



JUNE 2023 REPORT

How Retail Banks and Financial Institutions Can **Master the Complexities** of the Cloud

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How Retail Banks and Financial Institutions Can Master the Complexities of the Cloud

DENNIS JOOSTEN

In our recently released report, "[From Taming Cloud Complexity to Achieving Cloud Mastery](#)" we surveyed 400 IT executives from the financial services, healthcare and life sciences, insurance and retail industries across the United Kingdom and North America. While their industries may differ, they can all agree on one thing: Cloud mastery is essential for businesses aiming to stay competitive, agile and resilient.

For banks and financial institutions (FIs), however, embracing multi-cloud strategies, adopting composable architectures and harnessing the power of AI and FinTech integrations are just a few ways banks can leverage cloud technologies to fuel business growth, optimize costs and maintain compliance and security standards.

However, as we saw from our survey responses, embracing cloud technology is a complex task, even for the most resourceful institutions. By understanding the current state of cloud banking, addressing the challenges of cloud adoption and exploring trends and defined use cases, banks can maximize the effectiveness of their cloud resources. Doing so enables banks to transform their operations to deliver superior customer experiences, drive innovation and, ultimately, build a competitive advantage. Here's what banks need to know to truly leverage the benefits of cloud technology.



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To read the full Cloud Mastery report encompassing survey findings across a variety of industry segments, [click here](#).





01

Current State of Cloud Banking

Current State of Cloud Banking


Rapid growth in the adoption of cloud services in the financial sector

Thanks to a multitude of geopolitical events, the COVID-19 pandemic and ensuing technological advancements, financial services firms have found themselves needing to urgently adopt cloud services. After spending years on cloud migration, organizations are beginning to see the benefits of cloud services go beyond enabling a distributed workforce. As more organizations recognize the potential advantages of cloud technology, the shift toward cloud-based solutions will only continue to gain momentum. To that point, our most [recent research](#) has shown that an increasing number of FIs are realizing the benefits of cloud services as they enable operation enhancements and drive innovation.


Growing Prevalence of the Cloud Center of Excellence

According to our recent research, an overwhelming 98% of FIs reported having a Cloud Center of Excellence (CCoE) in place within their organization. This high prevalence of CCoEs demonstrates the financial sector's commitment to effectively leveraging cloud technologies and highlights the importance of a centralized team responsible for driving cloud adoption, governance and innovation.

As the industry continues to embrace cloud banking, CCoEs – comprised of individuals across many areas of the business – will be vital in determining how to navigate the complexities of cloud implementation, ensure compliance and exploit the full potential of the cloud.

98% 

of FIs reported having a Cloud Center of Excellence (CCoE) in place within their organization.

85% 

of financial services organizations reported that their teams became more agile after moving to the cloud.

Competitive Advantages Driving Cloud Adoption

Cloud computing offers a wide range of benefits for financial institutions, including:



Scalability: Cloud services can be easily scaled up or down to accommodate changing business needs, allowing banks to adapt quickly to market fluctuations and customer demands.



Flexibility: With cloud computing, banks can easily access and deploy new applications, features and services, enabling them to stay agile and responsive in an ever-evolving industry. According to our research, **85%** of financial services organizations reported that their teams became more agile after moving to the cloud.



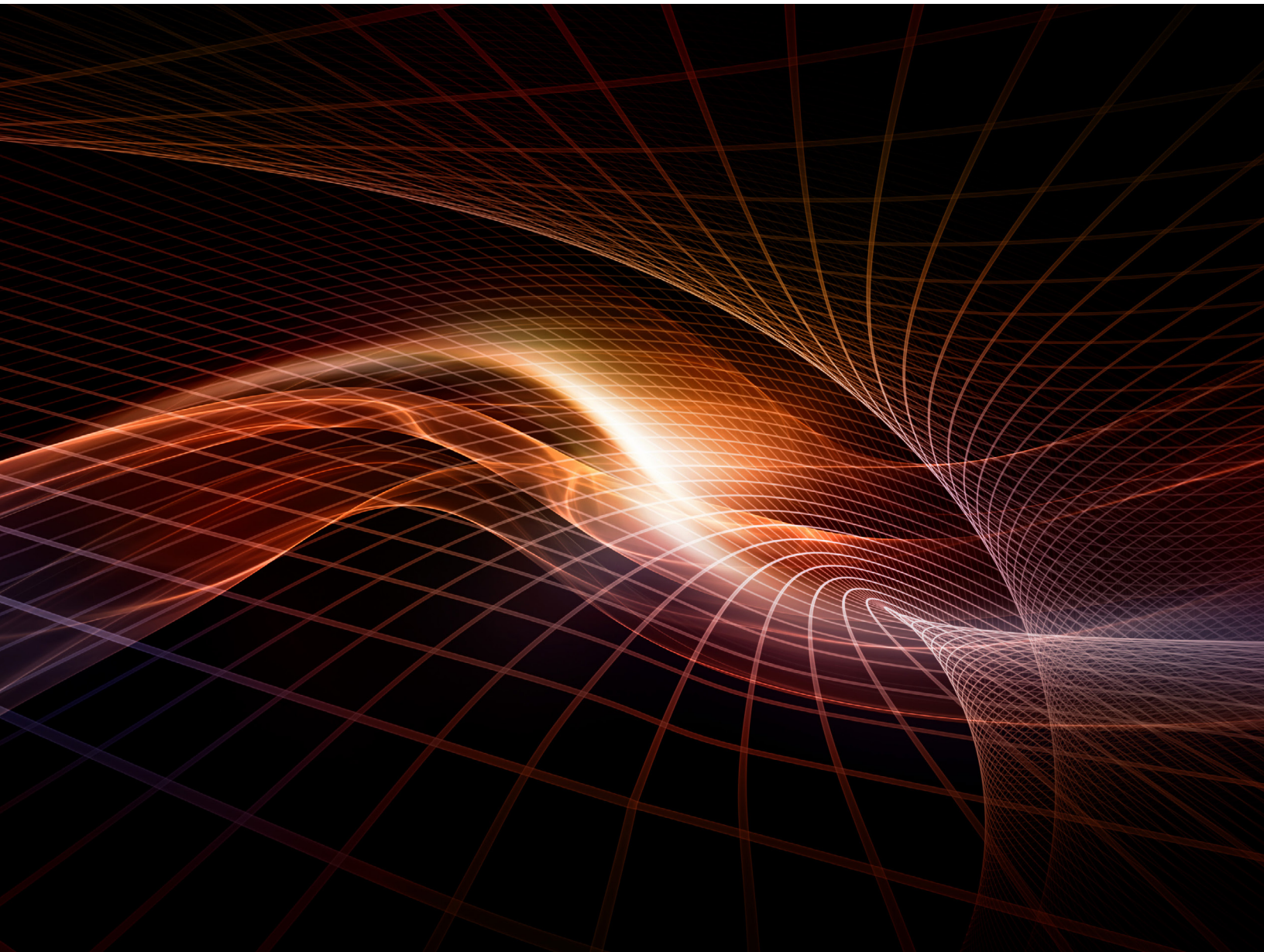
Cost-efficiency: The cloud enables financial institutions to minimize upfront capital expenses and reduce ongoing operational costs through a pay-as-you-go pricing model.

These benefits are driving banks to increasingly incorporate cloud services into their operations, streamlining their approach and improving efficiency.

Regulatory Compliance and Security-Driven Adoption

One of the primary concerns across the financial services industry is maintaining regulatory compliance and ensuring the security of sensitive customer data. Cloud service providers have made significant strides in addressing these concerns by offering robust security features and adhering to industry regulations.

Many cloud providers now offer built-in compliance tools and frameworks, helping banks meet regulatory requirements and manage risk more effectively. Additionally, the continuous advancements in cloud security – such as data encryption, multi-factor authentication and intrusion detection – have reassured financial institutions that their data can be safely stored and processed in the cloud.





02

The Challenges of Cloud Adoption

The Challenges of Cloud Adoption

While banks have begun to realize the variety of benefits cloud services offer, simply migrating to the cloud isn't a panacea for their biggest problems. In order for FIs to truly unleash the promises of the cloud, there are a number of challenges they must contend with.

Transforming Organizational Structure and Culture

The journey to cloud mastery doesn't start with the technology: it starts with the people. It is a comprehensive transformation that encompasses the target operating model, delivery processes and architectures of core systems. To truly unlock the benefits of the cloud, organizations must undertake a holistic approach to change.

One significant shift involves transitioning from separate business, change and operation departments to integrated DevSecOps teams. These teams bring together development, security and operations to enable faster delivery, improved collaboration and shared responsibility for the entire application lifecycle.

Another important aspect of cloud mastery is the adoption of self-service models. By empowering employees to access and manage resources independently, organizations can streamline processes and reduce bottlenecks, leading to increased efficiency and flexibility. At the same time, it's important to put guardrails around this newfound freedom, by keeping experts at the helm to help provide guidance.

However, one of the most critical and often underestimated components of attaining cloud mastery is a change in organizational culture – more specifically into becoming a cloud culture.

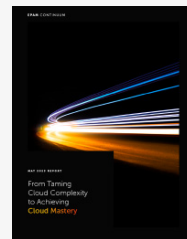
In such a culture, banks and other FIs embrace a growth mindset, encouraging employees to take calculated risks, learn from failures and iterate on their ideas. This fosters an environment where individuals feel empowered to contribute, collaborate and innovate, ultimately driving the successful adoption and optimization of cloud technologies.

To achieve the full potential of cloud computing, FIs must recognize that this transformation extends beyond technology alone. By focusing on evolving their operating model, delivery processes and architectures, and embracing a generative culture, they can unlock the true benefits of the cloud and create a more agile, efficient and resilient organization.



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Learn more about what it takes to become a cloud culture in our [full cloud mastery report](#).



Mastering Cloud Costs

As FIs continue to adopt cloud services, managing and optimizing costs has become a critical aspect of cloud management. Our research reveals that 50% of the organizations have been surprised by high cloud costs. Effectively mastering cloud costs can be challenging, as it requires a deep understanding of the various cloud pricing models, resource utilization and cost allocation. In a recent article on [Mastering Cloud Costs](#), we highlighted several key strategies that can help organizations achieve better control over their cloud expenses.

01

Right-sizing resources: Ensuring that resources are correctly sized for their intended workloads can significantly reduce cloud costs.

02

Implementing cost allocation tags: By tagging resources with cost allocation tags, banks and other FIs can track costs to specific projects, departments or business units. This helps create better visibility into cloud expenditures and encourages accountability among teams for their respective cloud usage.

03

Leveraging auto-scaling: Auto-scaling allows FIs to adjust resource capacity based on real-time demand. This ensures that resources are provisioned only when needed, reducing costs and improving efficiency.

04

Optimizing storage: Regularly reviewing and optimizing storage usage can result in significant cost savings. This may involve deleting unused data, compressing large files or transitioning data to appropriate storage tiers.

05

Utilizing reserved instances and savings plans: By committing to long-term usage of specific cloud services, FIs can take advantage of reserved instances and savings plans that offer significant discounts compared to on-demand pricing.

06

Implementing a Cloud Center of Excellence: A CCoE is responsible for driving cloud adoption, governance and innovation within an organization. By centralizing cloud expertise, a CCoE can help organizations develop and implement cost management strategies that promote optimal cloud usage and cost efficiency.

Mastering cloud costs is an essential part of any organization's cloud management strategy. By employing the techniques outlined here and continuously monitoring and optimizing cloud expenses, organizations can better control their costs and ensure the long-term success of their cloud initiatives.



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For more insights on cloud cost management, check out our blog post on "[Mastering Cloud Costs](#)."



Miha Kralj

VP, Cloud Strategy,
EPAM

Navigating the Pace of Change

Navigating the fast-paced world of cloud technologies can be challenging for banks and FIs, which must balance the need for rapid innovation with strict policies and controls. According to our cloud mastery research, 21% of respondents within the financial services industry reported the speed of release of new features from their cloud providers was too fast to effectively make use of. As new cloud features and services become available, DevOps teams in banks must find ways to leverage these offerings quickly while ensuring compliance with their organization's policies. To effectively navigate the pace of change around cloud services, banks need to effectively control for:

- **Policy evaluation and adaptation:** Banks need to regularly evaluate and update their policies to ensure they stay relevant to the rapidly changing cloud landscape, ensuring legacy policies don't stifle cloud growth and innovation. This may involve conducting periodic policy reviews and working closely with cloud providers to understand the implications of new services and features.
- **Compliance automation:** Banks can leverage automation tools to streamline their compliance processes, enabling DevOps teams to quickly assess whether new cloud services meet the organization's policies. Automated compliance checks can help identify potential issues early on, allowing banks to address them proactively.
- **Strong collaboration between DevOps and compliance teams:** Encouraging open communication and collaboration between DevOps and compliance teams can help banks ensure that new cloud features and services are adopted in a manner that adheres to their policies. This collaboration can facilitate a better understanding of each team's perspective, leading to faster and more effective decision-making.

- **Adopting a risk-based approach:** Banks can prioritize the adoption of new cloud features and services based on their potential impact on the organization's risk profile. By focusing on high-priority services that offer significant benefits and have a lower risk profile, banks can manage the pace of change more effectively.

- **Developing a robust governance framework:** Implementing a strong governance framework can help banks maintain control over their cloud environment while allowing DevOps teams to leverage new features and services quickly. This framework should include clear guidelines for change management, risk assessment and policy enforcement.

By addressing the challenges of rapid innovation in the cloud while adhering to strict policies and controls, banks can successfully manage the pace of change. By employing these strategies, banks can leverage the latest cloud features and services to drive business success while maintaining compliance with their established policies.

Privacy and Schrems II

Data privacy is a critical concern for financial services firms, thanks to recent regulatory developments. The [Schrems II ruling](#) in particular has further complicated the landscape. The decision, which invalidated the EU-US Privacy Shield – a framework that allowed for the transfer of personal data between the European Union and the United States – has significant implications for financial institutions leveraging cloud services. Firms must now ensure that any cross-border data transfers comply with stringent data protection regulations. Navigating these privacy challenges requires a deep understanding of both the legal and technical aspects of data protection, as well as the implementation of robust data governance practices.



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03

Trends of Cloud Banking

Trends of Cloud Banking

In addition to understanding the challenges of achieving cloud mastery, banks and financial institutions must also understand critical trends and shifts in the cloud or risk adopting a strategy primed for obsolescence. Below are some of the more prevalent trends banks must consider.

Multi-cloud adoption accelerated by DORA

The [Digital Operational Resilience Act \(DORA\)](#) has played a pivotal role in driving the adoption of multi-cloud strategies among banks. This European regulation seeks to ensure the security, stability and resilience of financial institutions' operations in an increasingly digital world. DORA enforces strict guidelines for Information and Communication Technology (ICT) risk management, incident reporting, digital operational resilience testing, information sharing and third-party risk management.

DORA is designed to help ensure resiliency of operations through an incident of severe disruption, caused by growing ICT complexity (i.e., cloud service providers, cyberthreat risks, etc.).

As financial institutions work toward resiliency compliance (and with an important piece of compliance being controls to eliminate disruption to services and operations), they are increasingly leveraging multiple cloud partners to mitigate risks associated with relying on a single cloud provider. The need for compliance with DORA and similar regulations, coupled with the desire to manage potential operational risks, has accelerated the trend towards multi-cloud adoption in the financial services industry around the globe.

Multi-cloud strategies enable banks to harness the best features and capabilities from various cloud providers, ensuring access to the most suitable tools and resources to meet their needs. These strategies also allow banks to distribute their workloads across multiple cloud environments, reducing the potential impact of any single point of failure and enhancing overall resilience and security. In essence, multi-cloud adoption helps financial institutions strike the right balance between maximizing the benefits of cloud computing and addressing the unique challenges and requirements of the banking industry.

The next frontier for data and system of records

Banks have been migrating their digital applications to the cloud for some time and they are now increasingly shifting their focus to back-end systems, including core banking and data infrastructure.

As banks [modernize their systems](#), they place a higher emphasis on data and systems of records to remain competitive in the rapidly evolving digital landscape. By harnessing the power of data analytics, artificial intelligence (AI) and machine learning, banks can make more informed, data-driven decisions, enhance customer experiences and better target their marketing efforts through [personalization](#).

CIOs at banks face several internal factors that slow down cloud mastery, particularly for core systems. These factors include risk, cost, mainframe resiliency and the lack of a major business driver. When financial institutions choose public cloud solutions, the primary drivers are productivity and flexibility, not cost. As a result, there is a rise in cloud-agnostic and best-of-breed models, particularly at the platform layer. These models aim for capabilities consistent across environments, adopting open standards and limiting exposure to vendor-native services that lock in both architecture and workload residency.

The means in which organizations adopt cloud services varies across industry subsectors. Regional and super-regional banks with less than \$500 million in annual tech-related operating expenses tend to see the cloud as an option to rent scale for cost and productivity gains. Global systems banks, with the scale to support on-premises data centers, tend to use cloud solutions selectively for edge computing, storage and noncore (system of engagement and customer-facing) use cases. This shift to cloud-based systems underscores the importance of adopting a strategic approach that balances the benefits of cloud computing with the unique needs and requirements of the banking industry.

Composable Banking and Building a Flexible Future

As the financial services industry continues to evolve, banks are moving away from integrated solutions provided by single vendors for their system of records and embracing more flexible approaches. This shift leads banks toward the concept of composable banking, which allows them to remain competitive and agile in a rapidly changing environment.

Composable banking refers to the modular approach of building, deploying and managing banking services, enabling banks to adapt quickly to changing customer needs and market conditions. By leveraging the power of cloud platforms and adopting a multi-cloud strategy, banks can create a flexible and scalable foundation for their initiatives.

In a composable banking framework, banks can mix and match components from different providers to create a customized solution tailored to their specific requirements. This approach promotes innovation and enables banks to respond rapidly to emerging trends and customer expectations. Components that can be mixed and matched include core banking systems, payment processors, data analytics tools, as well as various banking services such as accounts, deposits, lending, payments, foreign exchange, investment and anti-money laundering (AML) solutions.

Moreover, composable banking aligns with regulatory requirements such as DORA, which encourages financial institutions to adopt resilient and secure multi-cloud strategies. By implementing composable banking, banks can achieve greater operational resilience, comply with regulations and future-proof their technology stack in an ever-changing digital landscape.

In a recent blog article, [Navigating the Core Banking Transformation: Five Best Practices for Retail Banks](#), we discuss how banks can effectively navigate the complex journey of core banking transformation while embracing the principles of composable banking. By adhering to these best practices, banks can successfully transition to a more flexible and modular technology infrastructure that supports their long-term goals and delivers enhanced value to their customers.



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Check out our blog post on [“Navigating the Core Banking Transformation: Five Best Practices for Retail Banks.”](#)



Dennis Joosten

Senior Director,
Account Management,
EPAM



04

Committing to Cloud Mastery Use Cases

Committing to Cloud Mastery Use Cases

As firms begin to get a handle on the challenges and trends in cloud banking, a more complete picture of their cloud transformation journey can begin to come into focus. However, the picture is not complete until the final piece of the puzzle – identifying and committing to a cloud use case – is put in place. Here we detail a handful of common use cases for cloud adoption among banks and FIs.

Business Growth through FinTech Adoption and AI

One of the primary use cases for banks adopting cloud technologies is to drive business growth. By leveraging cloud-based solutions, banks can seamlessly integrate FinTech applications and AI-driven capabilities. This integration allows banks to offer innovative products and services, cater to changing customer demands and gain a competitive edge in the market.

Banks that achieve cloud mastery can securely and seamlessly leverage new cloud services, enabling them to adopt these services more rapidly. For instance, with the influx of innovations in generative AI models like ChatGPT, banks can enhance processes such as customer service, loan origination and wealth management.

With cloud infrastructure, banks can quickly scale their operations to accommodate new FinTech partnerships, deploy AI-driven algorithms for risk assessment and improve their digital capabilities to deliver an unparalleled customer experience – all in pursuit of growth.

Cost Optimization

Cost optimization is another essential use case for banks embracing cloud technologies. By adopting FinOps practices, banks can effectively manage and optimize their cloud spend, ensuring they get the most value from their investments. Furthermore, banks can leverage Software-as-a-Service (SaaS) solutions to reduce the costs associated with on-premise software and maintenance. Additionally, serverless computing and containers allow banks to optimize resource usage, lower infrastructure costs and improve application performance, further driving cost efficiency.

Enhancing Agility with Cloud Adoption and DevOps metrics

Agility is essential for banks to remain competitive in the rapidly evolving financial services landscape. According to DORA's research in their annual report "[The State of DevOps](#)," there are four key metrics that banks should focus on to improve their agility: lead time for changes, deployment frequency, change failure rate and mean time to recovery. By adopting cloud-based solutions and following best practices, banks can significantly enhance these metrics, empowering them to deliver new features and services more swiftly, adapt to fluctuating market conditions and recover from failures more rapidly.

Improving Resilience, Compliance and Security

As clients increasingly rely on digital services from banks, such as using their digital app for payments instead of cash, they expect these services to always be available. This necessitates that banks significantly enhance the resilience of their IT systems and adopting cloud practices can help support this improvement.

Simultaneously, in a highly-regulated environment, banks must maintain strict compliance and security standards. Cloud technologies can assist banks in achieving these goals by offering advanced security features, including data encryption, secure access controls and automated monitoring. Furthermore, cloud providers often have dedicated teams focused on keeping abreast of the latest regulations, ensuring that their services comply with industry standards. By leveraging the cloud, banks can enhance their resilience and maintain compliance more effectively.

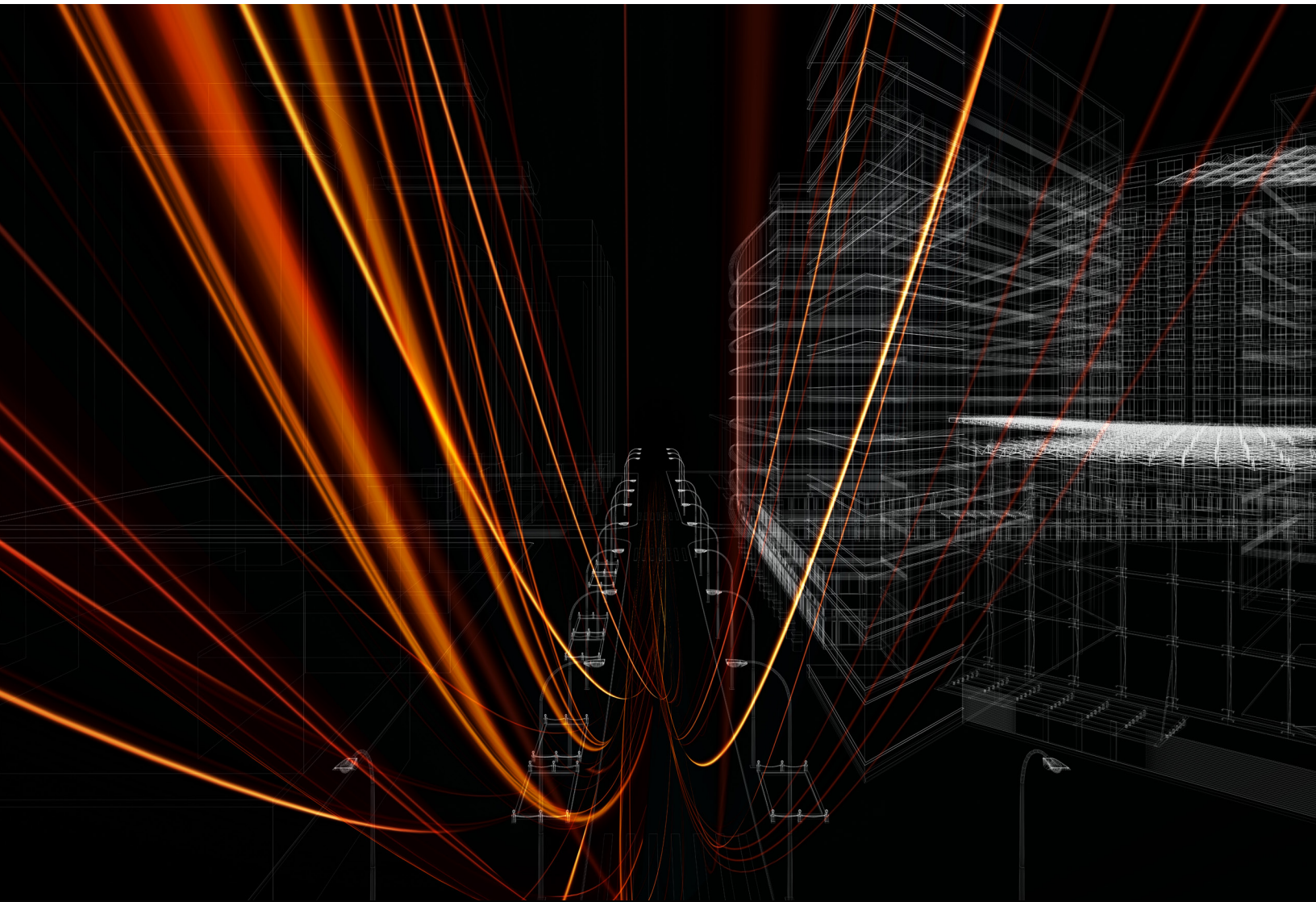
05

Conclusion

Conclusion

The shift toward cloud adoption in the banking sector is an essential step for banks and financial institutions to stay competitive, agile and resilient. Embracing multi-cloud strategies, composable banking and harnessing the power of AI and FinTech integrations are just a few ways banks can leverage cloud technologies to fuel business growth, optimize costs and maintain compliance and security.

By addressing the challenges of cloud adoption, understanding trends and focusing on defined use cases, banks can successfully navigate their journey to cloud mastery. Doing so will enable banks to deliver superior customer experiences, drive innovation and build a competitive advantage. As the future unfolds, cloud mastery will play an increasingly vital role in the success and sustainability of banks worldwide.



Cloud Resources

Hungry for more cloud-based knowledge? If so, there's good news. We've assembled some authoritative and useful content around essential cloud topics. Enjoy!

Cloud Operating Models & Organizational Change.

Is your IT ecosystem prepared for the transformation that cloud will surely bring? This lively [podcast](#) will equip you to begin thinking about cloud operating models.

Business Value and the Cloud.

Eli Feldman, EPAM's CTO of Advanced Technology, and Miha Kralj, our VP of Cloud Strategy, talk through [how to shake true business value from the cloud](#).

Cloud Mastery.

In this series of podcasts, three cloud experts — Miha Kralj, Norm Judah and Jim Wilt — discuss the essential topic of cloud mastery. Listen to [Part I](#) and [Part II](#)!

Cloud Security.

EPAM's CISO and VP, [Sam Rehman](#), spells out the details of securing the cloud.

Employee Alignment in the Changing Face of Technology.

In this post, Sandra Loughlin, EPAM's Chief Learning Scientist, divulges the secret to [folding employees into your tech strategy](#).

The Human Dimensions of Business Transformation.

Tune into this informative, [on-demand webinar with Loughlin](#).

Mastering Cloud Costs.

Read this concise introduction to the [art and science of controlling cloud spend](#).

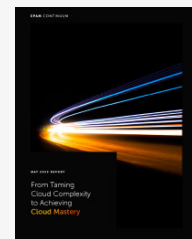
Cloud Governance.

A well-governed cloud is an effective cloud. [Read](#) all about it.



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This report was based on insights and trends pulled from original research featured in EPAM Continuum's May 2023 report, "From Taming Cloud Complexity to Achieving Cloud Mastery." To access the full range of research and insights, [click here](#).





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Questions?

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The Future. Made **Real.**[™]