launched in 2016, Sail '22 prompted Carlsberg to transition 100% of its global process workloads to the cloud.

In-depth: Carlsberg recognized and invested in cloud's innovative capabilities for payoffs

Danish brewer Carlsberg's Sail '22 project—a strategy to cut operational costs by one-third and invest those savings in future growth—illustrates how to advance on the continuum, with clear priorities, unwavering commitment to migration and heavy involvement of top leaders.

"With cloud, our network capacity is 10 times what it was, which means our users experience much less latency," says Carlsberg CIO Sarah Haywood.

"The use of self-service and bots, which respond to natural-language questions, is far beyond what we had before.

All this means our people get to focus their brainpower on those things that make a difference for our customers and consumers. And that is closing the gap between our technology and our business."

02

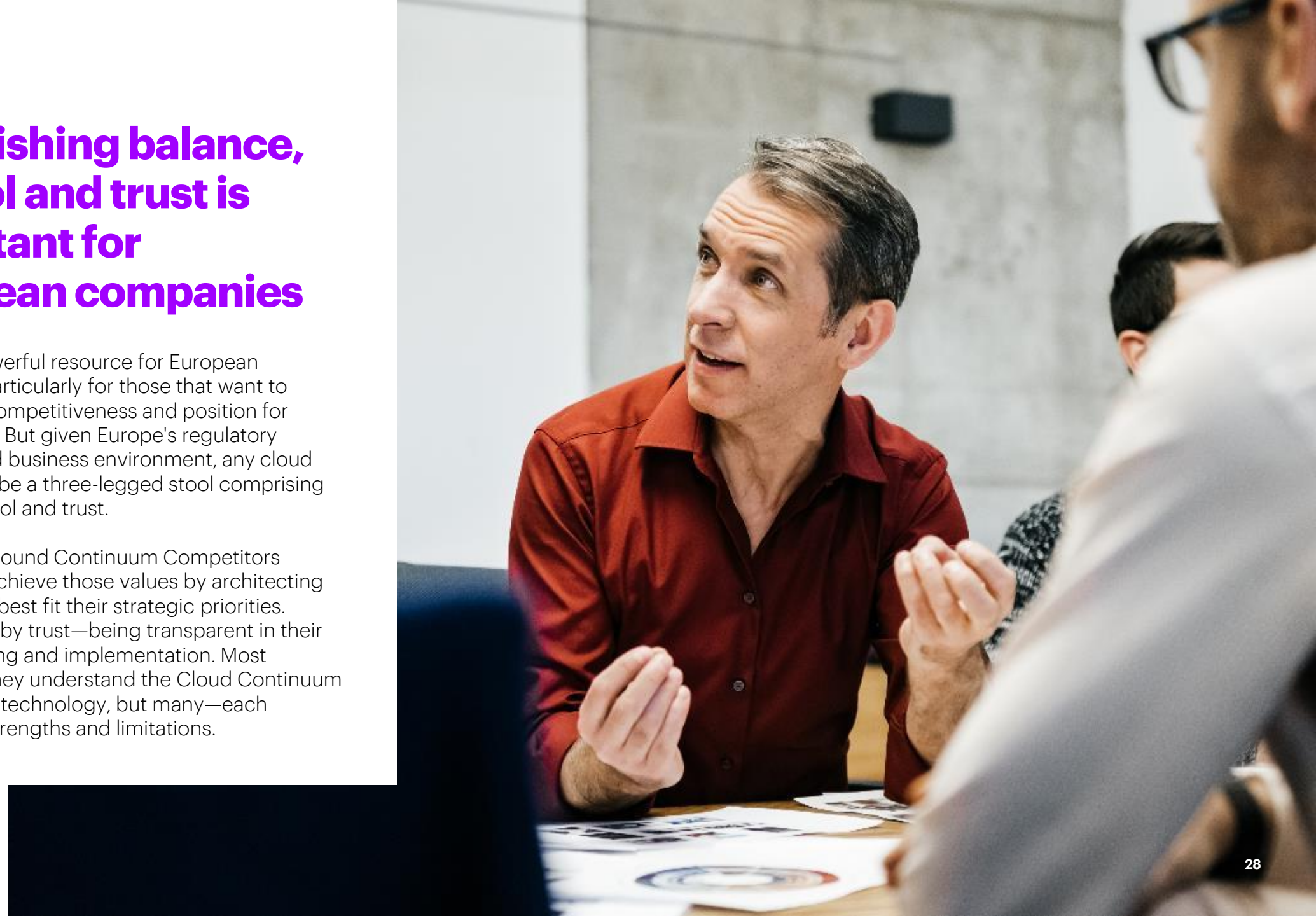
Architect for unique preferences with balance, trust & control

02

Establishing balance, control and trust is important for European companies

Cloud is a powerful resource for European companies, particularly for those that want to bolster their competitiveness and position for future growth. But given Europe's regulatory landscape and business environment, any cloud solution must be a three-legged stool comprising balance, control and trust.

Our research found Continuum Competitors successfully achieve those values by architecting solutions that best fit their strategic priorities. And they lead by trust—being transparent in their decision making and implementation. Most importantly, they understand the Cloud Continuum is not just one technology, but many—each with its own strengths and limitations.



02 Build an architecture of balance, exert control and lead with trust

Table 1: Key Principles when selecting cloud vendors in Europe

After a clear business strategy and business case comes the actual selection of technology itself. For any cloud solution to work given Europe's regulatory landscape and business environment, it must be a three-legged stool comprising balance, control and trust.

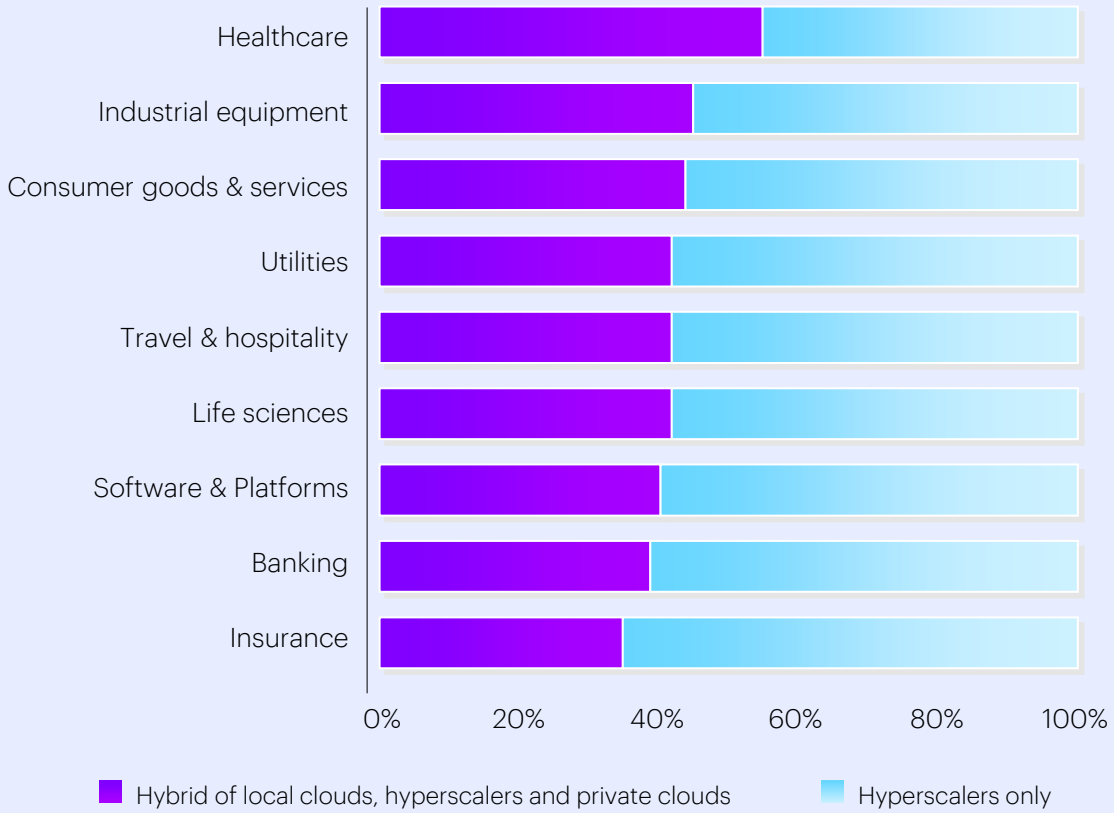
Principles	Description	Current situation	Future
Balance	Combine private cloud, multi-cloud and public cloud models from global and local vendors to create your unique fit-for-purpose solution. Leverage global-local cloud partnerships to ensure interoperability and innovation.	More than 40% of European companies mix global and local clouds today, which rises to about 60% in industries like healthcare.	Fuelled by demand, more global and local cloud partnerships will emerge (i.e., Google OVH). European players gain scale and innovation; global players gain trust and access.
Control	Leverage technologies such as edge computing and federated learning to create privacy-preserving architectures that never allow sensitive data to leave the local device.	Up to a third of European companies already invest in emerging technologies such as privacy-preserving architectures with edge computing (36%) and federated learning (16%).	Between 30-35% more European companies are planning to invest in these technologies to maintain digital sovereignty and customer trust in their journey to cloud.
Trust	Hold your cloud providers to trust frameworks. Ask how they go above and beyond the letter of the law to ensure ethical use and retention of data within Europe.	Global hyperscalers are opening more data centers in Europe, pledging to ensure that customer data never leaves Europe and challenging law enforcement requests to disclose only the bare minimum where required.	Already 1 in 2 CXOs say that trust and sovereignty are among their top concerns when choosing cloud providers. Trust and sovereignty will become a fundamental criteria in adoption in the future.

2.1 **Balance:** Find the right balance of public, private, local and global vendors for your industry and unique circumstances

To use the Continuum effectively, European companies must first draw up a strategy that clarifies their business vision, accounts for their unique vulnerabilities and classifies their own capabilities–both current and in the future. Their strategy must be underpinned by the three values of balance, control and trust.

The **Continuum offers a variety of data storage and processing options that combines private cloud, multi-cloud and public cloud from global hyperscalers and local vendors that companies can use to create their own fit-for-purpose solutions.** Done well, this can lead to an effective balance and help set a standard. If not, it can lead to data silos.

Types of cloud used to store/process data and get access to AI



In-depth: Siemens' smarter manufacturing with multi-cloud

The German multinational Siemens entered a strategic collaboration with Amazon Web Services in 2012 and followed up with a series of other investments, resulting in the development of MindSphere in 2017. **MindSphere is a cloud-based operating system built on native AWS technologies.** It can process data in real time from thousands or even millions of devices and sensors in plants, systems, machinery and products dispersed throughout production processes and supply chains. All this is possible due to an architecture where edge and cloud computing are working seamlessly to deliver this business outcome. MindSphere was deployed that same year at Siemens's own factory in Monterrey, Mexico, which manufactures more than 28 million circuit breakers and switches every year for the US market. The factory was finding it difficult to monitor the overall efficiency of equipment, including unplanned downtimes and uneven quality of production. By connecting the factory to the cloud, workers were able to view problems, such as a malfunctioning machine, in realtime and make immediate improvements. By 2018, **Siemens made MindSphere available on Microsoft Azure**, which enabled a bigger base of customers to achieve quick time-to-value and scale across the enterprise. In 2019, **Siemens announced a new agreement with Google Cloud** to optimize factory processes and improve productivity on the shop floor. By combining Google Cloud's data cloud and AI/machine learning capabilities with Siemens' Digital Industries Factory Automation portfolio, manufacturers can visually inspect products or predict wear-and-tear of machines on the assembly line. Another solution from its Digital Enterprise Portfolio, Industrial Edge, allows manufacturers to collect local data from IoT devices, which can be preprocessed and sent to the cloud in small packages.

All of this saves both time and money, as central management of edge devices and apps reduces deployment and maintenance expenditures.

Today, Siemens' multi-cloud strategy allows it to offer a range of cloud-based solutions to customers in many other industries, including healthcare and infrastructure, to bring greater efficiency and cost savings from their machines and processes.

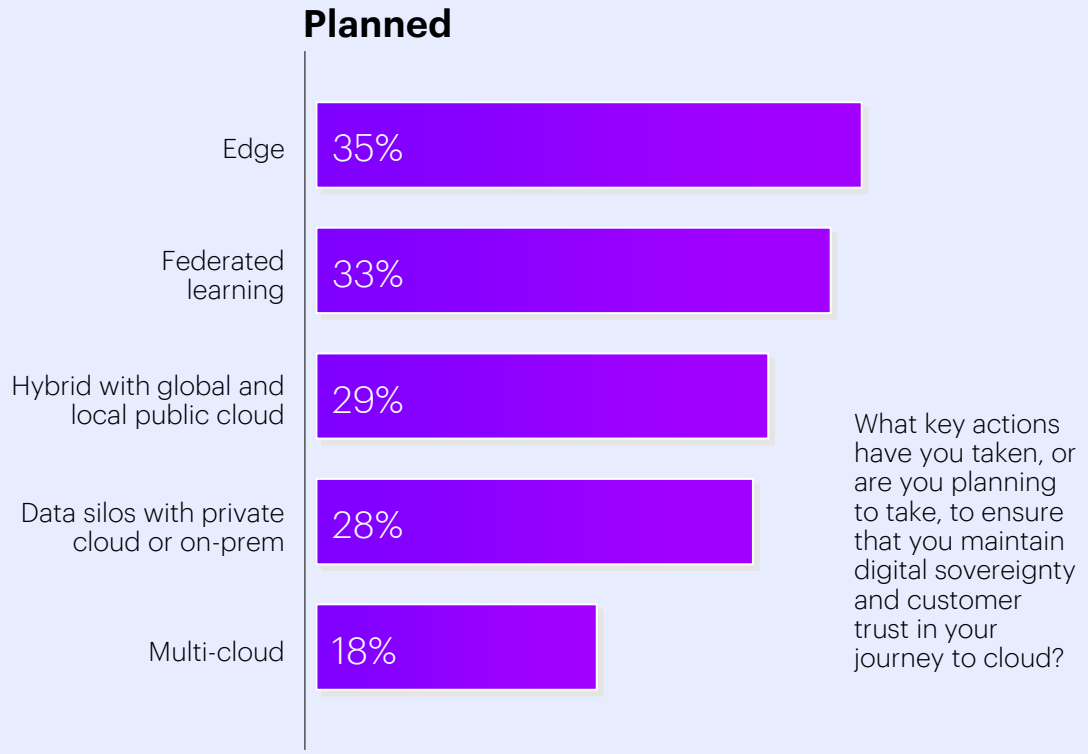
2.2 Control: Activate local privacy-preserving architectures

For greater control of data, companies can leverage edge networks to create **privacy-preserving architectures** that never allow sensitive data to leave the local device.

Half of European companies believe edge networks with privacy-preserving architectures will help enforce stronger standards of data sovereignty and trust. Life sciences, insurance and software & platforms sectors have above average interest in the use of edge for privacy**. And 90% of Continuum Competitors use or plan to use edge to comply with sovereignty.**

How might European CXOs leverage edge computing? Using the inherent strengths of edge and investing in 5G can allow for **more localized control over data.** Techniques such as **federated learning**–which allow algorithms to be trained across multiple local data pools without having to move data–can help AI to learn from use cases while protecting the privacy of users.

More than a third of companies in Europe are planning to invest in edge and federated learning



In-depth: Vodafone and AWS connect on the edge in Europe

UK's Vodafone has partnered with Amazon Web Services (AWS) to launch multi-access edge compute services delivered with AWS Wavelength–Amazon's offering for mobile edge computing applications.

The process of deploying multi-access edge (MEC) infrastructure can also be known as moving services "closer to the edge of the network." AWS Wavelength brings AWS compute and storage services to the edge of Vodafone's network, enabling applications that require increased speeds, massive bandwidth and ultra-low latency, such as industrial automation, video analytics and machine learning inference (artificial intelligence) at the edge and interactive live video streaming.

Hosting applications closer to the end user means that data does not have to cross the internet to be processed in locations around the world. This approach means that lag, known as latency, can be almost eradicated, as data is both captured and processed closer to the end-user device, offering much faster response times and a much-improved experience.

With distributed edge computing, partners such, as Keyless can deliver biometric solutions that provide ultra-fast digital authentication **without moving personal data to the cloud.**

Keyless is a privacy-first biometric authentication solution that makes the authentication processes for digital payments faster and safer for any user on any device.

Along with edge, Vodafone is also powering data centers and European operations 100% with renewable electricity sources from 2021, four years ahead of target. "This is a major milestone towards our goal of reducing our own global carbon emissions to net zero by 2030, helping our customers reduce their own environmental footprint and continuing to build an inclusive and sustainable digital society in all of our markets," said Nick Read, CEO, Vodafone Group.

2.3 Trust: Hold your cloud providers to trust frameworks

Our research found Continuum Competitors stay true to European values by activating parts of the Continuum that best fit their strategic priorities. And they are much more open to joining new initiatives that can help them serve national interests while bringing in innovation.

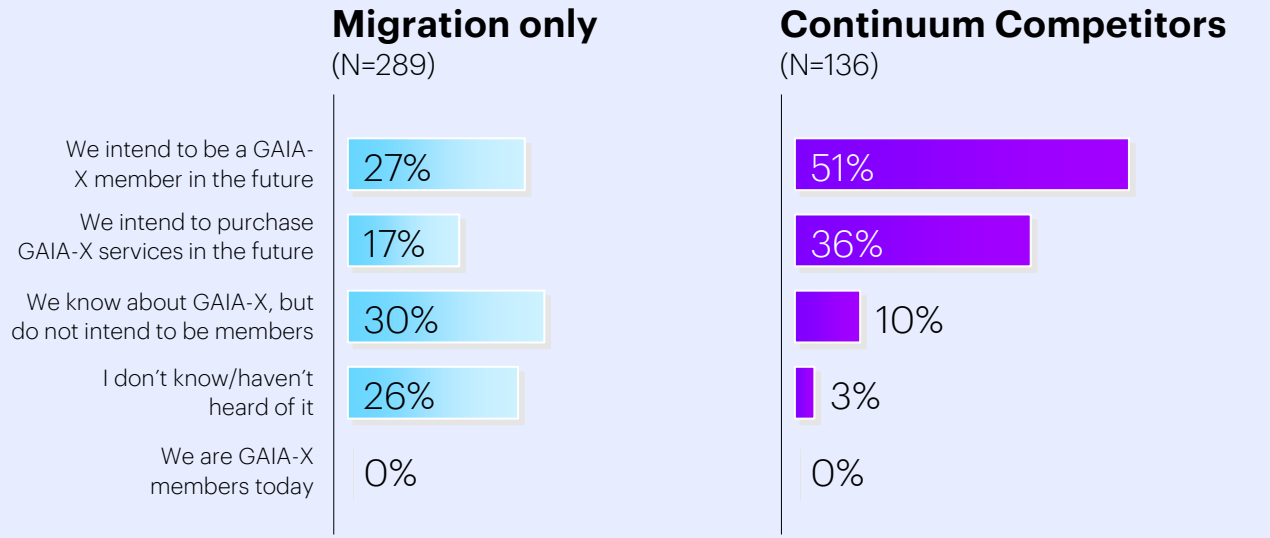
Most importantly, they understand the Cloud Continuum is not just one technology, but many—each with its own strengths and limitations.

Some of them adopt the hybrid cloud with some core systems operating in a private cloud environment, but with AI, ML and natural language processing leveraged across multiple public clouds for improved user experience. Some others leverage edge computing on 5G networks to reduce manufacturing defects at remote factories.

81% of European Continuum Competitors believe they are well prepared for future tighter regulations around data residency and sovereignty requirements and will be compliant very quickly. Only 42% laggards believe so.

87% of European Continuum Competitors intend to be members or purchase services aligned to emerging initiatives such as GAIA-X.

Europe



What is your level of involvement with the program "GAIA- X", a project to create a European federated and secure data infrastructure system embedding EU common requirements?

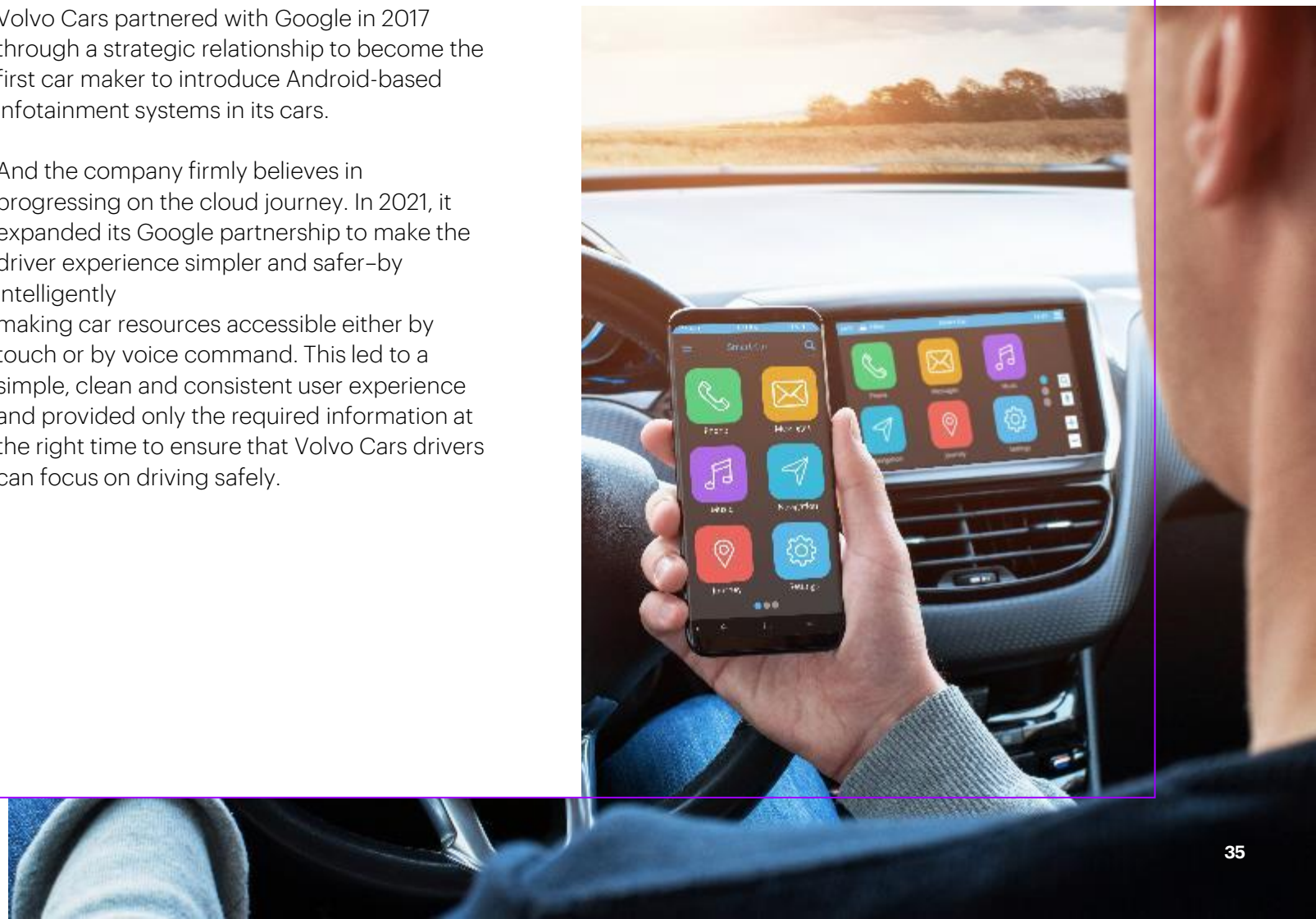
In-depth: Volvo Cars drives trust in the digital world

The Swedish automotive company Volvo is synonymous with safety globally. In 2012, Volvo Cars and Ericsson partnered to create connected vehicles aimed at safety, efficiency and better entertainment–mirroring its physical world commitments in the digital world. In 2021, it won the most votes in a public trust poll of autonomous vehicles.

The partnership focused on combining Volvo Cars' driver behavior expertise and Ericsson's consulting and systems integration know-how to launch cloud-enabled connected car services across Volvo Cars' product portfolio. These include a unique park & pay solution, Connected Service Booking and infotainment applications. It is operated as a managed service of a global, cloud-based solution with regional and central nodes. These nodes enable localized provision and communication of services and information to the cars. All in all, the cloud offers great flexibility to adjust capacity and local presence of content-based, end-user demands.

Volvo Cars partnered with Google in 2017 through a strategic relationship to become the first car maker to introduce Android-based infotainment systems in its cars.

And the company firmly believes in progressing on the cloud journey. In 2021, it expanded its Google partnership to make the driver experience simpler and safer–by intelligently
making car resources accessible either by touch or by voice command. This led to a simple, clean and consistent user experience and provided only the required information at the right time to ensure that Volvo Cars drivers can focus on driving safely.



03

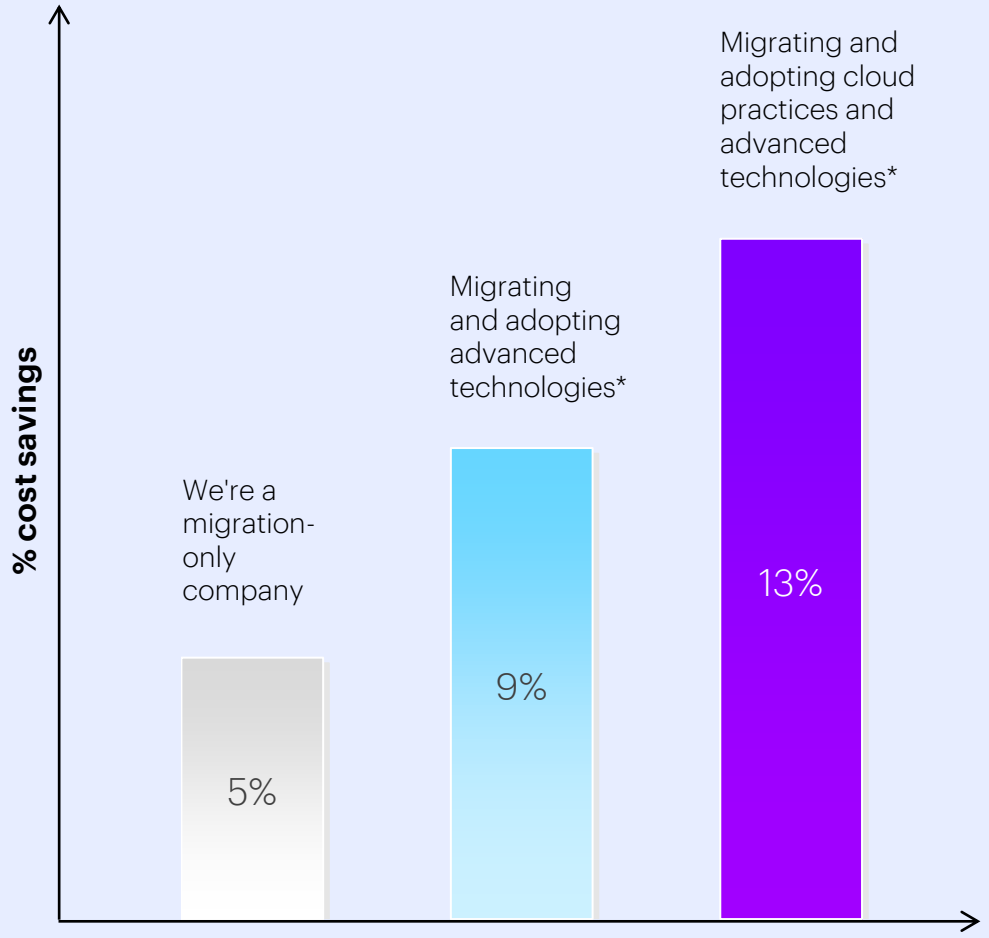
Establish cloud practices to support and augment your technologies

03 Establish cloud practices to augment your technologies

In a world where roughly one-third of workloads are in the cloud, migrating and sitting back to enjoy the ride is not a winning strategy. For instance, it's smart to build on cloud with edge, leverage PaaS services to assemble and consume newer capabilities, and adopt and apply AI/ML technologies on your data and processes. If you don't take those extra steps, you simply won't see the boost in growth, revenue and innovation that your competitors enjoy.

In addition, European companies must amplify the adoption of technology with cloud practices. This directly improves the bottom line and creates a self-funding transformation. We find that the cost savings for migration-only players would increase by 1.8x with technology adoption as high as Continuum Competitors, but if they also adopted practices at the same level as Continuum Competitors, cost savings would go up to 2.6x.

It's not just about cost. Our research finds that companies that adopted one additional practice believe that they have a 5% higher probability of being ready for more stringent data residency and sovereignty requirements, than others.



3.1 Six practices for success in Europe

01
Feed-it-forward Agility

European companies must be agile in developing new business processes with the cloud and ensure that this agility flows upstream and downstream, creating a virtuous cycle and unleashing financial and human capital for transformation.

02
Continuous Goals

European CXOs must move from an approach of making big changes infrequently to one of continuous alignment. Understand that change is a nature of the business and prepare people to align at a moment's notice.

03
Cloud-first Apps

European technology developers must prioritize the cloud as the default development environment.

04
Talent Transformation

European companies have done well to adopt basic cloud during the pandemic. They must continue to compress transformation and reinvent.

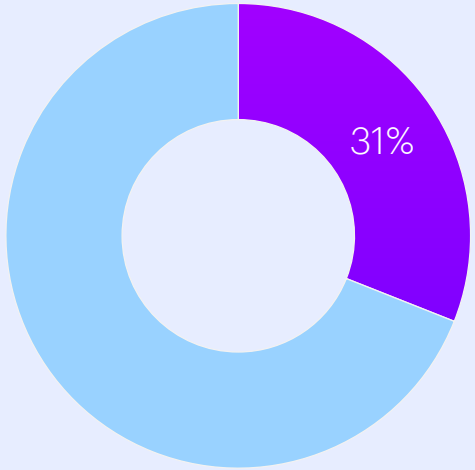
05
IT Experimentation

European CXOs are risk-averse in general. They need to develop a mindset of IT experimentation, investing in cutting-edge business cases that can lead to unexpected upsides for the business.

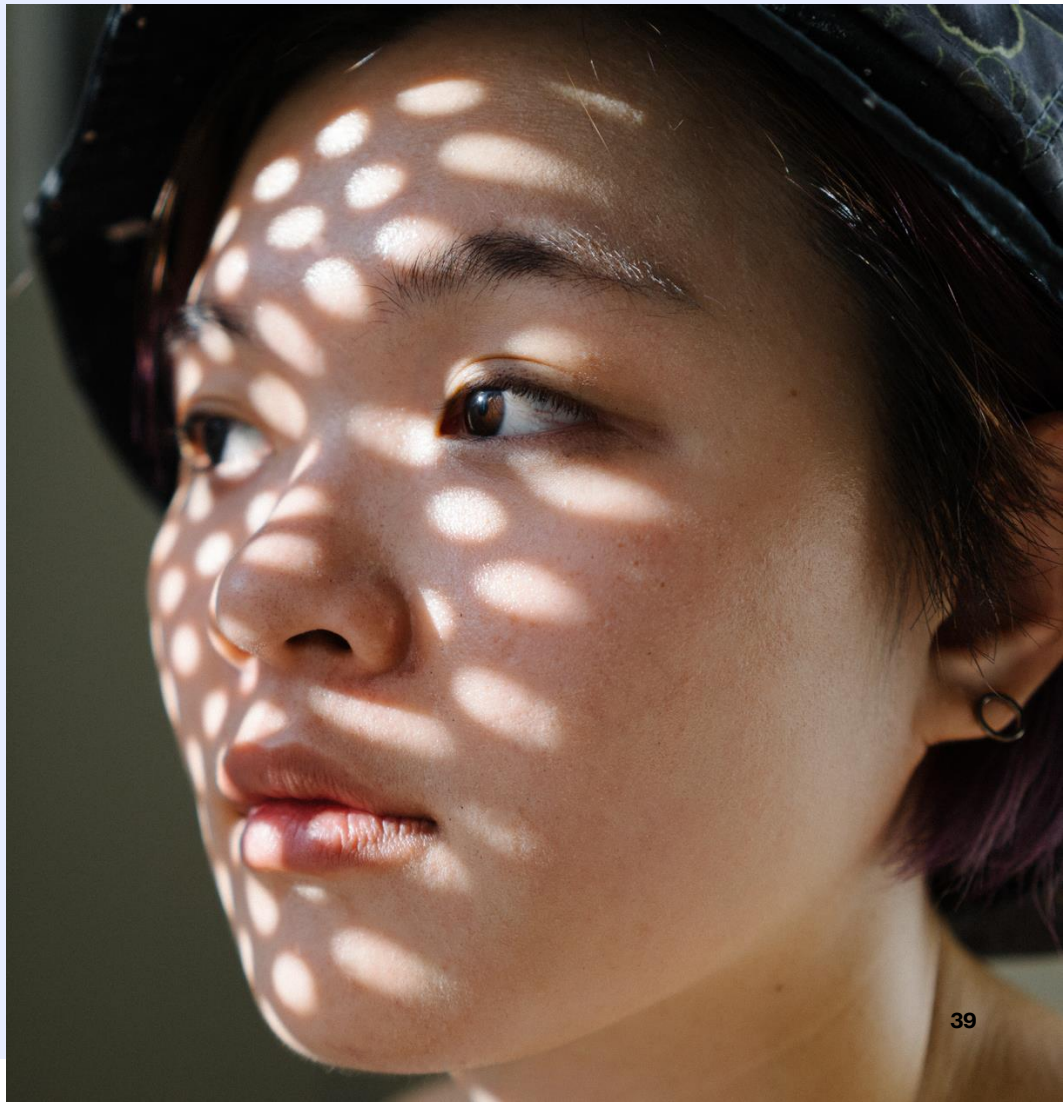
06
Scale Awareness

The next generation of applications are compute-hungry. European CXOs know that compute is essential, but they must also provision additional resources for it.

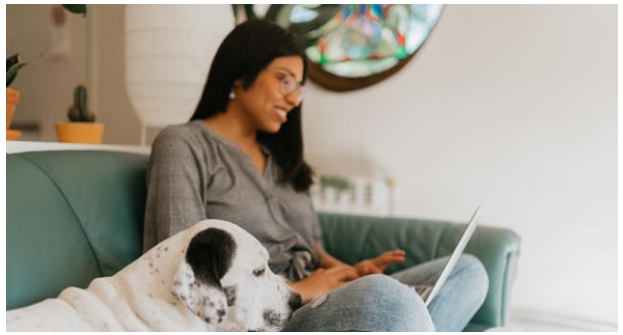
3.2 Practices also help bolster trust and sovereignty



Today, Continuum Competitors that follow at least **four practices out of six rate themselves 31% more likely to be ready to meet tighter data residency and sovereignty requirements** compared to migration players. At speed.



In-depth: Roche discovers the winning formula



1. Continuous Goals

At Roche, cloud technology is one of the key drivers behind rapid business model innovation. Werner Boeing, former CIO, Roche Diagnostics, said, "People believe that IT is about technology, but it's really a behavioral science—understanding the behavioral of your company's staff, leaders and customers—and facilitating the adoption of a new vision."

2. Cloud-first Apps

At Roche, AWS is the backbone of all infrastructure technology. Adin Stein, Director of Engineering Operations at Roche, said, "We are very much an AWS-first organization wherever they can, and we look at the build vs. buy vs. partner, we're careering in the partner space where we can be. And that again just means getting out to market and impacting more patient's lives."

3. Talent Transformation

Roche turns their cloud technology inwards, using AI and ML to improve HR and IT. It uses recommendation engines in its learning management systems and predictive modeling in attrition and compensation analysis. It is further ramping up with text and sentiment analysis for employee engagement surveys, machine learning to recommend training and 24/7 chatbots to answer questions from employees.

4. IT Experimentation

Roche uses NLP systems to sift through social media posts and to enhance understanding of symptoms that impact Parkinson's patients. A traditional market research exercise with patient reviews may cost in the region of $150,000 and take six months. In comparison, the Roche team estimates the NLP-enabled approach required 11 days of effort at a total employee cost of approximately $10,000.

5. Scale Awareness

Roche wants to be on the forefront of bettering patient outcomes with technology. For example, Bryn Roberts, Head of Pharmaceutical Research and Early Development Operations, is excited by the possibilities of quantum computing. Under his leadership, a task force was set up several months ago with the aim of monitoring the field, developing collaborations and piloting early applications.

Sustainable

In November 2020. Roche was ranked the most sustainable healthcare company in the Dow Jones Sustainability Indices for the eleventh time. Since 2015, Roche has decreased energy consumption by 19%, general waste by 26% and water consumption by 28.5%.

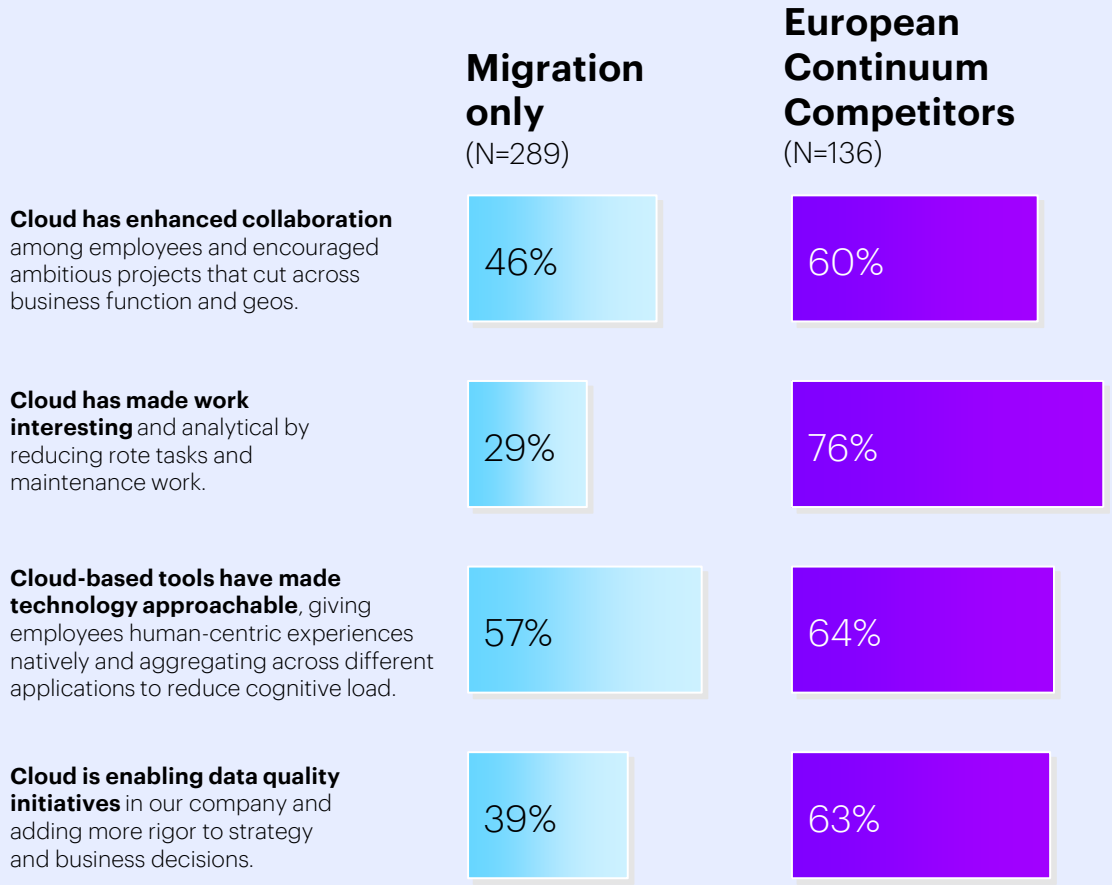
04

Accelerate innovation to deliver exceptional experiences

04 Experience is everything

European Continuum Competitors prioritize their investments in one area: experience. Our research found they use a **combination of human-centered design and cloud-based technologies** to rethink experience and disseminate throughout the entire organization, including in their products and services, employee experience and delivery models.

- To them, experience-obsessed reimagination of their business is a competitive differentiator, which is enabled only by advancing on the Cloud Continuum. And they make their investments visible and accessible to both employees and customers. In fact, these organizations go beyond the traditional notions of optimizing customer and employee touchpoints to innovate and deliver on exceptional experience.
- **Almost 60% of Continuum Competitors in Europe**, for example, use the cloud to enhance collaboration among employees and encouraged ambitious projects that cut across business functions and geographies.
- And **three-quarters use the cloud to make work more interesting** and data driven by reducing rote tasks and manual maintenance work or use cloud-based tools to make technology approachable. In short, they give employees human-centric experiences natively, aggregating them across different applications to reduce cognitive load.



1To what extent do you **agree or disagree** with the following statements regarding the impact of cloud on your company, its employees and the nature of work?

In-depth: Beautiful attractions at Sephora

Exceptional experience is a guiding principle at French beauty retailer Sephora. Since 2015, its innovation lab has been using unique digital experiences to attract customers. Now it employs a wide range of AI technology across its app and in-store to make the shopping experience seamless and inviting, especially for a younger clientele. Consider this:

- Sephora Visual Artist: A 3D live experience enables customers to try on products virtually via Sephora's app and in-store mirror. Sephora partnered with AI and AR app provider ModiFace to launch both its mobile app and in-store 3D augmented-reality mirror.

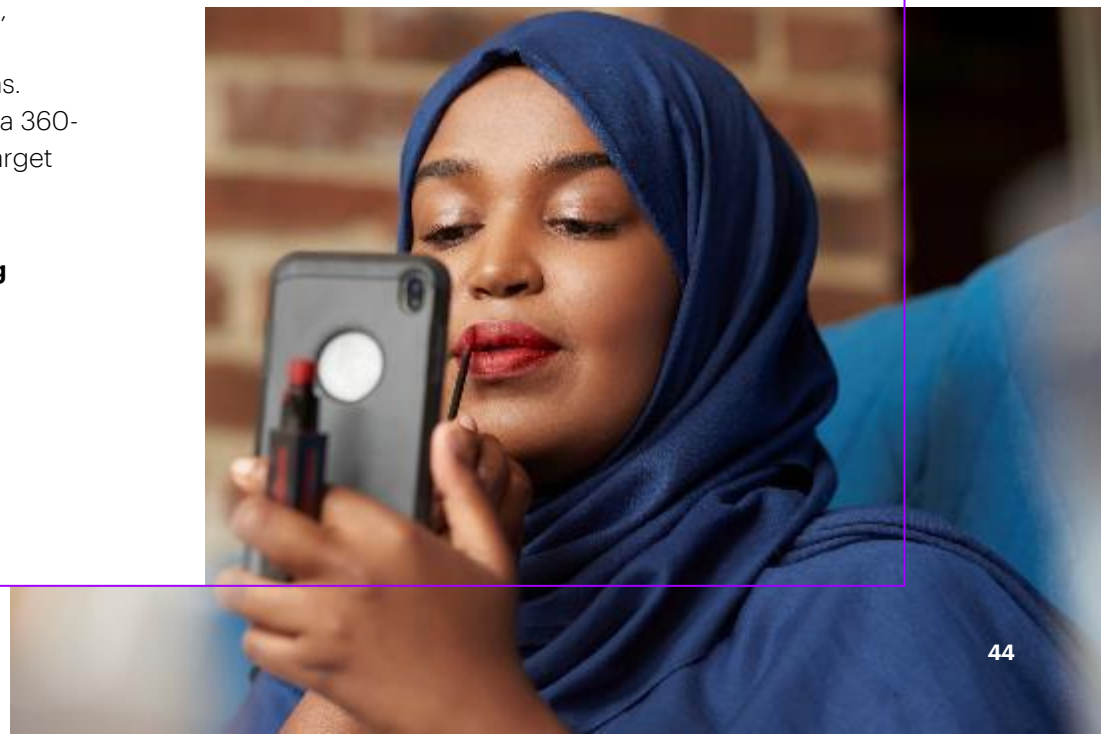
- Color IQ: A device scans the surface of your skin and assigns it a Color IQ number, which reveals scientifically precise foundation matches—an inclusive design for traditionally under-represented skin tones. Sephora also stands by sustainability as a core value, using 100% renewable energy for powering itself. It has achieved a recycling rate of 88% with an economic upside of reselling materials to specialist recyclers.

Sephora is committed to stocking 15% of its products from Black-owned businesses, which helps the company stock a wider range of foundations and other cosmetics and delivers a personalized user experience to diverse customers.

In tandem with customer-facing initiatives, Sephora also is redesigning in-house jobs, merging its digital and physical retail teams. Sephora can now look at customers from a 360-degree perspective and better use AI to target individual shoppers.

Similarly, retail giant IKEA is embracing employee care and human-centric experiences with the cloud.

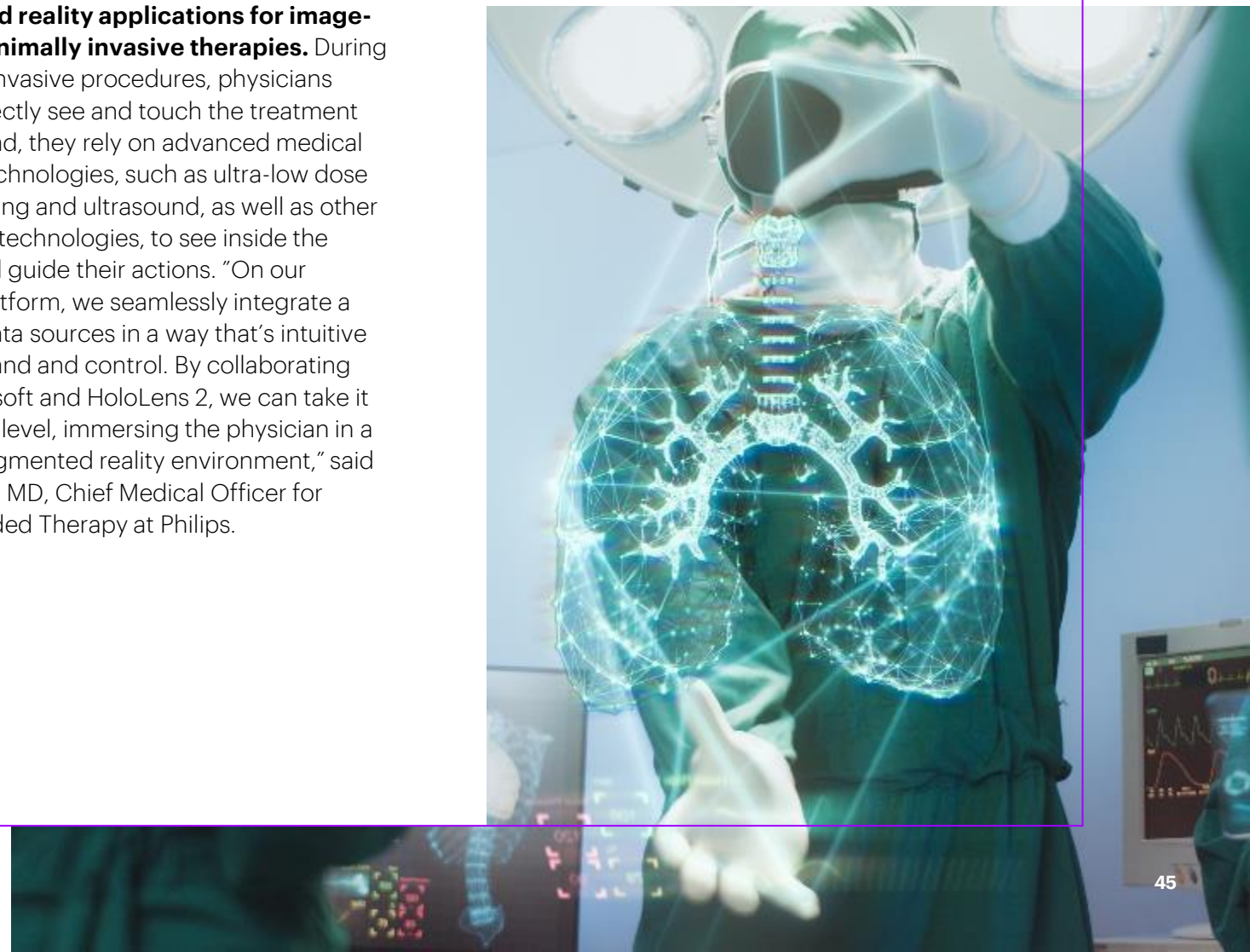
Sephora considers caring for co-workers to be a top priority–modifying ways of working, empowering employees with data and digital tools, automating routine tasks and building advanced algorithms to solve complex problems. Using the Cloud Continuum, it has developed data models that assist co-workers, creating more efficient transportation routes, which in turn enrich customer experience.



In-depth: Philips designs the operating room of the future

Take **Philips, the Dutch multinational** and its healthcare technology company. Philips began its journey to the cloud in 2014 when **Royal Philips and Salesforce.com announced a strategic alliance to deliver an open, cloud-based healthcare platform.** This alliance leveraged Philips' leading positions in medical technology, clinical applications and clinical informatics and Salesforce.com's leadership in enterprise cloud computing, innovation and customer engagement. In addition, Philips partnered with Cloud Foundry to execute a complex legacy migration to the cloud, especially for its Health Suite Digital Platform.

Fast forward to 2019, when **Philips partnered with Microsoft** to produce a concept for the operating room of the future, **reimagining and innovating on the Continuum**. Here, the state-of-the-art technologies of Philips' industry-leading Azurion image-guided therapy platform will be combined with **Microsoft's HoloLens 2 holographic computing platform** to provide **augmented reality applications for image-guided minimally invasive therapies.** During minimally invasive procedures, physicians cannot directly see and touch the treatment area. Instead, they rely on advanced medical imaging technologies, such as ultra-low dose X-ray imaging and ultrasound, as well as other navigation technologies, to see inside the patient and guide their actions. "On our Azurion platform, we seamlessly integrate a range of data sources in a way that's intuitive to understand and control. By collaborating with Microsoft and HoloLens 2, we can take it to the next level, immersing the physician in a tailored augmented reality environment," said Atul Gupta, MD, Chief Medical Officer for Image Guided Therapy at Philips.



Building European competitiveness–how can European cloud providers succeed?

Develop win-win partnerships with global providers to access scale and innovation while providing trust and access. (Potential rewards: jointly enter 60% of market currently held exclusively by hyperscalers, invest in long-term growth).

Increase scalability and invest in innovation and experience design (Potential rewards: 30% more customers, European brand of innovation, tap into edge opportunity).

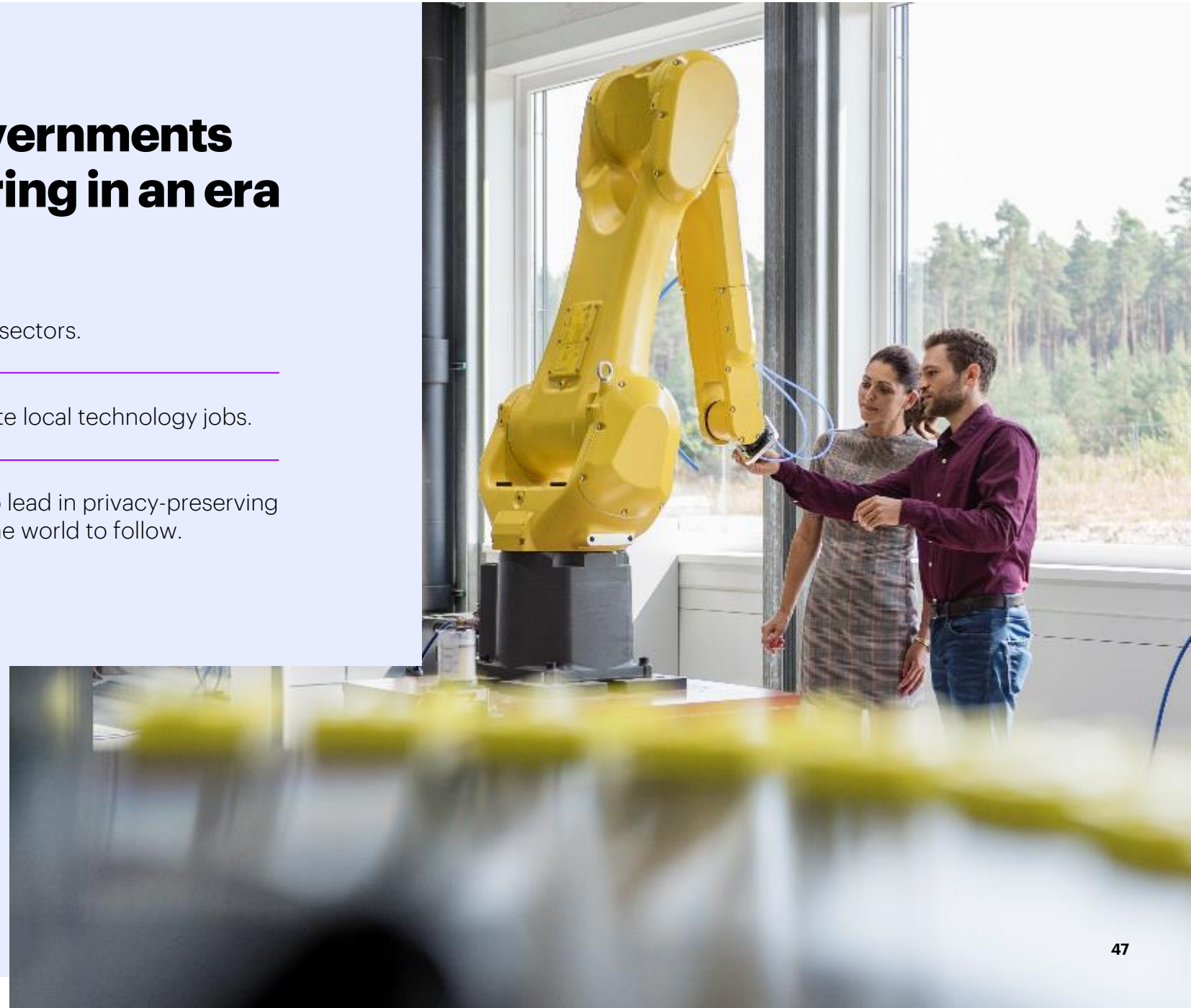
Engage economies of scale. As cloud becomes an essential utility, the only way to survive is to scale and grow, as evidenced by the landscape shrinking from 20 providers in 2011 to seven currently. This can lower cost of delivery and promote efficiency.

How can European governments and law makers help bring in an era of innovation?

Encourage **innovation flow** across industries and sectors.

Develop talent and training ecosystems to create local technology jobs.

Invest in emerging tech such as 5G and Edge to lead in privacy-preserving architectures–perhaps as a model for the rest of the world to follow.



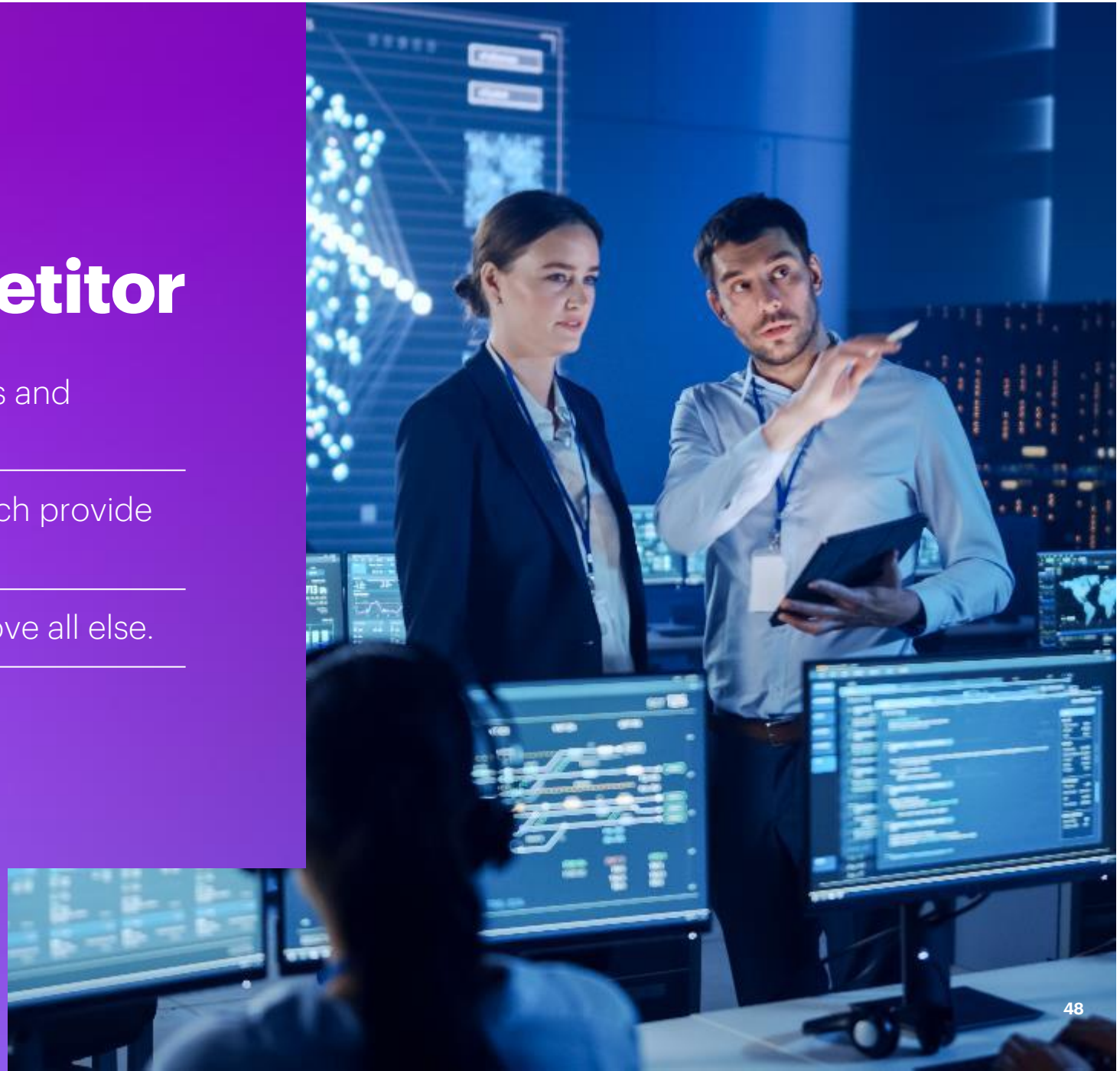
How to become a Continuum Competitor

Build a business case that engages leaders and accelerates investment into cloud.

Embrace Cloud Continuum practices, which provide the means and discipline to change.

Focus on delivering great experiences above all else.

Secure leadership commitment.



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About the research

We employed a multi-method research approach. Specifically, the research program included surveys, interviews, case study research and economic modeling.

Organization size

3,863 executives, global

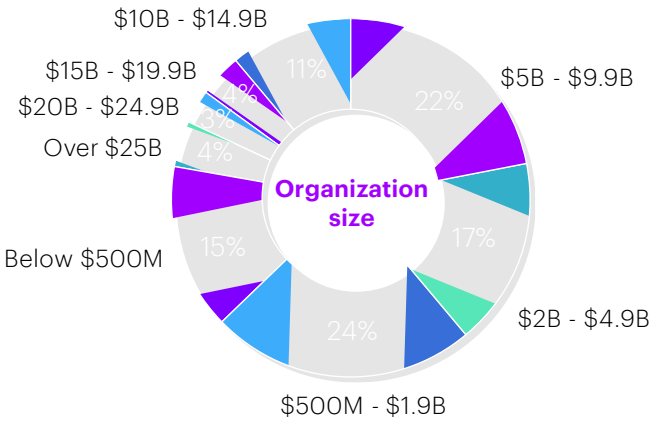
50% of respondents with **IT role**

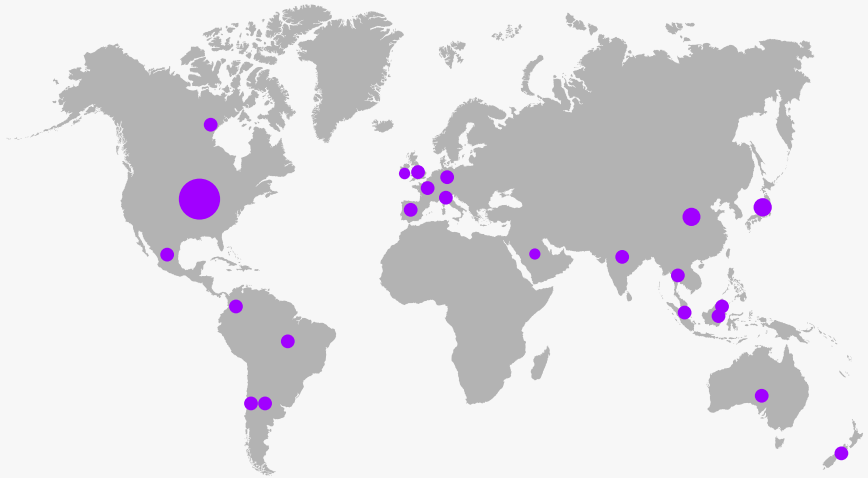
50% of respondents with **non-IT role**

C-level only

Our dataset contains a range of organizations from very high growth (16% +) to those witnessing declining revenue and margins, and many in between.

Average margin growth: **-0.14%**
Average employee growth: **1.38%**





16 Industries

Financial Services
Banking (357)
Insurance (252)

Communications, Media & Technology
High Tech (193)
Software and Platforms (326)
Automotive (178)

Resources
Utilities (295)
Energy (Oil and Gas included) (95)
Chemicals (188)
Metals and Mining (182)

Health & Public Service
Health (288)
Public Services (143)

Products
Retail (100)
Consumer Goods and Services (356)
Travel (299)
Industrial Equipment (334)
Life Sciences (277)
Automotive (178)

25 Countries

Argentina (67)
Australia (100)
Brazil (67)
Canada (200)
Chile (66)
China (200)
Colombia (25)
France (200)
Germany (200)
India (100)
Indonesia (50)
Ireland (51)
Italy (201)
Japan (200)
Malaysia (50)
Mexico (50)
New Zealand (100)
Saudi Arabia (37)
Nordics (Denmark, Finland, Norway, Sweden) (100)
Singapore (50)
Spain (201)
Thailand (50)
United Arab Emirates (38)
United Kingdom (200)
United States (1260)

1) Survey

The Accenture survey, completed between late 2020 and early 2021, collected data on: a) adoption and scaling of technologies associated with cloud, b) the organization's cloud journey, strategy and goals, c) management practices around cloud, d) multiple measures of financial and operational performance and e) the impact of cloud on innovation and sustainability outcomes.

The graphic above summarizes the survey demographics.

Inference Approach

First, we define and group organizations into those who are on the Cloud Continuum and those who view cloud with a migration perspective. That is, we identify organizations that are leading in terms of both technology adoption in the Cloud Continuum and in evolving practices and behaviors to use these technologies to their advantage. We then investigate if being on the Cloud Continuum is correlated to measures of performance. Europe and US performance differences are calculated by looking at adoption rates of average companies and Continuum Competitors in both locations and forecasting the rate of annual investment by European companies needed to reach US adoption levels.

Definition of Continuum Competitors and Migration Players:

We create an index score comprising two key elements of an organization's cloud journey: a) adoption of technologies on the continuum and b) embracing of practices that position organizations to take advantage of these technologies. Organizations in the top 30% of technology adoption and in the top 30% of adoption of practices are considered to be those on the Continuum. Organizations in the bottom 50% of technology adoption and in the bottom 50% of practices are considered to be migration players.

Calculation of the performance difference
Using the definitions above, we compare the difference in performance between Continuum Competitors and migration players—with metrics such as cost savings, revenue growth and innovation of supply chain/warehouse and how knowledge work is performed within the organization. We also compare organizations in terms of their ambitions and the number of operational and sustainability goals they target to achieve.

2) Interviews and Multiple Case Studies

We triangulate our findings from the large-scale primary data from the survey with multiple case studies. Overall, we collect through secondary research and interviews about 18 case studies focusing on issues organizations are facing on their cloud journey and the evolution of organizations toward the Cloud Continuum.

3) Economic Modeling

To look at how performance outcomes have changed for Continuum Competitors compared to migration players in our sample, we estimate the following equation for each of the performance outcomes for each region separately:

$$Performance]\!]_i=\sum\nolimits_{(j=1)}^{3} \beta_{(1,j)} [\![Category]\!]_{ij}+[\![\sum\nolimits_{(k=1)}^{n} \beta]\!]_k X_{(i,k)}+\varepsilon_i$$

where i is the index for organizations and j is the index for categories. Category represents whether an organization is identified as a Continuum Competitor, a migration player, or is somewhere in between the two. Xk is the vector of firm-specific controls such as size, industry and country.

Performance is measured as revenue growth, cost savings, number of operational goals and number of sustainability goals that organizations target.

About the authors

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Jean-Marc Ollagnier is the chief executive officer of Accenture in Europe, with management oversight of all industries and services in Europe. He is also a member of Accenture's Global Management Committee.

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Koenraad Schelfaut leads Accenture's Cloud First business for Europe. He is also a member of the Accenture's Europe Executive Committee.

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Sybille Berjoan leads the Accenture Research European team and drives the European thought leadership agenda.

Surya Mukherjee

Surya Mukherjee leads Technology research in Europe and is the global lead for Cloud Continuum thought leadership.

Acknowledgements

Douglas Chandler, Francois Luu, Gargi Chakrabarty, Jakub Wiatrak, Katherine Greene, Krish Jhaveri, Maria Francesca Mecca, Mark Klinge, Melina Viglino, Prashant Shukla, PhD, Shital Sharma, Thijs Deblaere.

References

1. 85% of the sample comprises of companies above $500 million. Please refer to demographics for details.

Siemens

Siemens makes Industrial Data accessible and actionable. New services enabled by the Mendix low-code platform enable data-driven decision making in factories and across enterprise data source https://www.mendix.com/press/siemens-makes-industrial-data-accessible-and-actionable/

Siemens and Microsoft partner to deliver secure, scalable and open Industrial IoT applications to support industrial organizations' digital transformation https://siemens.mindsphere.io/en/partner/partner-profiles/microsoft

Siemens brings power of Mendix low-code enterprise application development platform to MindSphere, April 16, 2019, https://www.plm.automation.siemens.com/global/en/our-story/newsroom/mendix-for-mindsphere/59418

A pilot version of the IoT operating system MindSphere from Siemens is now available on Microsoft Azure. Customers and partners of both companies can access MindSphere solutions via the cloud computing platform, May 19, 2018, https://www.hannovermesse.de /en/news/news-articles/siemens-mindsphere-now-on-azure

Industrial Edge: Exploit the full potential of your machine and plant data to increase your competitive edge and generate new business models https:// new.siemens.com/global/en/products/automation/topic-areas/industrial-edge.html?gclid=Cj0KCQjw38-DBhDpARIsADJ3kjnzqWaR_cvets2L5K1TR_CfZWeC6svrUHmCznfqF3P9K9iNg7ANqMgaAttCEALw_wcB

Siemens Mindsphere, Case Study, Amazon Web Services https://aws.amazon.com/solutions/case-studies/siemens-mindsphere/

Industrial Edge for machine- and plant builders: The easiest way to integrate information technology into machines https://assets.new.siemens.com/siemens/assets/api/uuid:1f7ef4d7-abf6-4d66-ad2e-fdc650916462/difa-b10113-00flyerindustrial-edgemitpreis enenus-144.pdf

MindSphere is the cloud-based, open IoT operating system from Siemens that connects your products, plants, systems and machines, enabling you to harness the wealth of data generated by the Internet of Things (IoT) with advanced analytics https://new.siemens.com/global/en/products/buildings/automation/cloud-solutions.html#:~:text=MindSphere% 20is%20the%20cloud%2Dbased,(IoT)%20with%20advanced%20analytics

Industrial Edge is the SIEMENS platform to host applications from different vendors on a computing platform close to the shopfloor https://documentation. mindsphere.io/resources/html/Industrial+Edge+Developer+Environment/en-US/user-docu/industrialedge.html

Siemens Digital Industries Software and AWS have been working together since 2012. In 2017, AWS collaborated on the development and delivery of MindSphere® v3 https://siemens.mindsphere.io/en/partner/partner-profiles/aws

Siemens Smart Infrastructure Chooses AWS as Its Preferred Cloud Provider for SAP Environments, December 3, 2020, https://press.aboutamazon.com/ news-releases/news-release-details/siemens-smart-infrastructure-chooses-aws-its-preferred-cloud

Siemens Advanta & Amazon Web Services: Bringing business into the cloud and your partners for indusrial IoT solutions https://new.siemens.com/global/en /products/services/iot-siemens/aws-partnership.html

Siemens: Scaling its global business through smarter recruiting with Cloud Talent Solution https://cloud.google.com/customers/siemens

Siemens Healthineers moves more computing to the cloud to support value-based care development, August 6, 2018, https://customers.microsoft.com/es-mx/story/siemens-healthineers-health-provider-azure

Sustainability Figures: For 173 years now, Siemens provides innovative technologies with the aspiration to improve the lives of people all over the world https://new.siemens.com/global/en/company/sustainability/sustainability-figures.html

Siemens is leading the way towards carbon neutrality https://new.siemens.com/global/en/company/sustainability/carbonneutral.html

Carlsberg

Carlsberg transitions to a digital business with a scalable, flexible cloud infrastructure and automated application landscape https://www.accenture.com/ acnmedia/PDF-148/Accenture-Carlsberg-brews-innovation-with-cloud.pdf#zoom=50

Roche

Roche's NAVIFY decision support portfolio helps multidisciplinary care teams navigate increasing complexity of medical information by transforming large amounts of data into actionable insights https://aws.amazon.com/comprehend/customers/

Using NLP-based Text Mining to Gather Patient Insights from Social Media at Roche, March 16, 2020, https://www.linguamatics.com/blog/using-nlp-based-text-mining-gather-patient-insights-social-media-roche

SAP, Roche and Tenthpin Partner to Create New Standard for Clinical Trial Supplies Operation, October 29, 2020 https://news.sap.com/2020/10/sap-roche-tenthpin-clinical-trial-supply-management/

PatchAi and Roche signed a deal for a digital health solution in Oncology, February 15, 2021 https:// www.digitalhealthglobal.com/patchai-and-roche-signed-a-deal-for-a-digital-health-solution-in-oncology/

Driving digital transformation for in vitro diagnostic medical devices with IoT, June 21, 2017, https://customers.microsoft.com/en-us/story/roche-diagnostics

GE, Roche Enter Partnership to Develop Integrated Digital Diagnostics Platform to Improve Oncology and Critical Care Treatment, January 08, 2018, https://www.ge.com/news/press-releases/ge-roche-enter-partnership-develop-integrated-digital-diagnostics-platform-improve

We are already digital, will continue to explore new technologies: Roche's Roelof Kistemaker, November 23, 2020 https://www.peoplematters.in/article/strategic-hr/we-are-already-digital-will-continue-to-explore-new-technologies-to-further-improve-employee-experience-roches-roelof-kistemaker-27666

Collaborations between healthcare and technology companies are driving the future of healthcare https://www.roche.com/partnering/partnering-in-a-digital-era.htm

Artificial intelligence (AI) is expected to have a dramatic impact on medicine by improving our ability to diagnose disease and select the best treatments for individual patients, August 20, 2019, https://www.roche.com/research_and_development/what_we_are_working_on/ophthalmology/diagnosis-artificial-intelligence.htm

Deep-learning algorithms help uncovering insights that were previously hidden away in the dark, May 29, 2019, https://www.roche.com/about/priorities/personalised_healthcare/machine-learning.htm

Roche Advances Personalized Healthcare with Development of Image Analysis Algorithms Using Artificial Intelligence, June 29, 2020, https://www.hospimedica.com/covid-19/articles/ 294783208/roche-advances-personalized-healthcare-with-development-of-image-analysis-algorithms-using-artificial-intelligence.html

Roche to offer AI-based digital diabetes coaching solution, November 01, 2018, https://health.economictimes.indiatimes.com/news/health-it/roche-to-offer-ai-based-digital-diabetes-coaching-solution/66457823

Automated and Explainable Deep Learning for Clinical Language Understanding at Roche https://databricks.com/session_na20/automated-and-explainable-deep-learning-for-clinical-language-understanding-at-roche

Genesis Therapeutics Enters AI-driven, Multi-Target Drug Discovery Partnership with Genentech, a member of Roche Group, October 19, 2020, https://www.businesswire.com/news/home/20201019005182/en/Genesis-Therapeutics-Enters-AI-driven-Multi-Target-Drug-Discovery-Partnership-with-Genentech

Sustainability at Roche https://www.roche.com/sustainability.htm

Roche ranked the most sustainable healthcare company in the Dow Jones Sustainability Indices for the eleventh time https://www.roche.com/media/releases/med-cor-2020-11-16.html

Sephora

Sephora and Artificial Intelligence: What does the future of beauty look like? November 14, 2018, https://digital.hbs.edu/platform-rctom/submission/sephora-and-artificial-intelligence-what-does-the-future-of-beauty-look-like/

How Sephora Built A Beauty Empire To Survive The Retail Apocalypse, May 16, 2018, https://www.cbinsights.com/research/report/sephora-teardown/

Sephora: Combining Beauty and Sustainability, Nov 15, 2017, https://digital.hbs.edu/platform-rctom/ submission/sephora-combining-beauty-and-sustainability/

Sephora Stands | Sustainability, https://www.sephorastands.com/sustainability/

Ikea

Ikea on how Google Cloud has helped it cope with Covid-induced shifts in customer demand, Oct 27, 2020, https://www.computerweekly.com/ news/252491151/Ikea-on-how-Google-Cloud-has-helped-it-cope-with-Covid-induced-shifts-in-customer-demand

Schneider Electric

Start-ups from Schneider Electric and Microsoft's joint accelerator are transforming the energy sector in Europe with artificial intelligence, Jan 10, 2020, https://www.se.com/ww/en/about-us/newsroom/news/press-releases/start-ups-from-schneider-electric-and-microsoft%27s-joint-accelerator-are-transforming-the-energy-sector-in-europe-with-artificial-intelligence-5ef46b4812574a6fa65e29b9

Innovation at the Edge https://www.se.com/ww/en/ about-us/ventures/

Schneider Electric Introduces Imperatives for Data Centers of the Future and New IT Innovations, Jul 15, 2021, https://www.taiwannews.com.tw/en/ news/4249379

Schneider Electric's EcoStruxure™ & AVEVA's digital transformation solutions to further drive sustainability in mining, Jul 15, 2021, https://im-mining.com/2021/07/15/schneider-electrics-ecostruxure-avevas-digital-transformation-solutions-drive-sustainability-mining/

Microsoft and Schneider Electric launch AI for Green Energy: to accelerate start-ups transforming the energy sector in Europe with Artificial Intelligence, Jul 04, 2019, https://news.microsoft.com/europe/2019/07/04/ microsoft-and-schneider-electric-launch-ai-for-green-energy-to-accelerate-start-ups-transforming-the-energy-sector-in-europe-with-artificial-intelligence/

Schneider Electric: "For a company like us, it's a revolution." – Jean-Pascal Tricoire, CEO at Schneider Electric https://www.salesforce.com/eu/ customer-success-stories/schneider-electric/

SaaS as the Catalyst for Energy Management Leader's Cloud Transformation Journey https://securecloudtransformation.zscaler.com/contributors/schneider-electric-herve-coureil

Vodafone

Vodafone uses AWS Wavelength to launch first Multi-access Edge Computing services in European region, Jun 16, 2021, https://newscentre.vodafone.co.uk/press-release/partnership-aws-wavelength-launch-first-multi-access-edge-computing-services-in-europe/

Keyless: From authentication to the future of identity https://keyless.io/company/about

Vodafone confirms European datacentres will be powered by 100% green energy by July 2021, Jun 24, 2021, https://www.computerweekly.com/news/252502964/Vodafone-confirms-European-datacentres-will-be-powered-by-100-green-energy-by-July-2021

Philips

Philips and Salesforce.com Announce a Strategic Alliance to Deliver Cloud-Based Healthcare Information Technology, Jun 26, 2014, https://www.salesforce.com/news/press-releases/2014/06/26/philips-and-salesforce-com-announce-a-strategic-alliance-to-deliver-cloud-based-healthcare-information-technology/

Philips Turns Deployment Months into Minutes with Cloud Foundry, Jul 27, 2015, https://www.altoros.com/blog/philips-turns-deployment-months-into-minutes-with-cloud-foundry/

Philips showcases unique augmented reality concept for image-guided minimally invasive therapies developed with Microsoft, Feb 24, 2019, https://www.philips.com/a-w/about/news/archive/standard/news/press/2019/20190224-philips-showcases-unique-augmented-reality-concept-for-image-guided-minimally-invasive-therapies-developed-with-microsoft.html

Philips further extends capabilities of its cloud-based HealthSuite digital platform, expands ecosystem to drive value-based connected health solutions, Mar 2, 2016, https://www.philips.com/a-w/about/news/archive/standard/news/press/2016/20160302-Philips-further-extends-capabilities-of-its-cloud-based-HealthSuite-digital-platform.html

Philips HealthSuite Platform Speeds Healthcare Innovation on AWS, 2020, https://aws.amazon.com/solutions/case-studies/philips-healthsuite-digital-platform-case-study/

Volvo

Volvo Group Accelerates Time to Market for Connected Services Using AWS, 2021, https://aws.amazon.com/solutions/case-studies/volvo-group/

Volvo gives all employees a voice with Microsoft 365 to speed their business transformation and seize market opportunities, Aug 5, 2020, https://customers.microsoft.com/en-us/story/807001-volvo-group-case-study-modern-workplace-automotive-m365

WirelessCar Case Study, 2015, https://aws.amazon.com/solutions/case-studies/wireless-car/

Volvo Car Group initiates Scandinavian pilot using cloud-based communication to make driving safer, Mar 19, 2014, https://www.media.volvocars.com/global/en-gb/media/pressreleases/141041/volvo-car-group-initiates-scandinavian-pilot-using-cloud-based-communication-to-make-driving-safer

Volvo + Ericsson - A partnership built on innovation and trust, perfected with time https://www.ericsson.com/en/cases/2017/partnerships-built-on-innovation

Volvo Cars collaborates with Google on a brand new infotainment system, May 07, 2018, https://group.volvocars.com/news/connectivity/2018/volvo-cars-collaborates-with-google-on-a-brand-new-infotainment-system

Volvo Group CIO: data and trust as currency in the digital age https://www.hottopics.ht/21455/volvo-group-cio-data-and-trust-in-the-digital-age/

Volvo Cars and Google continue partnership for next generation safe and connected user experience, Jun 30, 2021, https://www.media.volvocars.com/global/en-gb/media/pressreleases/283547/volvo-cars-and-google-continue-partnership-for-next-generation-safe-and-connected-user-experience

Volvo Beats Tesla For Public Trust In Poll Of Autonomous Vehicles, Feb 14, 2019, https://www.dtinsights.com/updates/ volvo-beats-tesla-for-public-trust-in-poll-of-autonomous-vehicles

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