TATA CONSULTANCY SERVICES

Building on belief

Connected future: How cloud drives business innovation

TCS Global Cloud Study

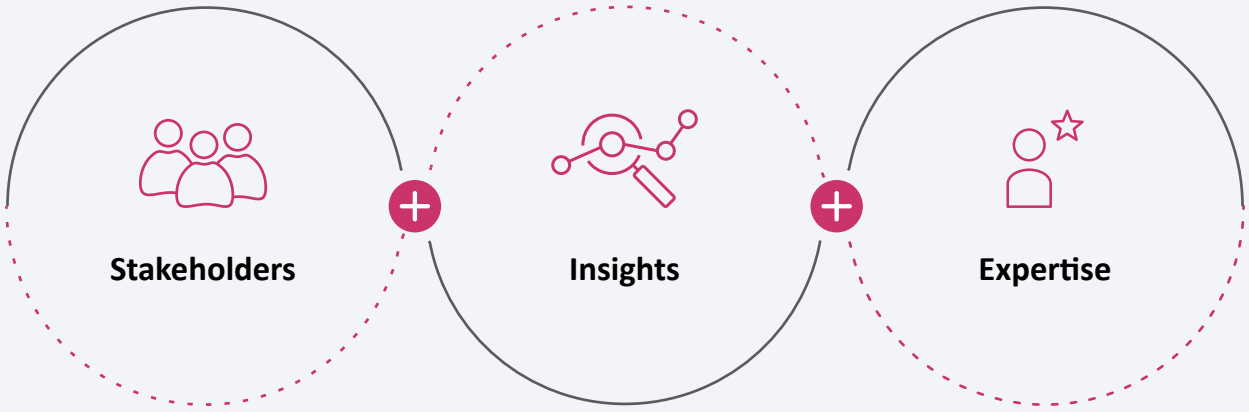
Contents

Connected future:
How cloud drives business innovation

"Everything connects to everything else," da Vinci famously said. Several centuries later, the era of mass computing introduced technologies that connected the world in unimaginable ways.

Today, cloud technologies enable us to go even further – to overcome existing limitations of scale and bring partners, data, supply chains, and customers together on levels previously unknown.

And with this connectedness, organizations open a future of innovations. Fueled by cloud-native capabilities and data-intensive technologies like artificial intelligence (for example, generative AI) and IoT, stakeholders can become participants of ecosystems that combine and transform their collective expertise into new sources of value. Together, they can harness insights, and apply skills and knowledge to spur innovation to the benefit of all – whether it's solving complex societal and climate challenges or creating new markets and revenue streams.



But to what extent has this evolution already occurred within organizations today and what does it look like, particularly with economic pressures? Faced with the massive demand for tailor-made cloud-native applications, how are organizations using cloud-enabled business models to innovate at scale? Are they employing strategic cloud planning capabilities to build an intelligent platform that can harness insights from data across multiple end points? Are they realizing the promise of ecosystems capabilities?

Study overview

To find out, we surveyed nearly a thousand (972) senior executives in multiple sectors across Asia-Pacific, UK & Ireland (UK&I), Continental Europe and North America, about half at companies with revenue over US $5 billion.

We asked them questions in 5 key areas:

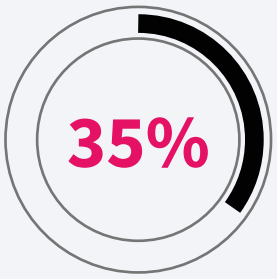
1. Have they significantly altered their **cloud innovation outlook** in the face of post-pandemic realities?
2. To what extent are they participating in **digital ecosystems?**
3. What **data and analytics capabilities** are they prioritizing to meet present and future demands?
4. How are organizations using cloud to navigate **emerging environmental, social and governance (ESG) metrics?**
5. Are organizations utilizing **industry cloud,** and if so, why?

The current state of cloud-enabled innovation

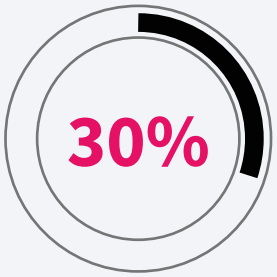
In analyzing the survey results, one theme was consistent: cloud is no longer seen as a one-dimensional IT infrastructure. A desire for cost efficiencies, resilience, and flexibility drove early cloud implementations, and those remain critical factors. But there has been a gradual shift toward cloud serving as a business transformation accelerator. Today, cloud is a core pillar of business strategy and a continual source of innovation across a digital ecosystem, delivering value through customer, partner, employee, and developer experiences.

Companies report cloud progress and confidence

For many, the journey to innovation starts with a culture that encourages an integrated framework for ideation and rapid experimentation. More than a third (35%) of respondents surveyed say they have firmly succeeded in embedding innovation across their organization – from leadership to board level to employees – and experience no issues. Another 30% say they have made progress but still experience minor issues.



of respondents say that they have successfully established a culture of digital innovation, from leadership to board level to employees, and experience no issues



have made progress but experience minor issues

And when it comes to turning ideas into tangible outcomes, technologies – and cloud in particular – are crucial. The majority of respondents recognize and have confidence in the role cloud plays within their innovation strategies.

of respondents say cloud is crucial to their organization's future as a catalyst for innovation

of respondents say they have faith in cloud's potential for innovation

Where do they want to see innovation? Top wish-list items include new business models, of which more than a third of respondents (37%) have made progress in their goals for cloud-enabled innovation in the form of new business models. Other wish list items include improved customer experiences, and new products and services.

Further, as the world changes around them, many organizations aren't just asking how to innovate, but to what purpose? Rapid shifts regarding sustainability are a sign of greater change. Organizations are increasingly relying on cloud to realize purpose-driven business strategies. As Simon Sinek eloquently stated, "People don't buy what you do; **they buy why you do it.**"

New business models, including operating processes and workflows

New ways of aligning purpose with business strategies (e.g., sustainability efforts)

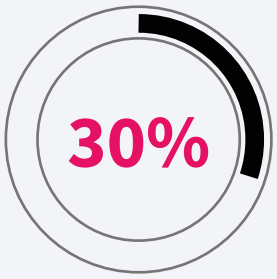
Improved customer experiences

New products & services

Q. "Pick the top 3 most desired outcomes for cloud-enabled innovation at your enterprise."

Fast changes mean challenges, too

But the path to purpose-driven business is not without challenges. Having gone through the initial acceleration of investments in the past few years, some organizations report encountering bumps and bruises from the rapid pace of change. Nearly a third say they've hit unexpected technical stumbling blocks with cloud implementations.



of respondents say cloud implementations have been more challenging or frustrating technically than expected

Percentage of respondents selecting "agree" or "significantly agree" that "cloud implementations have been more challenging or frustrating technically than expected"

Right-sizing cloud investments

Organizations are also considering the overall impact of their investments over the past few years. Did they invest too much in cloud? Too little? Or maybe they invested just the right amount – which is indeed what half of the respondents reported. Another 13% go further, saying they *under-invested* in cloud.

51%

say they have invested appropriately in cloud

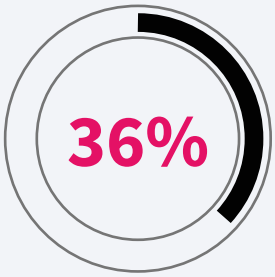
Another

13%

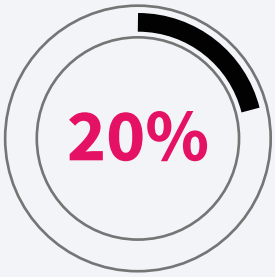
say they under-invested

Q. "Thinking back on the past 3 years, how would you describe your company's cloud investments?"

Some respondents are less convinced their cloud investments aligned with their requirements – more than a third report they over-invested. Still, only one in five actively regret their investment decisions.



of respondents say they overinvested in cloud in the past 3 years

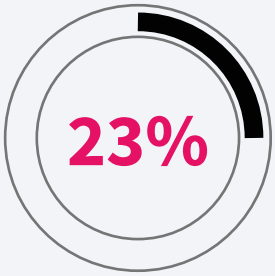


But only 20% say they regret hasty cloud investment decisions in the past few years

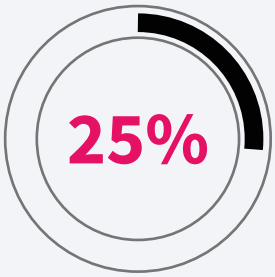
Percentage of respondents selecting "agree" or "significantly agree" that "we regret hasty cloud investment decisions made in the past few years"

Concerns about cloud ROI

A more difficult task is aligning the investment return in value, an undertaking made more acute amidst economic and geopolitical uncertainties. Around a quarter of respondents indicate growing uneasiness around ROI, and another quarter have already opted for or are considering changing cloud strategies due to disappointing returns.



of respondents say they feel increasing pressure and scrutiny to justify cloud-related investment decisions



of respondents say they have changed or are considering changing their cloud strategy due to insufficient ROI

Percentage of respondents selecting "agree" or "significantly agree" that "we feel increasing pressure and scrutiny to justify our cloud investments" and "we have changed or are considering changing our cloud strategy due to insufficient return on investment"

Overall, however, confidence remains strong in the long-term potential of cloud.

70%

say cloud is a long-term investment and they intend to stay the course

Percentage of respondents selecting "agree" or "significantly agree" that "our leadership recognizes that cloud is a long-term investment and intends to stay the course"

Stakeholders:
Hyperconnected ecosystems remain elusive

> In a free enterprise, the community is not just another stakeholder in business, but is in fact the very purpose of its existence.
>
> **– Jamsetji Tata**

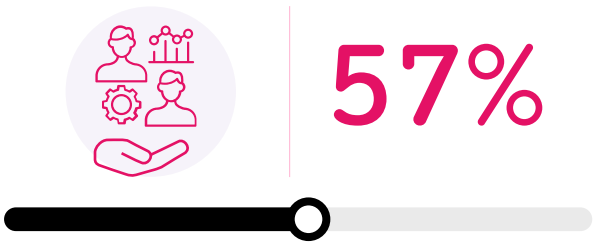
Aside from the rare "eureka" moment, successful innovation most often results from the cultivated, sustained interconnection of different groups. These stakeholders – those internal to an organization as well as those beyond their own walls – create ecosystems that empower organizations to act together in shaping the world.

Building stakeholder connections from the inside out

Of the numerous stakeholders across and beyond an organization, respondents say bringing internal stakeholders together is their top priority. More than half say they're looking to cloud for innovative ways to connect and engage employees – perhaps a residual effect of the need to quickly roll out new hybrid workforce models or the more recent talent wars.

Nevertheless, engaged and empowered employees, from finance roles to developers, are the foundation of the path of the possible. While innovation is often a top agenda of boardrooms and leadership, creating a true culture of innovation often requires significant transformation at the employee level.

Logically speaking, it also follows that organizations would want internal processes and people to be aligned before focusing on external ecosystems and strategic partnerships. A culture that supports innovative processes and technologies internally can spur downstream innovation, leading to an ever-evolving digital ecosystem and ongoing improvements in customer experiences.



57%

More than half of respondents ranked "new ways of working to improve employee engagement and productivity (e.g., remote collaboration technology)" as their most desired outcome for cloud-enabled innovation

Q. "Pick the top 3 most desired outcomes for cloud-enabled innovation at your enterprise."

For ecosystems, more ambition than results

Digital ecosystems – defined in the survey as a complex network of stakeholders who connect online and interact digitally in ways that create value for all – have transformed the way many organizations are approaching competitive advantage. Ecosystems forged on cloud-based platforms can allow organizations to integrate and engage with external partners and competitors to stimulate more opportunities, create new markets and unlock new forms of value.

The vast majority of the respondents, however, say they're not there yet. Around two-thirds across all regions surveyed are still in the initial or early stages of ecosystem participation. (See Table 1.)

Percentage of respondents at each stage of digital ecosystems maturity

	Total respondents	NA	UK&I	Continental Europe	APAC
No plans to participate in ecosystems	**15%**	**17%**	**17%**	**15%**	**13%**
Initial stage: Assessing requirements and planning participation in ecosystems	**47%**	**46%**	**43%**	**44%**	**53%**
Early stage: Implementing industry, customer or partner ecosystems	**19%**	**17%**	**28%**	**23%**	**16%**
Middle stage: Initial participation in industry, customer or partner ecosystems	**10%**	**12%**	**6%**	**9%**	**10%**
Late stage: Firmly entrenched and participating in industry, customer and partner ecosystems	**9%**	**9%**	**6%**	**9%**	**9%**

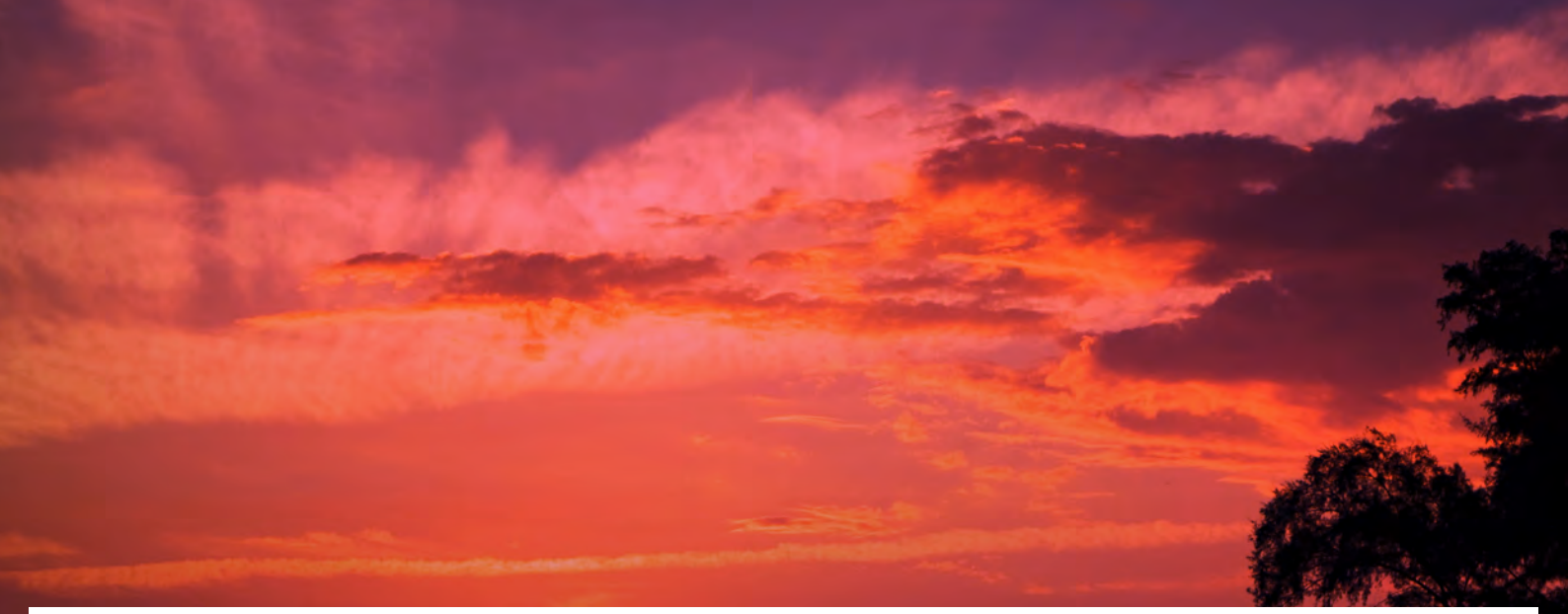
Table 1. "Please rank your digital ecosystem maturity level." (n=972)

A gap between desire and reality on cloud decision-making

As cloud adoptions have matured, stakeholders other than the IT department have steadily acquired a deeper role. While there are many technology entry points to cloud, business problems largely determine which technology to orient toward, whether automation, machine learning, edge computing or others. Connecting business and IT requirements for cloud – and the stakeholders of those – can lead to a quagmire of decision making and ownership.

The respondents surveyed believe they have largely avoided these pitfalls. Only a fifth (18%) of respondents report that they consistently fail or have major issues with clearly defined cloud ownership. A larger percentage – 29% – see a lack of alignment between IT and business requirements as an obstacle to realizing cloud-enabled innovation.

Below the surface, however, the study reveals more ambivalence among business and IT stakeholders. When asked about the current status quo of decision-making and ownership of cloud transformation, two-thirds of respondents reported that cloud transformations at their organizations are led by IT only or mostly. (See Table 2.)



A follow-up question then asked a slightly different version of the question, this time regarding the ideal state, i.e., whether the respondents agree with the current division of responsibilities between the roles. In more than two-thirds (68%) of the responses, there was a deviation from the status quo. The largest proportion of respondents (35%) desire a 50-50 split between business and IT leaders. (See Table 2.)

When asked about who does have and who should have the responsibility for cloud transformations, only "evenly split between business and IT" gained adherents

Do respondents agree with the current division of ownership?	Roles who currently have the majority of the responsibility and ownership of cloud transformations	Roles that should have the majority of the responsibility and ownership of cloud transformations
Business (including CEO, business unit heads)	**8%**	**8%**
Mostly business, some IT	**7%**	**5%**
50%-50% even split between business & IT leaders	**18%**	**35%**
Mostly IT, some business	**40%**	**34%**
IT only (including CIO, senior IT leaders)	**26%**	**19%**

Table 2. "Which department currently has the majority of the responsibility of the decision-making and ownership for cloud transformation in your organization? Which department should have the majority of the responsibility and ownership to manage cloud transformations in your organization?" (n=972)

What is the ideal division of responsibility and ownership of cloud transformations, according to each industry and region?

	Industry	Region
IT only	Accommodations & food services	
Mostly IT, some business	Banking & financial services Insurance Communications & media Retail Technology Transportation & logistics Utilities	North America UK&I
50%-50% even split between business & IT leaders	Consumer packaged goods Energy & resources Healthcare Lifesciences Manufacturing	Continental Europe APAC

Table 3. "Which department should have the majority of the responsibility and ownership to manage cloud transformations in your organization?" (n=972)

Insights:

Stronger data governance sets the stage for greater access, investment and reporting

> The best vision is insight.
>
> **– Malcolm Forbes**

There's a growing recognition that a free flow of data is required to foster innovations among stakeholders. Ecosystems and data are therefore coming together in new and unexpected ways, with cloud technologies as the underlying foundation.

But before organizations can safely and strategically usher in a new era of data democracy, organizations must have robust mechanisms in place to share, discover, and access data. That requires a strong commitment to data governance as part of an overall strategy to secure more value from data. Respondents are making significant progress toward this commitment, but more work remains.

Just

34%

say they excel in data governance and experience no issues

A higher percentage of respondents in North America (44%) say they excel in data governance and experience no issues, compared with 29% in APAC, 27% in UK&I and 27% in Continental Europe

Organizations are pursuing a number of strategies to improve data capabilities within their organizations, including investing in Data Communities of Practice (CoPs).

An overwhelming majority of respondents (86%) reported increasing investments in a Data CoP, defined in the survey as a group of individuals sharing common data sets to exchange ideas, establish best practices, and to improve skillsets and decision making around a common topic or goal, e.g., data governance. These Data CoPs are typically internal but can also allow trusted external stakeholders to share data sets for larger goals, such as limiting climate change.

Data-driven health care

Healthcare data is one of the most abundant sources of insights, yet very little of it is accessible. A UK biomedical research provider is using equal parts trust and technology to help change this. Through a robust, highly governed data sharing platform, the organization allows authorized researchers access to participant health data. Analysis of these critical data sets offers greater insights into both challenges and potential treatments, spurring innovative advancements and discoveries.

More technology means more data

Cloud as a unifying digital fabric has ushered in a wave of data-intensive technologies, and there is a clear appetite to take advantage of them. Investments are heavily slanted toward artificial intelligence and machine learning technologies – more than three-quarters are planning to invest in artificial intelligence/machine learning this year — both of which are highly dependent on large amounts of data being accessible and scalable through cloud. Given the renewed urgency fueled by well-publicized advances in generative AI, the overall interest in AI is unsurprising.

A more modest number of respondents – around half – are investing in scenario modeling, virtual hyper-automation and physical autonomous systems. (See Figure 1.)

Interest in investing in data-intensive technologies remains high, especially AI

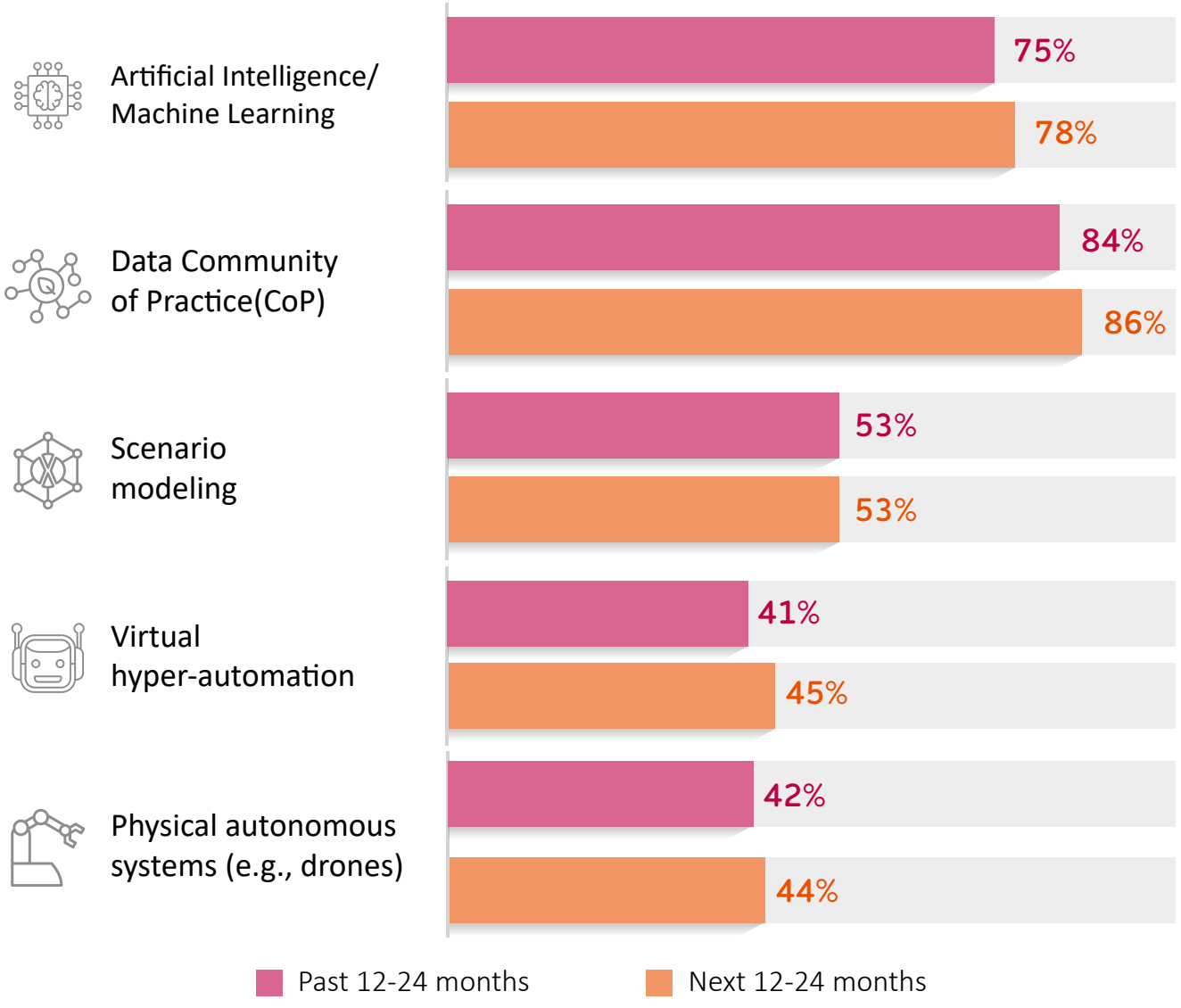


Figure 1. Percent who increased investments in the past 12-24 months compared to intended investments in the next 12-24 months (n=972)

As computation and storage get closer to data sources, there is enormous transformative potential for harnessing insights from data across multiple end points. Although at a more measured pace than AI, survey respondents are also investing in these capabilities. (See Figure 2.)

Investment in 5G networks is strong, while planned investment in edge computing is on the rise.

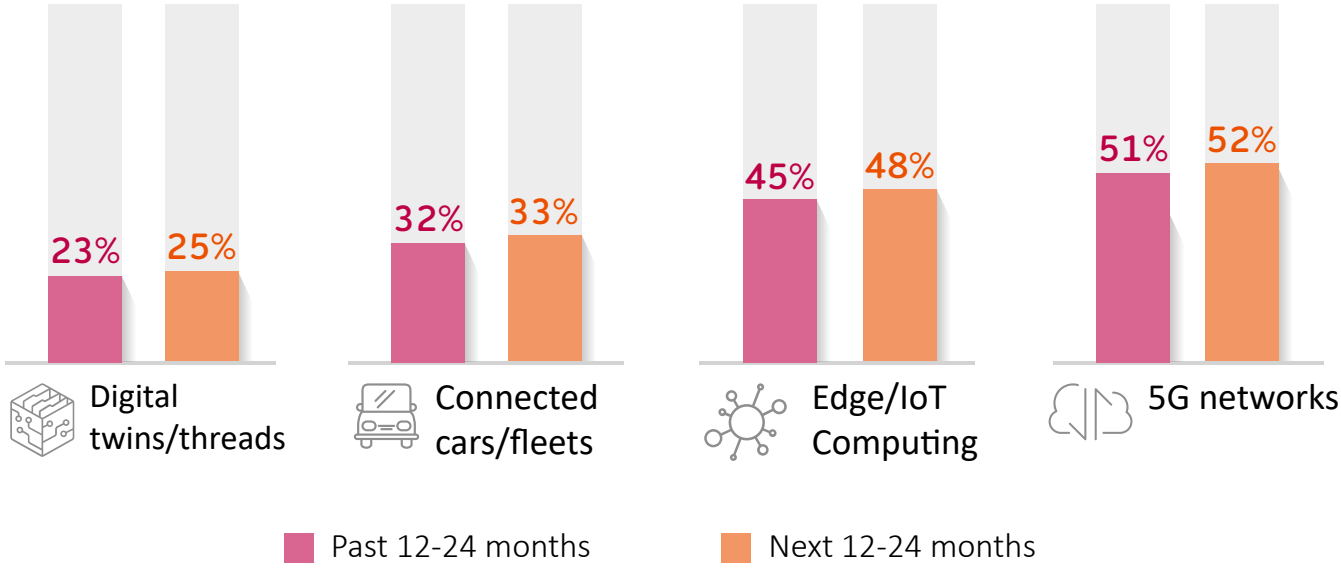


Figure 2. Percent who increased investments in in the past 12-24 months compared to intended investments in the next 12-24 months (n=972)

Respondents reported less investment in augmented reality and virtual reality in support of metaverse participation. Organizations may still consider metaverse more in the futuristic realm, along with quantum computing. (See Figure 3).

There is less, but rising, investment in augmented reality and virtual reality technologies

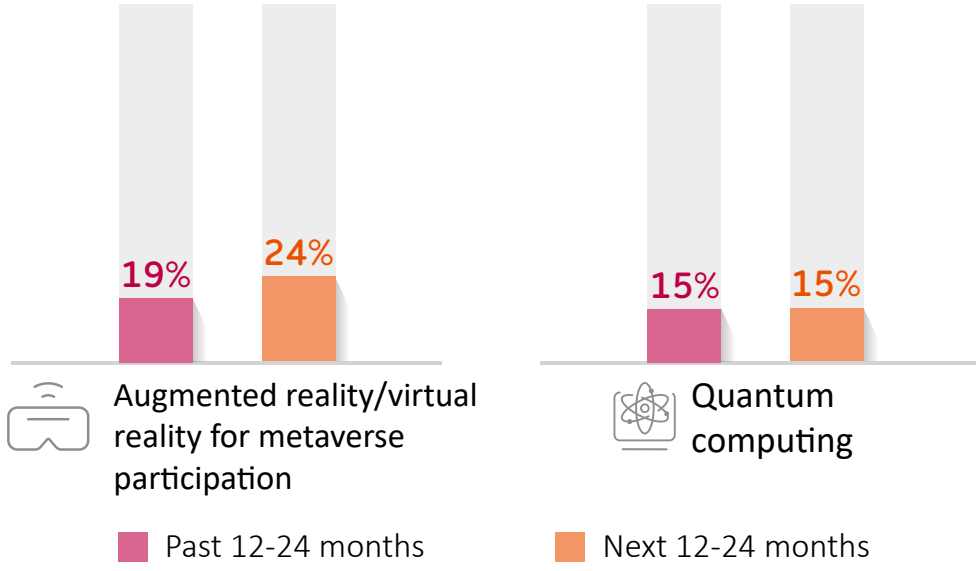


Figure 3. Percent who increased investments in the past 12-24 months compared to intended investments in the next 12-24 months (n=972)

Overall investments largely remained similar across the different regions, with some exceptions:

- Respondents in North America reported plans for greater investment in digital twins and threads, with 28% saying they increased or significantly increased investments in the past 12 to 24 months and another 32% expect to in the next 12 to 24 months.
- Fifty-four percent of respondents in the UK&I region increased investments in 5G network technologies and 58% plan to in the next 12 to 24 months
- Forty-nine percent of those in the APAC region say they invested in edge/IoT computing in the past 12 to 24 months. Another 54% expect to in the next 12 to 24 months.
- Both past and current investments in Continental Europe trended slightly lower than the other regions for nearly every technology category, including artificial intelligence/machine learning investments.

How cloud is helping track sustainability goals

Across all industries, there is a collective imperative to build sustainable, inclusive futures. Respondents see cloud as an important – and thus far successful – part of that vision.

of respondents say cloud technologies have helped their organizations achieve sustainability goals

Percentage of respondents selecting "agree" or "significantly agree" that cloud technologies have helped their organization achieve sustainability goals (n=972)

Transparency is key; enterprises are increasingly using cloud to track critical data indicators of sustainability, and they are demanding the same visibility from their cloud service providers.

43%

of respondents report "difficulty understanding carbon footprint impact of cloud-enabled innovation."

Q. "What do you see as the top obstacle holding back cloud-enabled innovation?" n=972

Collectively, environmental, social and governance – or ESG – metrics have risen in importance for many organizations. While requirements and standards are still evolving, cloud has a growing role in the transition to greater transparency.

Some areas of ESG tracking are more easily translated to cloud-based recording and analysis, and the survey results largely reflect this. When asked to identify which types of ESG metrics they're supporting through cloud, the percentages were much higher in the more regulated areas such as air and water quality management.

The social aspects of ESG such as community involvement are less likely to have data available and therefore less likely to involve cloud at this point. However, this could change as ESG standards mature. (See Table 4.)

Over half of firms surveyed use cloud to track and analyze their management of air and water

		Total	NA	UK&I	Continental Europe	APAC
Environmental	Air and water quality management	**60%**	**60%**	**62%**	**58%**	**63%**
	Recycling & wastewater mgt	**48%**	**53%**	**58%**	**41%**	**45%**
	Carbon footprint / emissions / greenhouse gas	**39%**	**44%**	**34%**	**35%**	**38%**
Social	Employee engagement and wellbeing	**54%**	**59%**	**54%**	**53%**	**50%**
	Labor & human rights practices	**53%**	**52%**	**54%**	**49%**	**58%**
	Employee diversity and inclusion	**30%**	**30%**	**32%**	**29%**	**31%**
	Community involvement	**16%**	**15%**	**17%**	**15%**	**17%**
Governance	Compensation/insider trading practices	**49%**	**52%**	**51%**	**42%**	**48%**
	Board leadership policies	**47%**	**48%**	**57%**	**43%**	**44%**
	Data privacy and collection	**35%**	**35%**	**36%**	**29%**	**39%**
	Climate risk & compliance	**34%**	**31%**	**43%**	**33%**	**34%**

Table 4. Percentage of respondents who used cloud-enabled data analysis and reporting to support these types of information in the last 12 months (n=972)

Expertise:
Flexibility falters amid greater complexity

> Sustaining innovation is the lifeblood of any enterprise.
>
> **- Geoffrey Moore**

Assessments of cloud adoption rates and maturity are notoriously challenging, given the vast range of implementations. The cloud journey actually might be multiple journeys, each one at a different stage of maturity, from initial phases to "complete," according to the parameters of each.

When considering cloud transformation, organizations must first lay the foundation of a strong digital core, with cloud as the unifying digital fabric. With initial modernization efforts underway, organizations can begin unlocking innovation with business processes and models for greater insights and customer experiences. Eventually, organizations begin maturing into a cloud-native environment and participating in transformative partner ecosystems that truly maximize the value of cloud.

Few survey respondents reported being in the early stages of cloud maturity (See Figure 4). Despite the accelerated pace of investment and adoption throughout the past few years, only 27% of respondents say they are fully cloud mature – perhaps because what's possible keeps evolving.

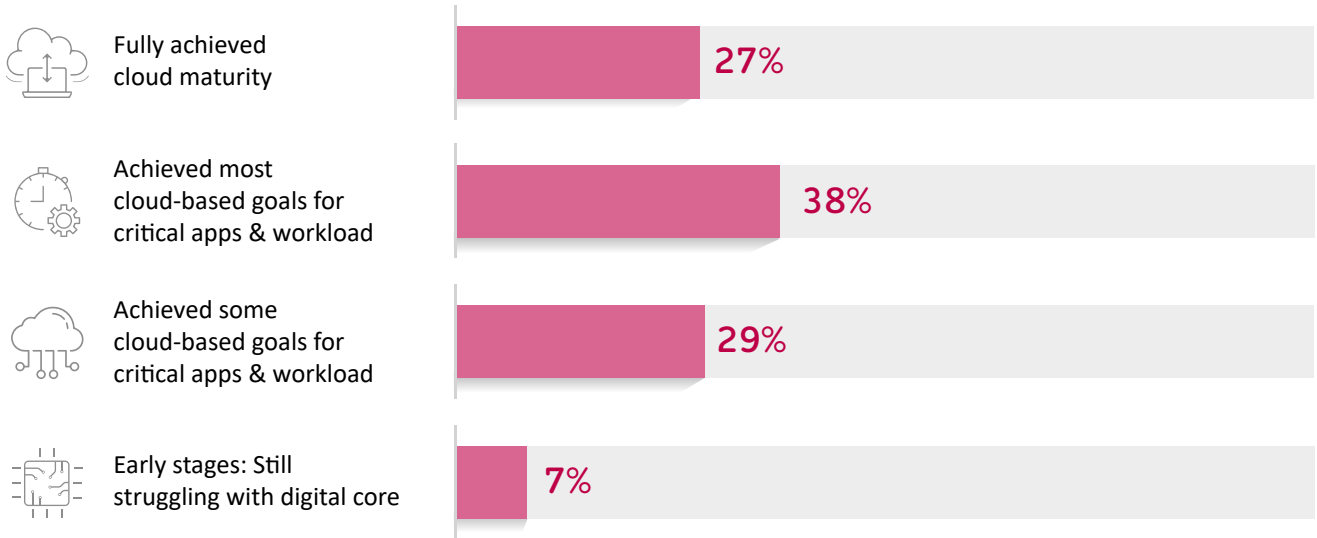
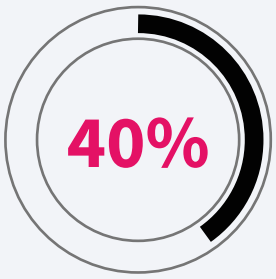


Figure 4. "How would you describe your company's cloud maturity as it relates to your critical apps and workloads?"

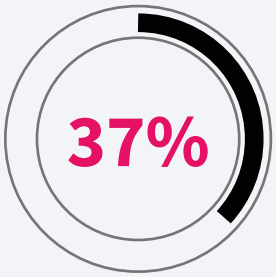
Fear of the unknown and other barriers to innovation

Many organizations are reluctant to risk disruption or abandon tried-and-true systems that, even if overly complex or rigid, are at least known and optimized.

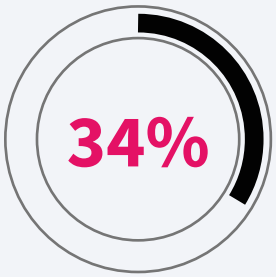
Biggest obstacles to cloud-enabled innovation



Potential for disruptions and unplanned downtime



Reluctance to migrate from fully optimized legacy IT/ERP systems



Accumulated complexity and rigidity of business processes & operations

Q. "What do you see as the biggest obstacles holding back cloud-enabled innovation?"

This lack of flexibility, particularly when it comes to core ERP systems, may be hampering organizations' ability to stay on top of new business requirements. More than a third say they often have to customize their core ERP systems to accommodate new functionality or business requirements (See Figure 5).

Because of new functionality or requirements, almost half of all firms must customize their ERP systems quarterly; over a third must do so monthly or even weekly

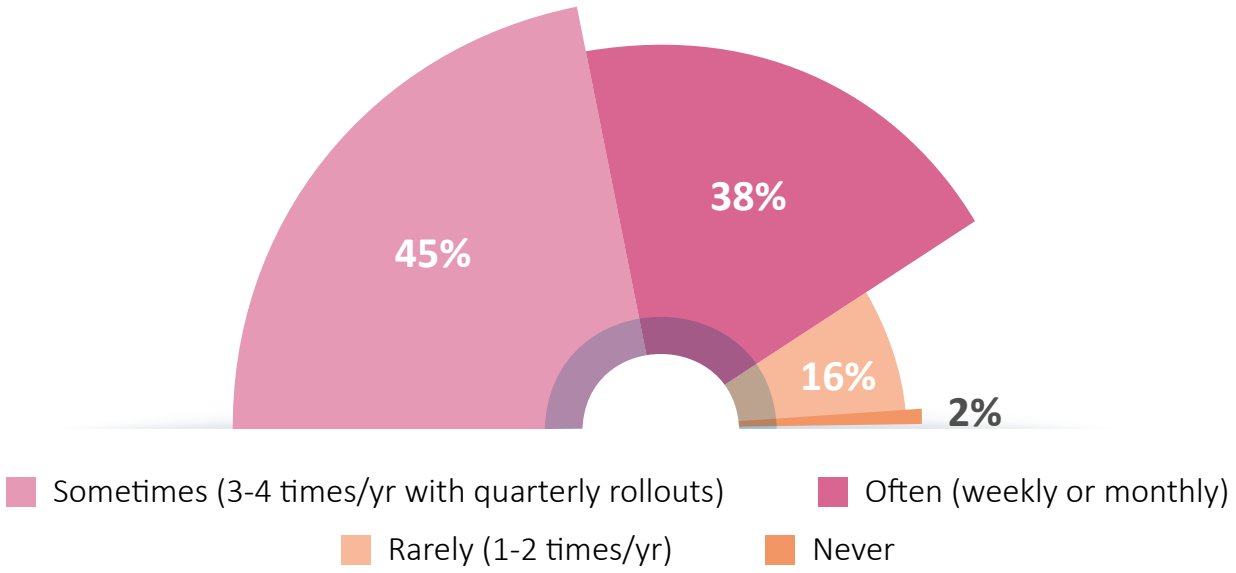


Figure 5. "How often do you need to customize your ERP system to accommodate new functionality or business requirements?" (n=972)

Given the need for frequent customizations, it's no surprise that around half of respondents across all regions say they either already have invested or plan to increase investments in modernized, more composable enterprise application technologies. (See Figure 6.)

Planned investments in cloud-native ERPs is increasing across all regions, particularly in APAC

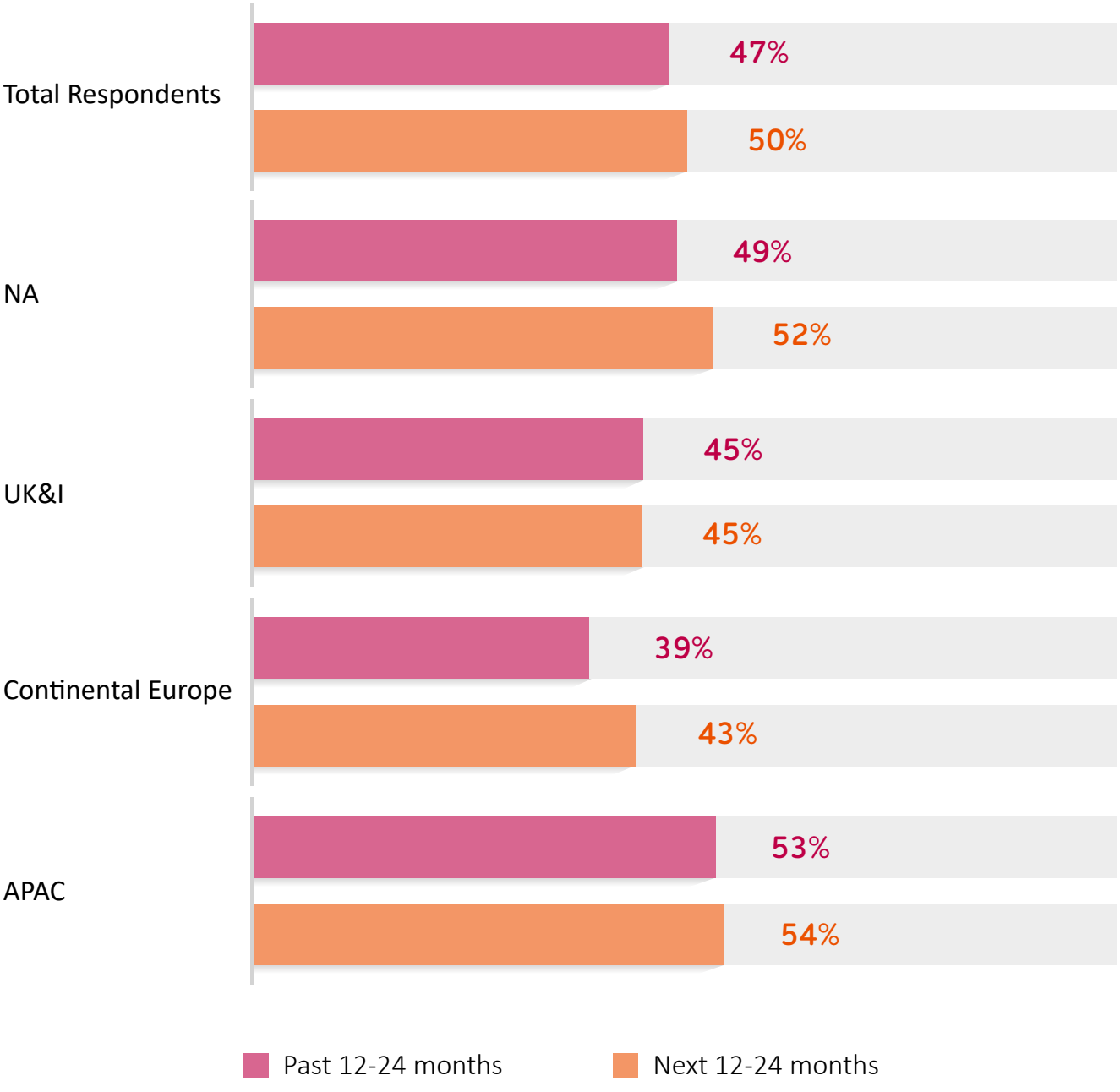


Figure 6. Percent who increased investments in cloud-native ERP in the past 12 -24 months compared to intended investments in the next 12-24 months. (n=972)

A need for more cloud expertise

Many respondents say they are struggling to find or develop cloud skills and experience in critical areas. Many organizations lack full proficiency in critical cloud skills, including both FinOps and DevOps, ROI metrics and agile practices. (See Figure 7.)

Percentage of respondents who report proficiency challenges with skills and experience in these areas

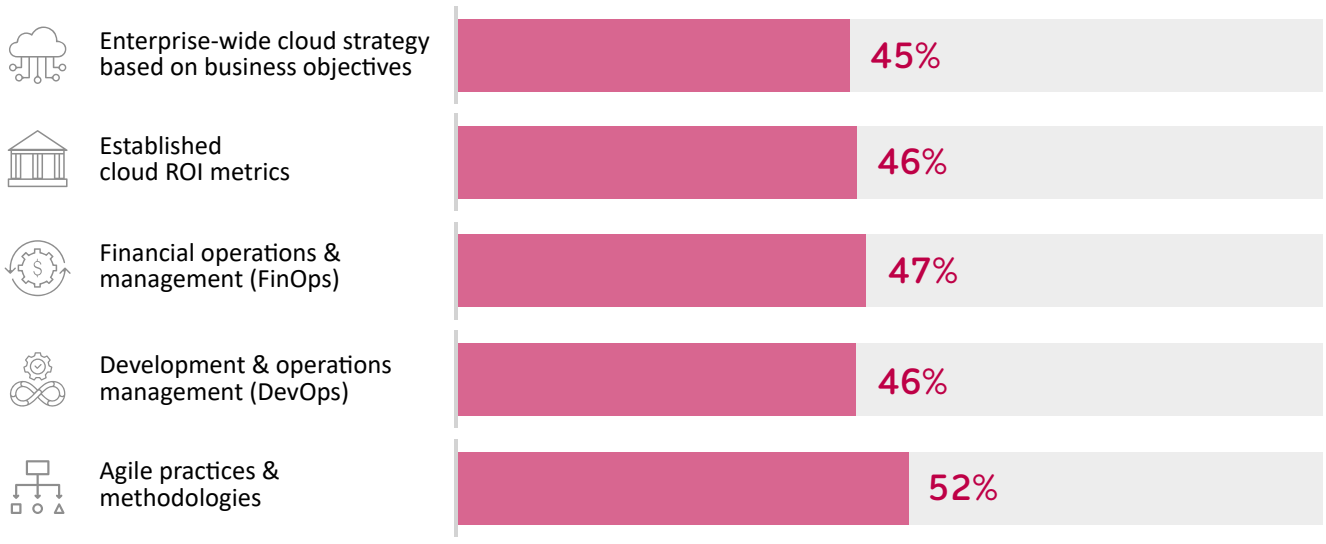


Figure 7. Around half of all respondents say they are experiencing proficiency challenges in critical cloud skills. (n=972)

Confidence in cloud security is high

Cloud security proved a surprising area of strength. Respondents indicate it remains an important consideration, but not an impediment. Only a fifth ranked it as a top obstacle to cloud-enabled innovation, and nearly twice that number indicated they excel in it and experience no issues.

20%

who say security concerns are the biggest obstacle to cloud-enabled innovation

39%

excel in cloud security and experience no issues

Q. Percentage of all respondents saying that the following are the biggest obstacles to cloud-enabled innovation; and percentage who possess skills and capabilities for cloud environments and applications? (n=972)

One reason for the perceived strength could be the growth of public cloud environments. After a period of rapid change, these environments are solidly established for the vast majority. (See Table 5.)

Nearly three-quarters of companies surveyed use a mix of public and private clouds; another quarter use public cloud only

Cloud deployment model	Total respondents	NA	UK&I	APAC	Continental Europe
Hybrid cloud (a mix of public and private)	**72%**	**78%**	**75%**	**70%**	**64%**
Public cloud only	**26%**	**21%**	**23%**	**27%**	**35%**
Private cloud only	**2%**	**1%**	**2%**	**3%**	**1%**

Table 5. "What best describes your cloud deployment model? Choose the one that most closely resembles your current scenario." (n=972)

As the TCS Risk & Cybersecurity Study noted recently, as more organizations have moved their critical applications and data to public clouds, they have become more comfortable with the security they offer. In that study, the majority of the CISOs and CROs surveyed (62%) said they believed cloud platforms offer as good as or better security than on-premises servers and traditional data centers.

Industry cloud takes off

The trend is clear: organizations are increasingly implementing industry clouds. (See Figure 8.)

Two-fifths of firms are assessing requirements for vertical clouds; another third are either currently adopting them or have already done so

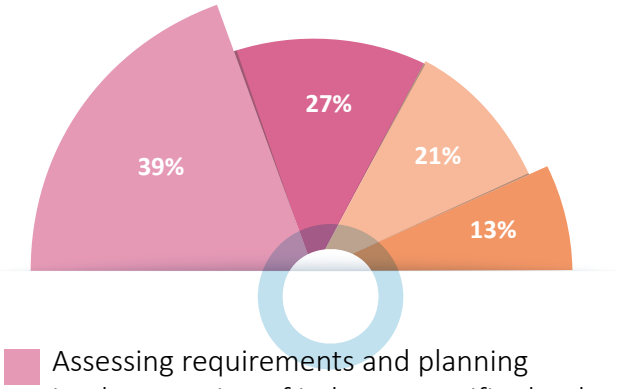


Figure 8. "How often do you need to customize your ERP system to accommodate new functionality or business requirements?" (n=972)

Industry cloud helps utility reimagine business models

A large regional utility in North America relies on multiple partners to serve its residential, commercial and industrial customers. But fragmented processes and legacy systems increasingly impacted its ability to provide an optimal brand experience for everyone across its value chain.

Given the rapid changes disrupting the sector, the utility reassessed its current operating workflows and quickly determined that piecemeal solutions would no longer suffice. Instead, the utility needed to transform its partner and program experience and operations while building an energy-efficient future.

Cloud provided the answer – specifically, an industry cloud uniquely tailored for the utilities sector. Built-in domain knowledge and processes accelerated implementation and enabled rapid expansion. Analytics, reporting and dashboards for key performance indicators enable intelligent decision-making on resource utilization. Other capabilities for rebate and incentive management and approvals processes have helped improve partner and employee satisfaction. And beyond the value of a superior experience, the utility and its customers have gained something else: a way to fast-track their participation in a zero-carbon future.

Industry clouds are tailored for specific sectors and provide pre-built tools, compliance, governance and subject matter expertise – all of which play a significant role as drivers for industry cloud adoption. *(See Figure 9.)*

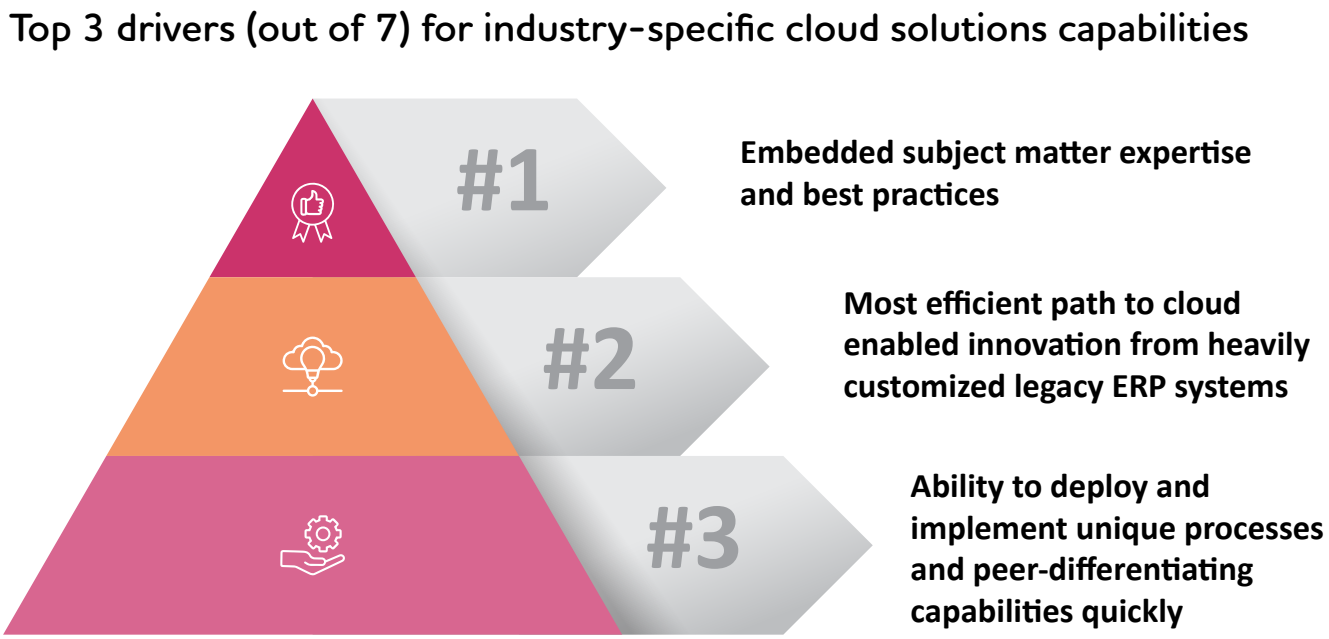


Figure 9. "What are your top 3 innovation drivers for industry-specific clouds solutions or capabilities?"

Summary

In 2011, TCS conducted its first comprehensive global cloud study to determine how organizations were using applications in “the cloud,” as it referred to the subject. Using quotation marks around “the cloud” – followed by a precise definition – was necessary back then. Today, cloud computing needs no such introduction. Cloud is the incontrovertible foundation for a connected future that continues to unfold with each technological advancement.

Much has changed in the past decade, including the gradual shift in mindset from cloud as an IT-centric solution to a critical business strategy. In that first TCS cloud study, discussions centered around optimizing computing resources and pay-per-use pricing models. At that time, cloud’s role in innovation was largely confined to its ability to generate cost savings that could then be redirected to other areas of investment.

Now, cloud itself is a catalyst for innovation, as the majority of respondents in this study reported. It’s the core pillar for data-intensive computing – generative AI, edge computing, quantum, among others – and hyperconnected ecosystems that bring customers, partners and employees together.

It’s also simultaneously a frequent target of short-term ROI anxieties and a long game for growth and transformation. Reconciling the two is a challenge and necessity – and fully achievable with the right strategy and planning. Focusing on perpetual value creation leveraging collective knowledge, providing a holistic experience to customers, collaborating with partners and competitors, and catalyzing cross-domain innovation will be critical, because it’s in these areas where cloud-based platforms, architectures, and even business models are most likely to succeed, both quickly and over the long term.

We recommend the following actions:

Connect technology with the people and processes that support it

In practice, technology is often blamed for failure, when the actual reason is lack of alignment of people and processes. Consider what processes need to change each time a new technology is added and determine whether the existing skills base is sufficient.

Connect system components into an ecosystem of intelligent, integrated applications.

Monolithic systems of the past are evolving into growth and transformation engines where organizations can quickly assemble and reassemble system components at will. Embed composability within business architecture and technologies, and encourage a culture committed to higher business flexibility through such composable enterprises.

Connect IT efforts and business goals.

Take an integrated approach to cloud initiatives and align the responsibility and decision-making with both IT and business stakeholders. Ensure all technology initiatives are connected to high-level objectives complemented by very specific objectives and key results (OKRs) per function group. Having a strong business case will help remind every stakeholder what the gains will be if they stay focused even in the face of setbacks.

Connect viable actions in the present with future end states.

When it comes to seemingly overwhelming complexity, start with small, manageable steps. Put the right foundation in place (strategy, architecture and processes) and keep moving forward, one bottleneck at a time. For example, the work needed to create and participate in fully integrated industry, customer and partner ecosystems doesn't have to be done upfront. Instead, try building a simple internal ecosystem that connects participants with similar roles and expertise.

And connect the future with a sustainable present.

Safeguarding the future has propelled sustainability into a business imperative – one that increasingly has regulatory implications. Aim to quantify the social and environmental impact of resources where possible, and chart a path to transparency and sustainable growth.

The Cloud 2.0 transformation

If cloud was earlier seen as a way of future-proofing enterprises' technology infrastructure, today it's a means of future-proofing the business itself.

In Cloud 2.0, technology is not something to adopt, but a strategy for business transformation and growth itself.

Three horizons to building a connected future

3

Transform and grow around purpose-led ecosystems

- Adopting ecosystems as an operating model; collaborating with competitors and partners
- Shifting from delivering point-products or solutions to meeting holistic purposes
- Catalyzing cross-domain innovation with platform play

2

Innovate business models

- Business model and process innovations
- Using technology to create connected and personalized customer experiences
- Integrating best practices across industries into business model

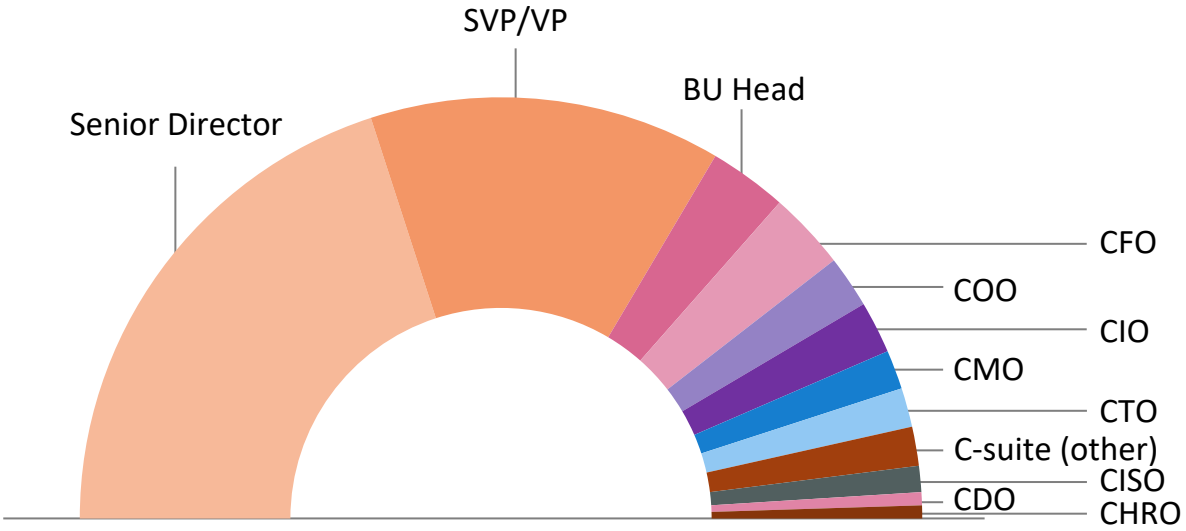
1

Build digital core

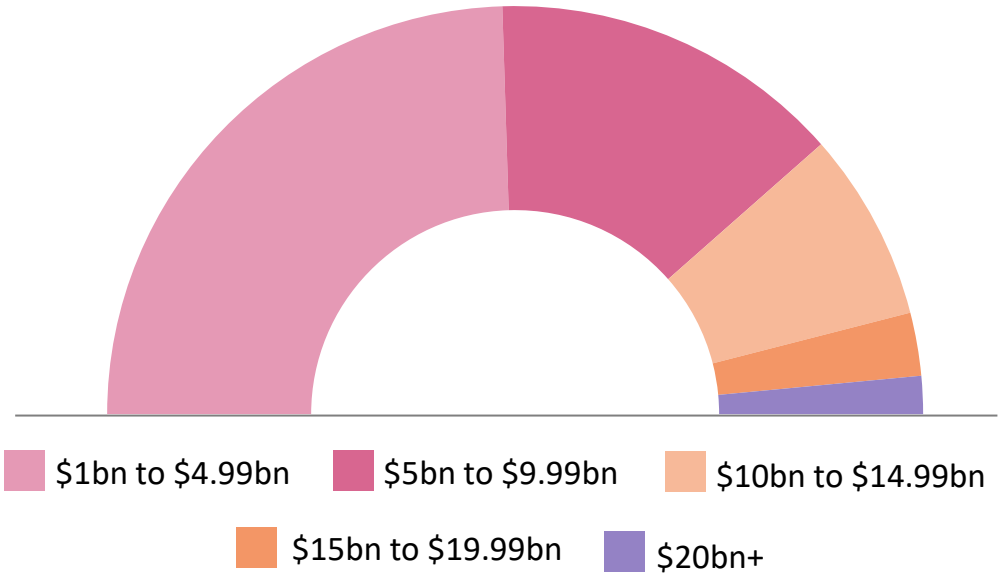
- Migrating workloads to the cloud for better elasticity, operational efficiencies, resilience, and scaling
- Modernizing infrastructure, applications, and data

Study demographics

Role representation

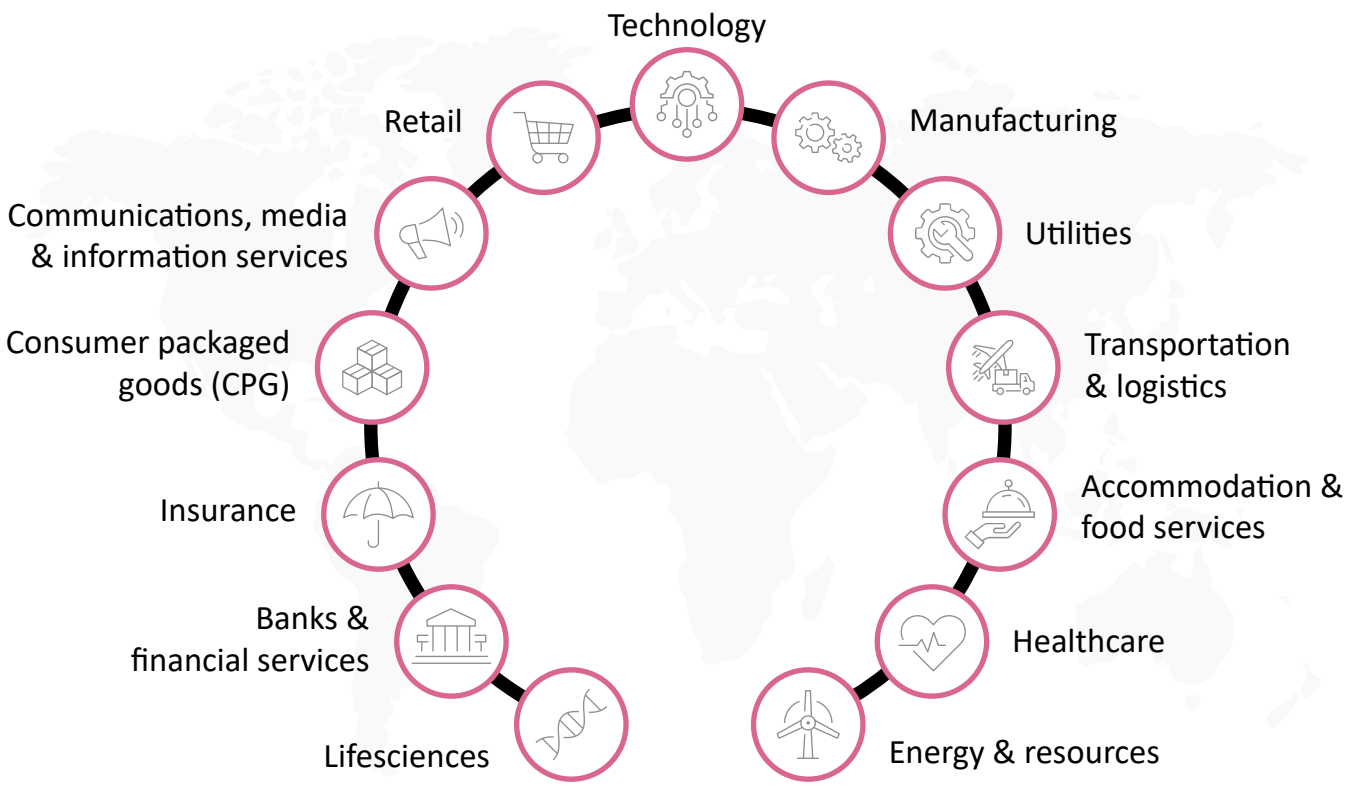


Revenue size representation



Country representation

Industry representation



Executive champions

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Krishna Mohan
Vice President & Global Head, Amazon Web Services Business Unit

Nidhi Srivastava
Vice President & Global Head, Google Cloud Business Unit

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