Transformation

Why telcos in EMEA must plan their cloud-native future – and act now to turn it into reality

February 2024

pwc

- In December 2023, the launch of a fully virtualized 5G networks in Germany by a new entrant marked the first time that incumbent telcos have found themselves competing head-to-head with a fully cloudified network, like their peers in North America and Asia.

- The higher speed, efficiency and flexibility, lower time-to-market, and greater scope for innovation enabled by a network based on cloud software rather than physical hardware means asset-heavy telcos have no choice but to respond.

- However, network cloudification is only one aspect of the cloud journey that telcos in EMEA are now undertaking. It's equally vital that they "cloudify" their internal IT and integrate cloud-based services into their customer offerings, all while complying with a complex and often challenging regulatory landscape.

- In this paper we draw on PwC's recent EMEA Cloud Business Survey to examine what that journey to cloud involves for telcos, and assess the opportunities and challenges along the way.

Three domains of telco cloudification

For telecoms operators, the move to cloud involves three distinct domains. They'll have to address all three to compete effectively into the future.

01 IT and operations cloudification

putting the enterprise IT systems into the cloud to realize benefits around cost, flexibility and innovation.

- In this area, the PwC's EMEA Cloud Business Survey shows that telcos in EMEA are lagging behind most other industries:

only **47%** of telcos are "cloud-mature," compared with **54%** of all companies, **65%** of tech companies and **61%** of Technology, Media, Telecommunications (TMT) companies overall.

Plus, only **62%** of telcos not currently "all-in" on cloud say that they'll have all their operations in the cloud within two years, Versus **73%** for all EMEA companies and **68%** for TMT as a whole.

- Telcos' relatively low cloud maturity is likely due in part to the need to comply with local regulatory requirements in areas like data sovereignty and ownership.
- The overall picture? For incumbent telcos, building an enterprise-wide cloud can raise major commercial, technical and cultural challenges alongside regulatory issues. And while many telcos are well underway in cloudifying their IT services and internal enterprise processes, it may well take years for legacy data warehouses, Business Support Systems (BSS) applications and Enterprise Resource Planning (ERP) environments to complete the migration.

02 Incorporating cloud services into customer offerings

realizing value beyond traditional connectivity, by meeting customers' growing demand for a wide range of digital services delivered in an integrated way in the cloud.

- This involves telcos collaborating with a broad array of cloud-native XaaS providers from hyperscalers to specialized industry clouds. Telcos can then sell and provision these third-party offerings, ranging from B2B services like firewalls, cybersecurity, sales support and teleconferencing to B2C offerings like video streaming and messaging apps.
- Cloud is the most efficient way to deliver these services in an integrated way that optimizes both experience and convenience for the customer. What's more, telcos know that if they don't partner with XaaS providers and capture a share of the resulting value, customers will use them anyway as over-the-top services.

03 Network cloudification

responding to the lead set by cloud-native entrants like 1&1 in Germany, Dish Wireless in the US and Rakuten in Japan.

- Cloudification of the network is the next wave of network value-creation for incumbent telcos, since the network is the largest area of both CapEx and OpEx spending.
- Cloud-centric network operation offers major technical, operational and economic benefits, since provisioning customers and upgrading network capabilities in the cloud is much faster and lower-cost than with physical hardware.
- Take the migration to 6G: with a cloudified network this will be much easier.
- Most major European telcos are running testbeds of cloud-native networks, largely driven to date by the risk and regulatory need to remove some suppliers' equipment – such as Chinese providers – from their networks and replace it with cloud software. But the competitive pressures to cloudify networks are now also intensifying.

The internal challenges to telco cloudification…

Why are telcos less advanced with migrating their IT to cloud than other regulated industries like financial services and comparable sectors like technology?

- First, they have much more and bigger IT workloads and greater dependence on technology than many other sectors – making migration to cloud a huge undertaking.
- Second, they are sitting on a large installed base of data centers, often overlaid by a fragmented, federated organizational structure across different national operating companies. Partly as a result, they're generally taking a multi-cloud approach to collaborating with Cloud Service Providers (CSPs) as described in the accompanying box-out. And very few are running fully-fledged end-to-end cloud capabilities across their IT stack, leveraging capabilities such as Kubernetes platforms.
- Third, there's often cultural resistance to cloudification, given existing investment in skills to run and maintain legacy systems, and the need to shift the entire organization to a cloud mindset and Agile/DevSecOps development methods. High labor costs are also a factor, especially in Europe.

Finally, telcos have a dual role as both providers and participants in the cloud ecosystem, meaning they face decisions over how they balance and combine these roles.

How are telcos collaborating with Cloud Service Providers (CSP's)?

- Given the scale and complexity of migrating their data centers to cloud, telcos are generally taking a selective, multi-cloud approach to working with CSPs.
- This often means virtualizing different IT workloads in different ways via different providers as appropriate – creating a hybrid cloud estate that blends hyperscalers private cloud; and SaaS point solutions.
- **20%** of telcos use a variety of CSPs for different workloads, with no dominant provider – compared to **14%**of TMT overall and **13%** of all EMEA companies. **55%** of telcos use one provider for most workloads supplemented by others for specialized purposes.
- In line with this approach, telcos are more likely than tech companies to choose third-party services that will work with any CSP for key workloads like master data management, data engineering and enterprise data platform/warehouse. Only for reporting are they more likely to focus on those that will work with their other CSPs.
- Turning to industry-specific cloud solutions, **61%** of telcos in EMEA already use an industry cloud solution, with **30%** of the remainder planning to deploy one within the next two years – taking total adoption above **90%.**
- Telcos currently using an industry cloud solution say the top benefit by a wide margin is improved data access and insights to support decision-making.
- Especially in Europe, an increasingly important aspect of telcos' collaboration with CSPs is the creation of partnerships to run "trusted" clouds – enabling telcos to leverage cloud while meeting national regulations on data location, residency and control (see section on regulation).

...are compounded by external challenges...

Overlaying the internal challenges to cloudification are the external and market challenges that telcos face.

01 | **As providers** in the cloud ecosystem, our EMEA Cloud Business Survey finds telcos rate confidentiality as their most significant challenge in helping clients to adopt change – while entertainment & media companies cite platform interoperability.

02 | **As participants** in the cloud ecosystem, telcos say their most significant challenge is customers' concern over continuing to use products/services due to the change from a license model to a usage model – while for TMT overall the top issue is business and competitive conflicts.

...with data regulation triggering "trusted cloud" joint ventures

- An overarching challenge across EMEA is regulation, which varies widely on key aspects like data sovereignty, physical redundancy of core networks, local network ownership and control, and law enforcement interception rights.
- In many jurisdictions, quality of service regulations governs "adequate" service levels and the timeframes for restoring services after an outage. These can all impact the business case for adopting cloud.
- Data regulation is a particular challenge, given that the hyperscaler CSPs operate globally and the locations where sensitive data can be transferred and stored are often restricted within national or regional boundaries. In cases where telcos' customers are themselves regulated, such as financial institutions, the rules are even tighter.
- To migrate their data centers and processing to cloud, this means telcos need a "sovereign" or "trusted" cloud that delivers the cost, flexibility and innovation benefits of cloud while complying with the regulations. To do this, telcos and other ecosystem players in EMEA are increasingly striking partnerships with CSPs and technology companies to created trusted clouds to support their own systems and even those of other companies.
- This approach is especially prevalent in France, where the regulations not only require that the data resides in the country, but also that the cloud technology is operated by a French company. These requirements have triggered the formation of alliances that combine the strengths of global cloud technology providers with local operational control. To date, two trusted cloud joint ventures have been created in France: Bleu and S3NS.

Cloud brings the power to innovate – including capitalizing on AI

- The effectively infinite processing power available in the cloud offers telcos the opportunity to take innovation to a new level. This potential is emerging at a time when companies across all industries – telecoms included – are considering how to maximize the potential of AI, and specifically Generative AI.
- While questions remain over issues like scalability and the choice of use cases, it's clear that AI will play a major role in activities ranging from smart, automated management of cloud-based networks to personalizing and optimizing customer experiences.
- Whatever AI is used for, cloud will provide the processing power needed to fully utilize exploit its capabilities – together with the ecosystem connectivity to build and support the required partnerships.
- Similarly, cloud can spur innovation more generally across a telco's portfolio of owned and third-party XaaS offerings, including fulfilment of the product catalog. There is also major potential for enhanced monitoring, extending it – for example –beyond monitoring the network and services to understand and optimize in real time how the services are being used by the customer.

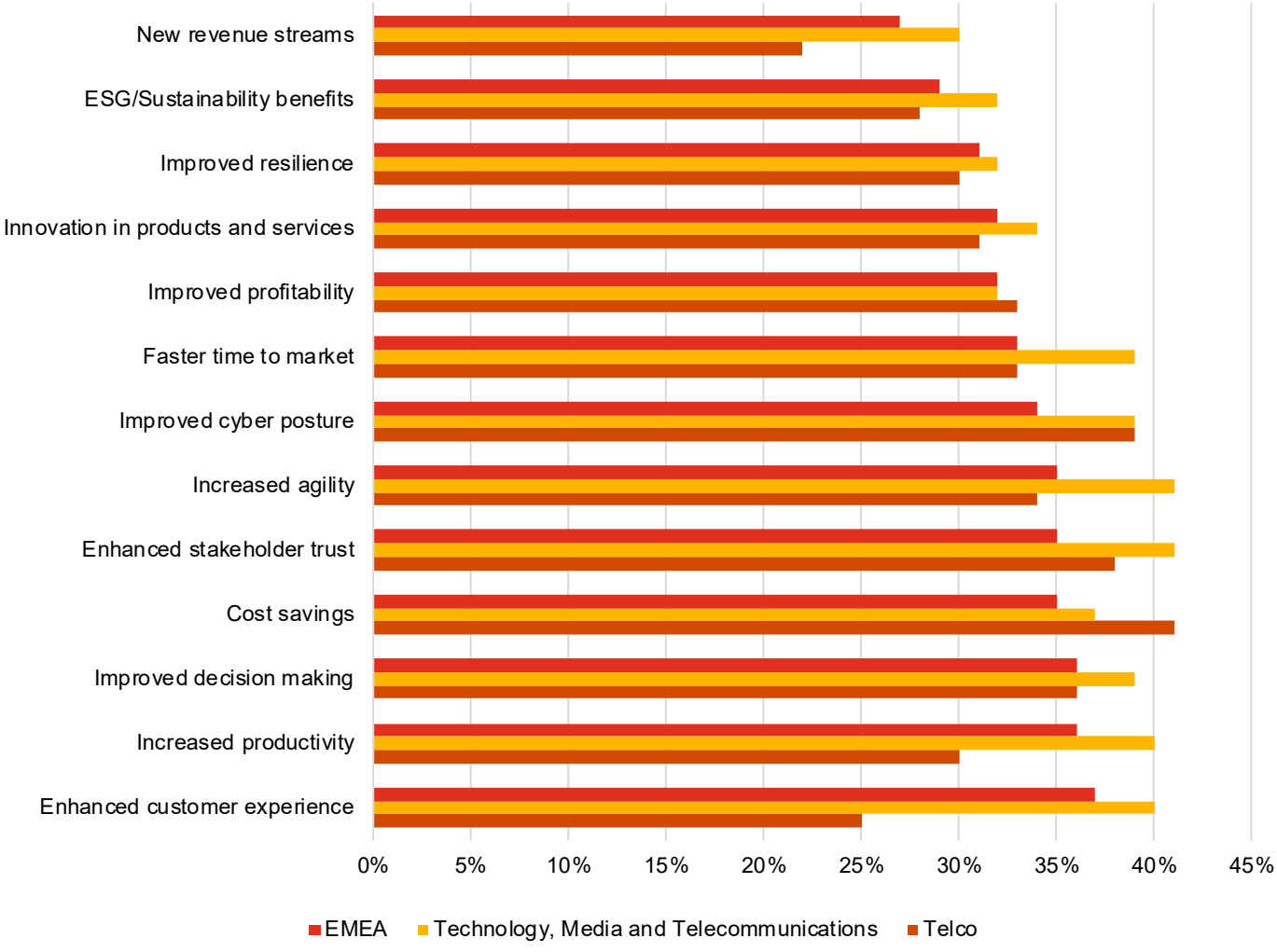
Telcos are now targeting rising benefits from cloud investment – topped by customer experience

The creation of trusted clouds opens the way for telcos to accelerate their cloudification programs and investments across all three domains – their enterprise IT stacks, customer cloud offerings, and core networks. Our EMEA Cloud Business Survey confirms that they're targeting a range of benefits from this investment.

While around a third of telcos are already achieving measurable value from their cloud investments, most have yet to do so. The main areas where they've realized value to date are cost savings and an improved cyber posture.

Cloud technology delivering measurable value

(Already achieved measurable value)



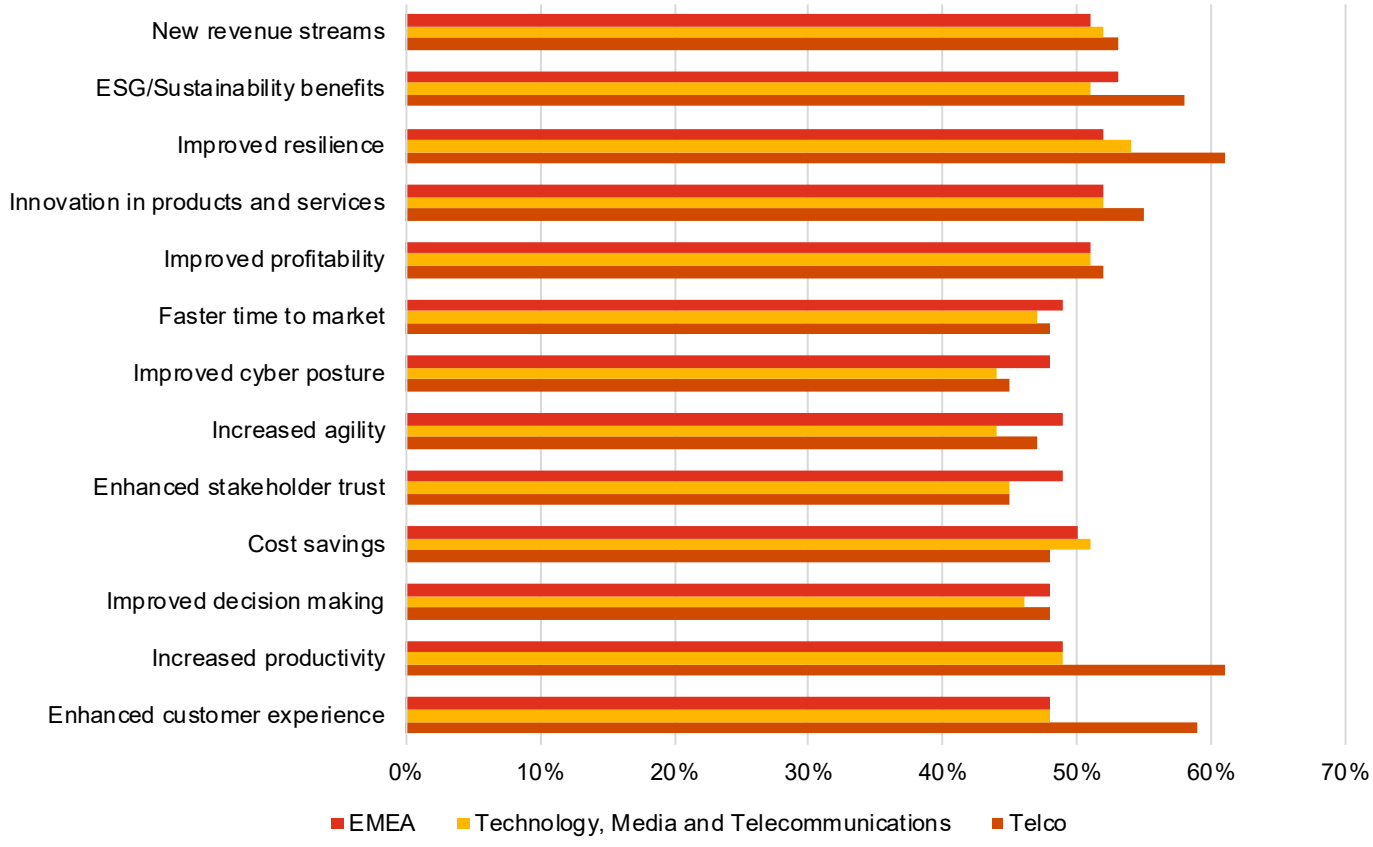
Source : PwC's EMEA Cloud Business Survey, 2023

Telcos are now targeting rising benefits from cloud investment – topped by customer experience

- However, they're now looking to invest more in cloud, and are optimistic that a wider range of benefits will soon start to flow. Looking ahead to the coming 12 months, half of telcos say their cloud strategy will focus more on cloud-native development – and two-thirds are increasing their cloud budget, which they say was previously the top barrier to realizing value from cloud.
- Asked to cite their main investment priorities over the coming year, telcos point first to customer experience (**61%**). This reflects the fact that cloud offers a scalable, flexible, and cost-effective platform for managing applications, services and network infrastructure in a more customer-centric way.
- The qualities are also mirrored in the areas where telcos expect to realize measurable value from cloud in the coming year, with enhanced customer experience (**59%**) ranking only narrowly behind increased productivity and improved resilience (both **61%**).

Cloud technology delivering measurable value

(Expect to achieve measurable value in the next 12 months)



Source : PwC's EMEA Cloud Business Survey, 2023

- How will telcos realize this value? According to the survey, over the next 12 months, they're focusing more than other industries – and more than TMT as a whole – on building cloud migration project management skills to support their cloud transformation goals. To acquire vital skills in cloud requirements gathering and migration project management, around two-fifths plan to hire and/or outsource – a similar proportion to TMT and EMEA companies overall.

Next steps into the cloud

While the telecoms industry in EMEA is making significant strides towards its future of cloudified enterprise IT and networks, it remains some way behind its counterparts in North America and Asia-Pacific. That gap brings opportunities to learn from telcos in those regions as they progress.

To keep their companies on course for cloud, we think EMEA telcos need to take three steps:

Formulate a cloud vision for the end-to-end value chain, devising a business model that aligns cloud technology against better business outcomes – whethe these be improved customer experience, rising AI adoption, digitization and automation, operational agility, or resilience.

Take a full-stack view, assessing technology options and partnerships across cloud infrastructure, platforms and applications, to create a coherent yet modular cloud framework that maximizes interoperability and flexibility.

Gain a deep understanding of the legal and regulatory aspects across different jurisdictions, ranging from data sovereignty to "adequate" service levels – and of how these can be addressed, for example by leveraging "trusted" clouds.

Cloudification of telecoms in EMEA has started, and the pace is increasing by the day. It's time to accelerate your cloud journey today – or face playing catch-up.

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