Capgemini

RIGHT THE
TECHNOLOGY
WRITE THE
FUTURE

TechnoVision
2023 | FINANCIAL
SERVICES

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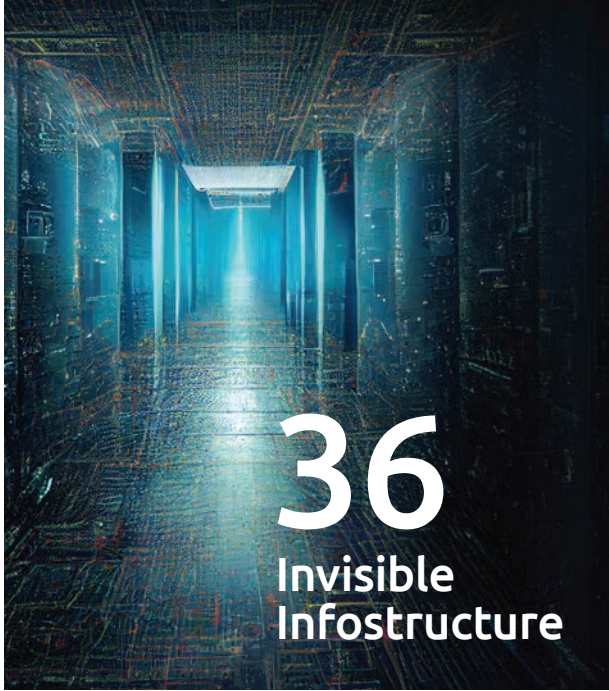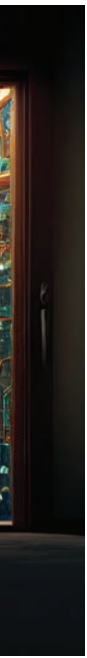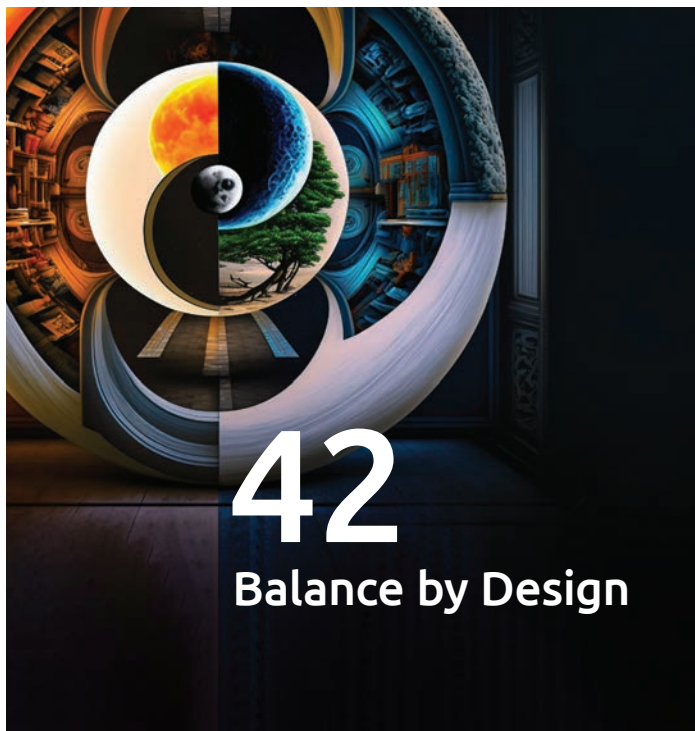
Foreword

ANIRBAN BOSE
CEO, Financial Services SBU, Capgemini

During the past several years, the world has adapted to unprecedented changes in the business and technology environment. As organizations across the globe were tested for their resilience and agility, it is safe to say we have emerged with some sense of stability. However, key issues like sustainability are now at the forefront, as we see our clients and in turn, their customers grow more conscious of the impact that their decisions and actions have on their surroundings. The importance of a technology-driven enterprise strategy that drives profitability for the enterprise, its employees, customers, and society is very relevant today – especially so in the financial services industry.

We are delighted to present TechnoVision 2023: Financial Services. TechnoVision provides a holistic and time-tested framework for business and technology stakeholders to explore how technology can be leveraged for a transformative and positive impact on their fortunes. An industry-specific view, such as this one, gives our readers deeper insight into the technologies that matter for their businesses. Through industry focus, innovation, ecosystem, agility, and sustainability, we can prepare ourselves to turn uncertainty into breakthrough opportunities.

This report brings together the expertise of architects and technology and domain specialists across financial services, combined with our experience in working with technology and organizations in this industry. While bringing forward the best aspects from last year's report, we also introduce to you some new trends that financial services firms can refer to as they look to write their futures. As always, we hope that you find TechnoVision a new and useful conversation starter on technology and business transformation that helps you to accelerate value creation.

INTRODUCTION

We pride ourselves on our flagship framework and even in its 15th year of publication, TechnoVision is ever fresh, relevant, contextual, and a key guide for our clients to insights on innovations and trends that matter.

Technology is and will remain an integral and indispensable part of the business equation, implying every business is a technology business. And while technology choices are plentiful, applying technology requires human and natural resources that are increasingly scarce, and certain technology options may even have an undesirable societal impact.

Carrying forward this theme, we encourage our readers and clients to be frugal in their usage of technologies, ensuring that they "Right the Technology, Write the Future." Keeping in mind that the world we inhabit cannot provide for us indefinitely, upcycling and resource frugality proves an effective method by which stakeholders can ensure that the technologies they use have a positive business impact with minimal detrimental effects on the environment.

We hope that TechnoVision 2023: Financial Services will act as a trusted and insightful guide to helping you make the right choices as you devise technology-enabled enterprise strategies and transformation plans. We look forward to connecting with you as you aim to "Get the Future You Want."

We are proud to present the fifth edition of the TechnoVision Financial Services industry playbook. Our TechnoVision lineup continues to be a north star among our clients, and this industry playbook gives financial services firms deeper insights in how to operationalize technology transformation programs. This year's edition builds on the theme of "Right the Technology, Write the Future," set by "TechnoVision 2023" published by Capgemini earlier this year, emphasizing the frugal use of technologies to create a net positive impact.

TechnoVision has been a unique asset that provides full line of sight for enterprise IT – from technology trends to industry relevance to ecosystem orchestration. We bring you an in-depth perspective by providing 37 technology-business trends applicable to the industry and over 70 industry examples across banking and insurance to help guide you as you build your strategy for the future. We also supplement this information with a view of the technology ecosystem and insights into the wide gamut of solutions we can provide as you accelerate your technology transformation.

TechnoVision 2023: Financial Services provides an actionable framework that can be applied in day-to-day enterprise IT by both business leaders and technology practitioners. It is a proven tool, not only for assessing upcoming technologies but also for executing complex transformation programs.

We hope that this industry playbook helps you on your transformation journey.

PASCAL BRIER
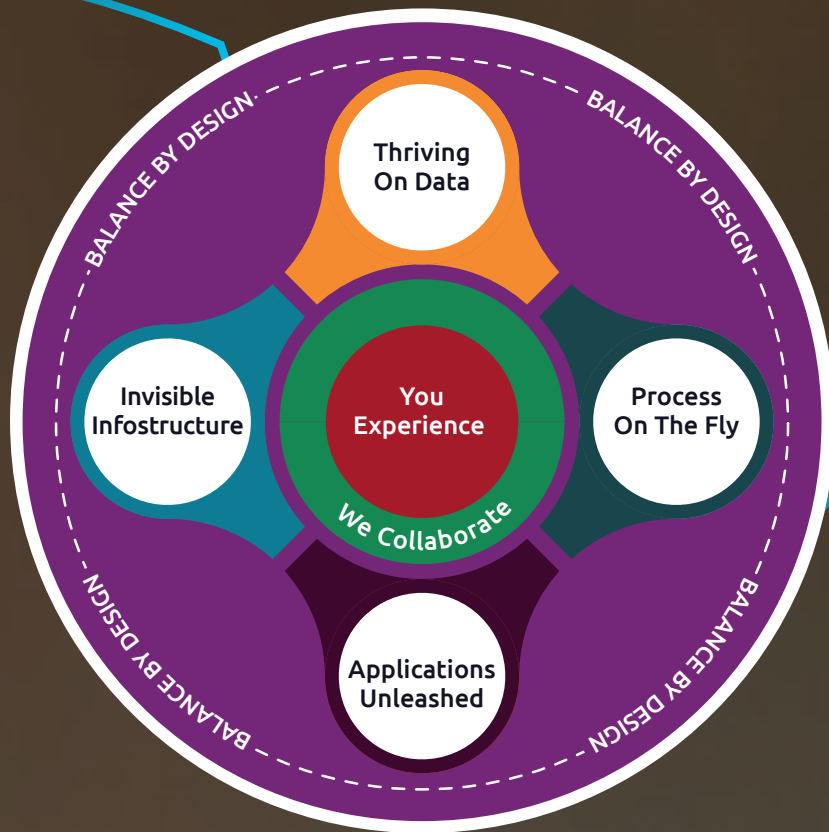Group Chief Innovation Officer

SUDHIR PAI
CTIO, Financial Services SBU

ABHAYA GUPTA
COO, Financial Services SBU

Thriving On Data

Invisible Infostructure

You Experience

We Collaborate

Process On The Fly

Applications Unleashed

BALANCE BY DESIGN

OVERVIEW OF TECHNOVISION 2023: FINANCIAL SERVICES

This TechnoVision report covers technology trends and their impact on financial service firms by sorting them into six containers. These containers cover the "what" angle of innovation, with themes ranging across user experience and collaboration, data, and process automation, and applications and infrastructure. A seventh overarching container covers the "how" aspect of innovation, informing firms of the design principles they will need to keep in mind as they apply these concepts.

Looking at the framework of the report, you will see we place human-centric aspects of experience and collaboration at the center, enabled by four primary technology drivers. All of these are surrounded by an overarching design-principal container to complete the transition from aspirations to actions.

This year's report continues to contain technology trends for each container and instances of how these have manifested in the industry, followed by ecosystem implications and activity. As this year's theme is "Right the Technology, Write the Future," we have included new sub-containers to fit the theme of sustainability and resource frugality, while upcycling most of the sub-containers from the previous edition. We conclude our discussion of each container with a section on how Capgemini can help you plan and execute your enterprise transformation, while ensuring responsible and adequate use of technologies to ensure a positive impact on our society.

YOU 🔲 – 😊 – ℹ️ EXPERIENCE

FINANCIAL SERVICES IMPLICATIONS

The financial services industry has evolved from a transaction business to a true experience business, coupled with new technologies and evolving business models that have given a fresh impetus to accelerate this evolution. Despite uncertain market conditions, investments continue to shift towards enhanced experiences for both customers and employees, with new interaction channels between humans and applications that behave as humans. As financial services become increasingly embedded in all walks of life for a customer, enmeshed with multiple products and services, this frictionless, low-touch, and personally emotive relationship has become paramount.

Financial services organizations are subject to strict compliance regulations and security concerns that make the application rejuvenation journey long and complex. Automating internal processes and customer interactions is the increasingly preferred way to answer client expectations quickly and cost-effectively. Managing the data generated by ever-increasing interactions is more important than ever – especially for retail banks and insurers looking to transform how they communicate with their customers. In addition to digital twins for things and devices, customers and employees have their digital representations or avatars, enabling hyper-personalized "phygital" experiences. The Metaverse is emerging as the next frontier of the internet supporting new forms of value exchange and payment services.

Differentiated digital experiences, digital asset offerings, and reward programs have started gaining importance as banks and insurers look to improve customer engagement and retention, to compete with fintechs, Big Techs, digital exchanges, and new self-custody devices. Tokenized card numbers, biometric security, and multi-device support are improving customer experience (CX).

Generative artificial intelligence (AI) is not only enabling user-specific content and productivity optimizations but also augmenting conversational chatbots and voice assistants as emphatic partners. Generative AI and AI prompts encourage customers to expect artsy experiences and more insightful emotional interactions. Unleash the power of machine learning on data points gathered through this emerging "internet of behavior," and the ingredients at hand will create a truly frictionless, low-touch experience – one that seems to sense the intent, and the emotions, of the customer or the employee even before they express themselves.

Customers expect fast, hyper-relevant service and real-time responses to their needs. Delays in service and response may erode long-term confidence. Financial institutions (FIs) must acquire and integrate real-time data capture and analysis capabilities with their CX offerings. Personalized credit offers can be integrated with e-commerce companies taking into consideration credit risk assessment and customer behavior. From cash to digital currencies, frictionless experience with increased use of biometrics, and lifestyle priority changes, such as a focus on savings and safer investments, are a few examples.

KEY TRENDS

- Financial institutions can no longer rely solely on automated responses and are moving toward offering a mix of human and AI interaction, such as through training their chatbots to assess sentiments and enabling real-time interaction coupled with automated/AI-assisted customer journeys. Prompt engineering is gaining traction to complement the developments in generative AI, as an example of this human-technology symbiosis.

- Technologies like predictive analytics, AI, and machine learning enable financial institutions to deliver targeted offers tailored to individual customers. The availability of real-time usage data (e.g., search history) for each customer helps to build a unified customer profile, ensuring that insights are driven out of every interaction and opening new opportunities for FIs to maximize their appeal.

- Automation is helping realize new use cases for FIs in the form of expedited customer onboarding, self-service options, AI-enabled virtual assistants, and more. These developments not only directly smoothen the customer experience but also help cut down the back-end processing time, freeing up resources and ultimately delivering a better experience for customers.

- As the diminishing demand for visiting physical branches renders conventional layouts obsolete, FIs are redesigning their branches to adapt to the new roles they play for their customers and cater to new expectations. A future-oriented branch may now include humanized consultation services, automated self-service facilities, community spaces, and more to deliver the desired experience for each customer.

- Financial institutions are relying on digital twins to move towards operational excellence and assess the performance of their assets, thereby enhancing customer experience. These twins can simulate different scenarios like bank performance during peak hours or customer interactions, helping develop more personalized experiences. Banks can foresee any market risks through these twins and develop strategies beforehand to mitigate them, while insurers can increase claims accuracy by simulating accidental events.

in **Surabhi Gawde**
Expert in Residence
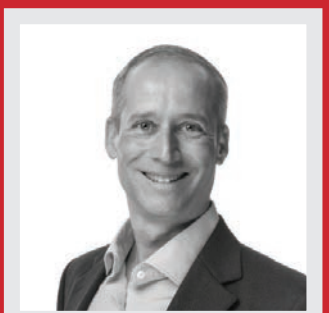
in **Pedro Ludovico Marques**
Expert in Residence

Experience²

Creating a user experience as an integrated whole, seamlessly covering the perspectives of customers, employees, and partners, enabled by all available variants of UX technology

BANKING

Credit Agricole

Via its CA24 App, Credit Agricole aims to deliver an improved digital experience for its customers in Poland. In addition to fully digital features like KYC, biometric authentication, and a product management dashboard, the app also offers the Benefits Club. This provides granular curation of opportunities for each customer, allowing them to choose from 14,000 offers, including those from the bank's partners. The app has registered 500,000 users as of November 2022

INSURANCE

Allianz

Allianz worked with I-AM to improve customer engagement via easing the access users have with the insurance products they purchase. Allianz found that their engagement with customers needed to be improved, considering their products are mostly used in hard times. To ease the customer experience, they focused on simplifying product management, increased engagement points, and empowered customers through knowledge. This has resulted in users finding it easier to track their products while also making critical actions easier to accomplish.

Me, Myself and My Metaverse

A new virtual world augments real life, having a potentially profound impact on the way we live, work, and collaborate

BANKING

HSBC

HSBC became one of the biggest banks to partner with The Sandbox as they purchased virtual land in the Metaverse. They aim to develop this virtual real estate to connect with sports, esports, and gaming enthusiasts across the globe. This will help the bank to create innovative brand experiences in the virtual world for its current and future customers, in partnership with their sports partners, and begin a broader adoption of Web3.0 in the coming years.

INSURANCE

State Farm

State Farm has developed a solution to simplify the quoting process for small businesses using the Metaverse. State Farm agents can interact with multiple businesses from their desks and use a VR headset and a controller to inspect the location and quote a policy. For example, for a restaurant business, the agents can enter the kitchen in the Metaverse and assess what safety equipment it has without having to visit the physical location. Similarly, claim handlers can be trained using this technology in an immersive way.

Internet of Twins

Digital twins – virtual representations of real-world entities and processes – deliver better mastery of real-world challenges with less strain on resources and energy

BANKING

ICICI Bank

ICICI Bank is one of the first to launch a digital version of wallets for Indian consumers. With a digital rupee being tested by the Central Bank, ICICI has released a digital wallet that can be accessed by invite only. With user experience being the focus, ICICI has embedded features like digital notes and coins to increase ease of use and to ensure customers find the switch to digital wallets seamless with the UI that is available.

INSURANCE

Swiss Re

Swiss Re has developed a Digital Market Centre in partnership with Microsoft to simulate risk in real-world scenarios. Current features include a "ship digital twin," allowing them to simulate potential maintenance issues and adverse weather effects, thereby forewarning the real-life counterpart and allowing it to solve issues at a fraction of the cost. SwissRe aims to build from its current use cases, such as supply-chain risk management, disaster resilience, and connected vehicles, and solve global inter-connected risks in the future.

No Friction

The "Experience Economy" becomes real, enabling businesses to provide truly frictionless and never seen before "phygital" experiences

BANKING

DBS

DBS is utilizing AI to provide personalized banking services to its customers. Dubbed "Intelligent Banking Services," the bank aims to reduce as much human interference in customer processes as possible. Users will experience increasingly personalized interactions with the bank as the AI learns from previous customer interactions. AI chatbots can also quicken up conversations as they predict user behavior and identifies context. Customized products are also recommended as the AI learns from user interaction with the bank's affiliates. These offerings allow users to manage claims and check for loans without much human interference.

INSURANCE

Liberty General

Liberty aims to minimize human interaction by introducing an AI-powered claims automation platform for its customers. Focusing on motor and travel claims, AI will be used for settlement as well as calculating claims amounts. Customer support will also be available to customers year-round. The AI tool's integration with the Liv App also eases the process for customers as all operational processes can be accomplished via their mobile device, thereby reducing human interaction.

I Feel for you

Boosting both the individual and corporate EQ by creating a more effective, meaningful, and satisfying symbiosis between people and their technology enablers

BANKING

ANZ Bank

The ANZ Plus platform has been built based on rigorous customer feedback by the bank's innovation arm, ANZx. While focusing on the customer journey, ANZ Plus has opted for a personalized chat experience to offer a customized journey for each customer. The aim is to anticipate what the customer query is going to be using a combination of both software and human touch. Built while partnering with Twilio, ANZ customers have given the new platform rave reviews, as they are pleasantly surprised by the way ANZ seems to predict what they are looking for in the app.

INSURANCE

MetLife

MetLife worked with Cogito to deploy an emotional AI coaching solution in 10 of its call centers. The AI has the ability to analyze multiple aspects of a customer's voice, like the quality, tone, and pace of the individual, resulting in call center agents having access to better resolution tips. Adoption of Cogito tools has seen claimant engagements rise by 15%, with net promoter scores seeing an increase of 7% as well. MetLife has ensured a high level of emotional intelligence in dealing with customers as a result.

Ecosystem Chronicles

Today, a highly personalized and frictionless experience is demanded by users and is critical to business success. You Experience must evolve to provide a seamless and sustainable end-to-end user journey in real-time.

Customer journey orchestration and analytics are used to fuse multi-channel user data and enhance user behavior across channels in real-time. With **Vlocity**, organizations can now deliver seamless, unified omnichannel digital experiences. With a focus on insurance, **Zelros** enables insurers to drive sales through hyper-personalized recommendations across channels. Bringing employees into the picture, **InsideBoard's** digital success platform, driven by a powerful AI platform, builds a stimulating environment for employees to contribute toward their organization's digital transformation and sustainability agenda. **Clevertap** enables targeted cross-channel messaging and campaign management to engage users.

Real-time interaction management is used to deliver contextually relevant experiences, value, and utility at the right moment in the user life cycle. **Behaviosec**, a behavioral biometrics start-up enabling continuous authentication for end users based on their interactions across channels; and **Onfido**, a digital identity and facial biometrics verification platform, are rapidly transforming digital identity and KYC. **Personetics** enables financial institutions to deliver real-time user engagement through personalized insights, recommendations, and product-based advice by utilizing AI and transaction data. **Algonomy**, **NGData** and **Relay42** are real-time intelligent journey orchestration platforms for personalizing interactions in real time. **Braze** uses an AI-based platform to personalize and optimize customer experiences across multiple channels and devices.

Open and as-a-service business models are transforming how financial institutions are interacting with their customers across platforms. **Tink** aggregates customer data across banks in Europe onto one single platform, allowing banks to attract new customers, make faster and more accurate credit decisions, and build seamless payment flows. **Plaid**, through its network exchange, enables bank customers to connect to over 5,000 financial apps and services, leading to a better experience and real-time user insights. **Boost** offers a platform for technology companies to offer fully embedded digital insurance products to their customers. **Qover** has a specific solution that enables fintechs and neobanks to offer insurance products to their customers. **Zero Hash** is a digital assets-as-a-service startup enabling any financial institution or fintech to integrate digital assets natively in their own customer journey and offer digital asset trading and custody services.

The Metaverse is changing the way companies interact with stakeholders in a shared virtual and hybrid space, accessible anytime, and represents a paradigm shift in online interactions. **Soul Machines** develops digital, realistic avatars with complex facial expressions by using data from sensors and processing it using a neural network-based cognitive platform. **Decentraland**, an NFT-based platform, allows for content creation on their plots of land in the virtual world. **Yulio** provides software to convert 3D renderings into immersive VR experiences.

Digital twins are virtual representations of real-world processes and interconnect siloed systems for real-time monitoring sustainably. **Waylay** is a hyper-automation platform for IT/OT integration, working with a lot of edge devices to quickly analyze data and provide actionable recommendations. **SpinalCom** allows data virtualization and IoT interoperability to create digital twins and enhance actionable experiences.

From Aspiration to Execution with Capgemini

Capgemini helps you envision and move to the next level in user experience, delighting your customers and employees.

Integrated Wealth and Asset Management

Integrated Wealth and Asset Management unites the digital wealth experience for bankers and their clients. Capgemini's digital customer experience and frog's design capabilities are utilized to build enablers for next-gen multichannel wealth portals, digital account experiences, and a large variety of communication tools.

Digital Customer Acquisition

Digital Customer Acquisition helps insurers to provide rich engagement to customers by empowering integrated physical and digital channels, and optimizing digital selling by identifying new instruments to build personalized, segment-specific paths and enhance all customer touchpoints.

Contact Center Transformation

Contact Center Transformation for insurers empowers human support throughout the insurance value chain, while providing a digital-first service with a combination of data-driven insights and personalized intelligent engagement. A digital customer operations center enables an ecosystem of connected digital solutions working in synergy to enhance overall efficiency and deliver superior customer and agent experiences.

WE COLLABORATE

FINANCIAL SERVICES IMPLICATIONS

The financial services industry is increasingly becoming ecosystem-orchestrated, and collaboration is ingrained in new business models by design, not as an afterthought. With financial services organizations increasingly adopting digital mediums, agents, and brokers need to collaborate within a digitally fluid environment to exchange data, establish the best coverage, and process quotes. Many firms are joining forces for building collaborative ecosystems to develop new value propositions driven by the enablement of data-sharing capabilities. This has led to the emergence of "meshed" cross-industry business models. Banks are increasingly offering "Banking-as-a-Service" to meet the rising demand for embedded finance. A similar trend is being seen in the insurance sector, where collaborating securely with other sectors to capitalize on open business models and access the next under-insured or uninsured customer segment is emerging as a key win theme. Non-financial organizations such as retailers and telcos are also launching embedded financial services to serve business and consumer segments.

When it comes to ways of working, hybrid work models have become a key element of the future of work, as organizations have seen unprecedented changes in value creation and delivery – critically without compromising on productivity. Permanent employee teams are increasingly augmented by the gig economy as enterprises look for more adaptive, more resilient sourcing models.

Virtual workplaces have necessitated the advent of new productivity tools and techniques, with employees' lifecycles at the center of the process. An always connected – yet asynchronous – collaborative style of working is breaking down barriers of geography and time zones, redefining what we call "just another day at the office," now and in the future.

 A "token economy" is redefining value exchange through the convergence of real and digital assets, powered by distributed ledger technologies, smart contracts, Web 3.0 technologies, and the Metaverse. Tokenization is the representation of an asset that can be digitally traded and is spreading across areas as diverse as payments, capital markets, art, retail, real estate, and the Metaverse.

New forms of collaboration may require leveraging autonomous, decentralized, token-enabled platforms to achieve joint objectives. Decentralization can enable new governance models through leadership and organizational transformation. For example, an investment decentralized autonomous organization, or DAO, can bring together an investor community with shared interests and goals for trusted governance and investment processes. Though it is a developing concept, it is expected to encourage autonomy and transparency, bringing collaboration to another level.

KEY TRENDS

- The rise of agile, collaborative, ecosystem-based models is driving innovative marketplaces and products, such as Buy Now Pay Later. Seamless payment experiences are boosting the adoption of embedded finance outside of financial organizations, crossing the barriers of industries, sectors, and regions.

- 114 countries, representing over 95% of global GDP, are exploring central bank digital currencies (CBDCs). CBDCs will decentralize the currency system, allowing users to operate through wallets and transact in a peer-to-peer fashion through innovative means such as offline payments, bolstering financial inclusion, and reducing transaction costs, while increasing transparency.

- Financial assets are increasingly being tokenized and digitally traded through security token offerings in cryptocurrency exchanges or security token exchanges.

- A major chunk of the workforce at financial services firms is choosing to work remotely owing to a shift in ways of working. There is a need to establish hybrid models supported by AI, mini-surveys, and online, on-demand learning environments that can best support this shift.

- Collaboration platforms are being rethought to drive innovation and productivity and keep workers connected seamlessly, whether in the office or remotely, with the Metaverse poised to take collaboration to a next level.

- The emergence of autonomous and smart contracts platforms will see strategic objectives being achieved much faster due to reductions in bureaucratic red tape, thereby saving the time and resources of all stakeholders involved.

- ESG scoring capabilities built through ecosystem collaborations will enable organizations to effectively collect timely and accurate data, thereby allowing them to pre-emptively assess and re-calibrate the impact their businesses has on the environment.

in **Jaimin Gandhi**
Expert in Residence

in **Mohit Madan**
Expert in Residence

Fluid Workforce

An agile, adaptive workforce model that boosts organizational resilience and productivity, saves costs, and addresses the shortages of skilled resources

BANKING

United Overseas bank

United Overseas Bank has deployed a Workday HCM solution across 14 global markets. The bank aims to digitally transform its HR capabilities and pivot to a people-first approach for its HR strategy. Workday will provide its unified cloud system to replace standalone HR systems to improve the employee experience and data accessibility and to drive employee self-service. Leaders have been able to make better decisions over their talent pipeline, with the increased visibility allowing them to spot gaps and curate optimization programs. Workday has resulted in improvements in both employee efficiency and the HR pipeline.

INSURANCE

RSA

RSA has actively implemented measures across its employee practices to embrace hybrid working as a permanent way of work. Based on a six-month trial, RSA decided on this adoption allowing for employees to weave caregiving responsibilities into their working lives. Training sessions on topics like mental health and domestic violence have been made available to proactively educate the workforce. Other initiatives include office rostering for brokers, constant communication pipelines and a revamp of employee onboarding and interaction guidelines for new employees joining post-pandemic who might need in-person mentoring.

The Team is the Canvas

Collaborating in hybrid team-oriented workspaces becomes the new natural place for creating next-level business results

BANKING

Standard Chartered

Standard Chartered has collaborated with Leesman to enhance the workplace collaboration and experience of their employees. Based on employee feedback, Standard Chartered redesigned one of its campuses to ensure that it is welcoming in post-pandemic times. They have incorporated Guru bars, which are communal spaces allowing employees to solve their IT issues on the spot. Community Hosts have also been implemented to develop shared working environments and team zones. The new open working spaces concept has seen corporate pride improve by 33.6%.

INSURANCE

Brighthouse Financial

Brighthouse has leveraged the Microsoft technology stack to ease its transition to a virtual, and eventually a hybrid, form of work. They have dived deep into the use of Teams, supplementing it with the use of Authenticator and tools like Forms and Whiteboard for increased collaboration. Internal chatbots were also developed for faster Q&As, with employee-driven initiatives also adopted to increase employee connections. On the hardware front, a seamless switch to Surface laptops has increased employee mobility, which will come in handy as the firm moves to a hybrid work style in the future.

Taken by Tokens

Emergence of a 'Token Economy' through the convergence of 'real' and digital assets within real and digital business models – converging on themselves

BANKING

SWIFT

SWIFT successfully conducted experiments by interlinking CBDCs for seamless cross-border transactions and integrating tokenization platforms on existing payment rails. SWIFT achieved transactions between different DLT networks (CBDC-CBDC) as well as between DLT networks and RTGS (Fiat-CBDC). SWIFT also explored over 70 scenarios for tokenized assets and proved that its payment rails were capable of handling multiple forms of token transactions. These experiments have shown that it is possible for blockchain networks to be integrated on a single gateway.

INSURANCE

Mitsui Sumitomo

Mitsui Sumitomo partnered with the Japanese NFT platform HARTi to roll out non-fungible token, or NFT, insurance for all digital artworks exhibited within the HARTi app. The insurance will be coupled into the NFT pieces on display by sellers free of charge, with HARTi responsible for the premium payments. Through this partnership, the carrier will compensate the owners of insured NFTs if their digital assets are compromised by cyber threats or become bugged or glitched during transfers.

Your Mesh for Less

Enabled by efficient mesh technology, it's easier than ever for organizations to join forces, even if it is lightweight, just for one day, for one occasion, or for one customer

BANKING

Goldman Sachs

Goldman Sachs has partnered with AWS Data Exchange to streamline its third-party data consumption. Apart from increased efficiency in data analysis, the data exchange will also allow clients to use their products more easily, like the Goldman Sachs Financial Cloud for Data. Customers will be able to integrate their proprietary data seamlessly and securely with Goldman Sachs financial markets data, including data consumed from AWS Data Exchange.

INSURANCE

Swiss Re

Swiss Re has developed the Automated Claims Experience service, easing the claims management process for its users. This tool has been beneficial for the direct beneficiaries of policyholders to file claims. The customers are guided through an easy-to-understand and secure process to file claims beginning with a simple list of documents. The supporting documents can be instantly uploaded using a mobile device or PC. This tool has been applied at firms such as Savings Bank Mutual Life Insurance Company, allowing them to offer ease of use, real-time updates, and customer support.

No Leaders

Leveraging autonomous, decentralized, token-enabled platforms to achieve joint objectives – but without the typical red tape of corporate leadership

BANKING

Société Générale

Société Générale has initiated transactions in its vault that it opened with MakerDAO. MakerDAO added the bank's digital asset subsidiary SG-Forge to its vaults with a credit limit of USD 30 million. The bank culminated a refinancing operation that it had started with the DAO, withdrawing MakerDAO's stable coin DAI and converting it into US dollars, which were then sent back to the parent company. The bank aims to use this withdrawal to refinance a covered bond it had invested in back in 2020. Most DAI is minted using real-world assets as collateral. In Société Générale case, it was backed by real estate debt.

INSURANCE

Arbol

Arbol is a platform for parametric products that uses self-executing smart contracts to pay quickly and autonomously, and fairly covering external risks such as unexpected weather. Arbol's parametric insurance platform removes information asymmetry and reduces administrative costs by leveraging objective data from satellites and weather stations. For example, a cotton ginning client insured its business in Arbol's Area Yield Program (AYP). Independent climate data from external sources is used to better provide protection against yield losses to customers. It allows gin operators and other cotton businesses to get paid quickly and objectively based on independent data as a hedge against bad weather impacting yield.

Ecosystem Chronicles

The workforce of the future is remote and distributed. This is necessitating the use of new and creative productivity tools and techniques, driving seamless virtual collaboration across teams and geographies with a focus on lesser use of existing resources. The ever-converging physical and virtual worlds have enabled the creation of a distributed online economy and the advent of the Metaverse, devoid of custodians and powered by new technologies, resulting in lower demand for physical assets, less energy, and more collaboration. The ecosystem around We Collaborate is extremely exciting, dynamic, and changing the ways in which we see organizations of the future.

The new suite of enterprise collaboration platforms is transforming how remote teams work. **Notion** is a workspace, project management, and note-taking tool which adapts to every team's needs. **Calendly**, the automated meeting scheduler integrates easily with calendars and helps schedule meetings with anyone based on availabilities. **Otter.ai** integrates with leading video conferencing tools and does real-time transcription and sharing of meeting notes. **Loom** lets users record their screens and video simultaneously, and share it easily with their teams for more efficient collaboration in hybrid work environments.

Slack, **Trello,** and **Hibox** are leading technology solutions enabling real-time task management by creating task-specific channels, one-click video meetings, and group-specific chats, making collaboration in teams engaging and intuitive and leading to productivity gains.

With generative AI and tools like **ChatGPT** and **Bard**, collaboration with creative machines is also becoming important. The users can focus on high-impact tasks by letting the AI systems empower them with the tools to express themselves effectively and become more inclusive. These systems are also consuming far fewer computing resources and aiding with sustainability ambitions.

Braincities, **Lattice**, and **AmplifAI** are people-success platforms reimaging employee development in an increasingly virtual world. They offer AI-powered custom career planning tools to help define goals and OKRs, manage employee performance, and help them grow by articulating high-performer personas and defining career advancement opportunities. **InsideBoard** and **Peakon** are driving change management through employee engagement and showcasing for team leaders the needs and aspirations of their teams.

With a more decentralized world driven by the evolution of blockchain technology, tokenization of currency, securities and physical assets are the new frontier. This shift in blockchain technology is powered by the likes of **Ethereum**, **Hyperledger**, **Consensys**, **R3** and **Algorand**, that have made it easier for blockchain to scale faster and in a more cost-effective way. DAML, the language for building smart contracts is leveraged by **Digital Asset** enabling organizations to work across boundaries and create trusted, secure, and highly interconnected networks around the globe. **Metaco** and **HexTrust** are exciting startups that provide an orchestration platform enabling financial institutions to issue, secure, trade, and manage their digital assets. **Bakkt** connects the digital economy by enabling businesses to issue cryptocurrency services and drive customer loyalty via rewards on spending with crypto.

The Metaverse has changed how all stakeholders interact and experience the company's value proposition, with next-level personalization and minimal wastage of resources. **Spatial** offers a shared workplace solution to collaborate, search, brainstorm, and share content as if in the same room, with features including lifelike avatars and shared walls for face-to-face interactions – allowing users to visualize, share and organize. **vSpatial** provides a virtual office to organize all resources in an optimized space around the user, allowing connection with remote systems through a secure cloud. With enablers like **Oculus**, **MagicLeap** and **Varjo**, the experience of navigating the Metaverse becomes possible, and exciting, and breaks new frontiers of collaboration.

From Aspiration to Execution with Capgemini

At Capgemini, we help you establish cross-organization, cross-sector partnerships to enable value delivery anytime and anywhere.

Connected Banking

Connected Banking is a hosted or utility-based ecosystem of banking products and services that enables banks to provide their customers with the best banking experiences regardless of channel. It is a pre-integrated, digital ecosystem of best-in-class banking apps, with a highly flexible application processing interface (API), and a fintech-ready ecosystem meant for leveraging collaboration across the value chain.

Digital Asset Custody

Digital Asset Custody offers financial services firms the opportunity to enhance existing custody solutions incrementally to support digital assets or to co-develop a greenfield setup, partnering with niche platform providers to support a digital asset custody solution. This solution helps financial services institutions unlock the power of digital assets in collaboration with various service providers.

Embedded Insurance

Embedded Insurance enables insurers to effectively build a partner ecosystem, seamlessly embed their products in the buying journey, and provide unmatched customer service. This is made possible through our Open Insurance platform, a cloud-based, agile platform enabling insurers to seamlessly connect with an ecosystem of partners to create tailored products and services. It enables external and cross-industry collaboration with tight security and authentication, threat protection, and compliance with industry standards and regulations. Early adopters of Embedded Insurance are already seeing a reduced need for personnel, knowledge dissemination, and an increase in stable revenue.

Insurance Agency Digitization

Insurance Agency Digitization helps insurers reinvent their agents' operating ecosystem to provide convenience, advice, and reach (CARE) to customers. This offering enables insurers to attract and retain the best agents, and become preferred partners by empowering agents to do more with less by pivoting to a digital advisory model via digital marketing, digital engagement, and digital collaboration tools.
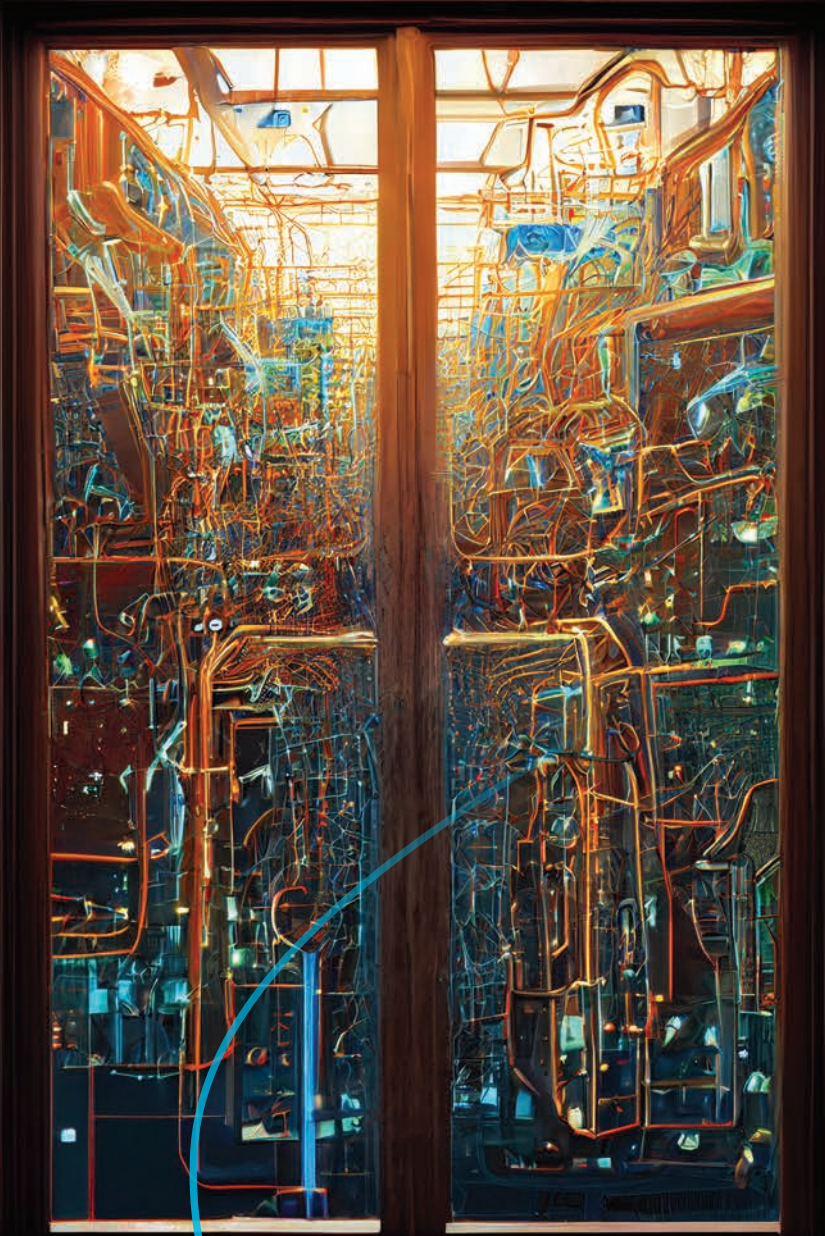
THRIVING ON DATA

FINANCIAL SERVICES IMPLICATIONS

With data at the core of technology and business, data mastery has become ever more relevant for financial services organizations. Treat data as a strategic enterprise asset, and benefit from smarter products and services, enhanced customer satisfaction, improved overall efficiency, and increased profitability. Revisit data management practices across the complete data value chain, and include the re-platforming and/or re-architecting of data environments to embrace modern tools and technology, allowing them to scale in a secure, cost-effective, and performant manner.

Several business drivers are forcing the need to be data-driven across all financial services organizations. The threat of disintermediation by fintech and DeFi providers is causing financial institutions to take a closer look at their own data assets and to identify avenues for monetization, including positioning themselves as a primary custodian of customer data. Improving customer experience and optimizing their digital journeys can only be accomplished by getting real-time insights into customer interactions, both within the financial services organization itself and with external entities.

The sustainability commitments made by financial services organizations, as well as customers demanding more ESG transparency in their investments have tremendous data implications that organizations need to prepare for. Firms not only have to utilize data to meet sustainability goals, they also need to be smart about how much data is actually needed, taking care to be frugal about the information they consume to reduce data wastage. The emergence of data ecosystems as a secure and scalable environment fostering data and intelligent sharing among partners is catching on. They can be used to share transaction data between credit card providers and their retail partners to foster improved collaboration and rapid access to insights for both parties, which in turn leads to optimized marketing spend and improved profitability.

AI application and adoption are now mainstream, with financial services organizations using AI across a plethora of use cases including personalization, next-best-offer, fraud detection, and complaints prediction, among others. Leverage data using self-service tools and the generative capabilities of AI to unravel new realms of creativity and improve productivity. The success of these algorithms depends on clean, trusted data, and organizations that have made investments in data governance and data quality initiatives will reap the most immediate benefits.

KEY TRENDS

- Data estate modernization has made a definitive shift to the cloud as organizations are seeing tremendous cost benefits in moving away from legacy data appliances, leading to new opportunities and improving productivity, efficiency, and scalability.

- To avoid vendor lock-in and other cloud concentration risks, clients are looking at hybrid cloud options, including private cloud, for overly sensitive data.

- Emergence of low code/no code platforms with AI-driven automation is powering business users and leading to prevention of bad data proliferation while ensuring better data governance and data management.

- Data monetization, with effective data sharing to both internal and external consumers (e.g., data clean rooms) of the organization, is picking up speed.

- Financial organizations are also looking at exploring data mesh, quantum computing, and Metaverse avenues to use their data effectively and find opportunities to improve business.

- Harnessing data will gain importance with the meteoric rise of generative AI models like ChatGPT, allowing firms to offer personalization and more human-like customer service. Banks and insurance companies will apply generative AI in growth areas such as fraud detection, trading prediction, and risk factor modeling.

- Embedded finance/Embedded insurance data will drive new growth in the financial sector through embedded finance/embedded insurance.

- ESG (Environmental, Social, and Governance) priorities will see data-driven approaches and new regulations around data to combat greenwashing, thereby establishing a clear route to a more sustainable financial industry.

- As IoT expands along with increased usage of sensors and wearables, data will continue to have enormous potential for use cases such as better underwriting and risk assessments. Near-edge analytics concepts will help organizations reap the benefits of the data much faster.

- Headless tech, which separates the front-end and back-end while ensuring that the data flows freely between the two, will soon get stronger.

in **Keerthi Anantapur Guggila**
Expert in Residence

in **Manish Kulkarni**
Expert in Residence

Data Sharing Is Caring

Participating, collaborating, or even leading in data ecosystems gets more value out of data – creating new connected products, services, and experiences, boosting enterprise performance, and contributing to a better society

BANKING

Citi

Citi has implemented data-sharing and workflow collaboration with another major bank using the Synergy Network to improve their securities settlement process. In keeping with the recently passed CSDR regulation, Citi found that active data sharing with partners on the network resulted in a 30% reduction in trade fails and an average of a 76% reduction in email traffic for operational processes. This comes as there is an increased focus on securities settlement due to the new regulations; synergy with the partner bank in question because of data sharing has resulted in failure reduction due to rapid investigation times and predictive analysis.

INSURANCE

Anthem

Anthem has worked with Snowflake to develop its data sharing capabilities to provide holistic patient care. Combining internal data along with those garnered from sources like physician labs and clinics, Anthem has been able to use Snowflake's cloud data capabilities to improve their data synthesis and structuring. This synthesis allows them to generate health profiles of patients, which are then shared back with physicians, allowing them to improve the quality of health care they provide as well as to be better informed in any medical decisions they might make.

Power to the People

A growing scarcity of specialized skills, the need to activate data as close to the business as possible – plus powerful AI and automation tools – are all driving the unstoppable self-service data revolution

BANKING

HDFC Bank

HDFC Bank has partnered with Salesforce to develop the next generation of integration infrastructure to quickly link back-end and front-end systems along with Salesforce. Mulesoft will assist HDFC in fast innovation around connecting systems and assisting in the creation of new experiences due to its cutting-edge API-led integration strategy and low code functionality. Integration of Mulesoft will also allow for increased workflow automation, with its ease of use ensuring that employees can adapt to changing business needs quickly and without much training.

INSURANCE

Assurant

Assurant launched Assurant Product Experience Exchange (APEX), a turnkey technology delivery platform that helps its clients across industries – retail, housing, mobile, and automotive – to easily customize and add embedded insurance products and services to their customer experience journeys. Assurant clients can securely view the product API library, and test and review the data it provides, through a self-service portal before integrating it into their platforms. This will help the carrier to drive automation and personalization through APIs and integrations with third-party providers. APEX will enable faster time to market for the insurer as its clients can easily integrate services, reducing the workload of their technology teams.

Data Apart Together

A federated, actively collaborating 'mesh' of data producers and data consumers – owned and governed by the business domains themselves – brings data as close as possible to where it is picked up and used, a hallmark of a true Technology Business

BANKING

ABN AMRO

ABN AMRO is working with Microsoft Azure to inculcate a data mesh architecture for faster data insights and business decisions. This integration will allow increased flexibility in managing the needs of different teams across the bank. Azure will provide ABN AMRO with an optimal solution to store both structured and unstructured data, which can act as a starting point to create an even more customized solution. Other benefits include migration to a decoupled cloud-based platform, improved scalability, and faster data processing.

INSURANCE

Allianz Direct

Allianz Direct is leveraging the cloud to integrate real-time pricing for the insurance products it offers. Applying data mesh principles, Allianz will be able to plug in over 800 pricing factors into their models to increase the accuracy of its quotes, using RockSet's analytics database. The tool will allow them to introduce new factors as well, giving them the ability to modify their pricing models at a fraction of the time it used to take. This has increased their agility in using real-time data while also providing for better fraud management.

Net Ø Data

Zero is everything! All businesses need clarity on their CO2 emissions and the impact of their sustainability actions. Data is key to delivering net-zero ambitions. But data itself needs to be sustainable, too: the battle against data waste is on

BANKING

Barclays

Barclays leverages client data to create an environmental dashboard that it will use to measure the progress made in achieving its sustainability goals. Updated annually in the first quarter of every year, Barclays uses this data to gradually reduce the financing it provides to key polluting industries like energy, power, cement, and steel. The bank aims to use this data to reach targets it set for 2030 and those stated by the International Energy Agency's Net-Zero for 2050.

INSURANCE

RSA

RSA plans to revamp its underwriting strategy in keeping with its emissions targets set for 2030. Using climate data, RSA will apply an ESG lens to the performance of its portfolio and improve its portfolio management. It will also pivot its underwriting processes to those that put net zero at the forefront, with these clients getting access to renewable energy service offerings. This revamp in strategy sees it continue its three-year commitment set out in its Climate Change and Low Carbon Policy.

Creative Machine

Unleashing the generative capabilities of AI to enable individuals and organizations to express themselves better in different creative ways, even if they lacked the capabilities or manpower for it in the past

BANKING

Crédit Agricole

Crédit Agricole has implemented an AI tool to improve customer relations and offer targeted product recommendations to them. Called Score.AI, the tool takes existing customer information as input and generates scores for each of them, allowing them to be sorted into different groups for more efficient targeting. The generated scores gave agents better quality information on customer risk appetite, allowing them to focus their product recommendations depending on the customer segment they were targeting. Implementation of this tool has increased subscription rates by 55 times.

INSURANCE

The Paladin Group

The Paladin Group, in partnership with Dais Technology, has developed a generative AI tool for insurance underwriting. Called UnderwriteAI, the tool aims to improve risk assessment and eventually product pricing for its customers. It will also use its data set to generate insights for its brokers and insurers. Paladin aims to see an increase in speed, efficiency, and accuracy as it rolls out this tool in the market during 2023.

Ecosystem Chronicles

Data-powered enterprises have superior experiences, operations, and effectiveness. To thrive on data means unleashing the true value of data by sharing and leveraging it, both internally and externally, and delivering on net-zero ambitions with data at the center. This will turn data into a powerful asset, driving advanced AI systems to achieve tremendous outcomes.

Dawex uses sophisticated technology to accelerate and facilitate data circulation among stakeholders at scale. **Harbr** allows direct collaboration with customers to deliver what they need and thus powers high-margin data products business by enabling customized data product design and delivery at scale to drive new revenue streams. **Alation**, a leading data intelligence platform enables enterprises to catalog their data from a wide range of sources and improves analysis accuracy through behavioral intelligence, seamless collaboration, and active data governance.

Protopia is enabling data monetization by solving for data privacy. It uses AI and machine learning (ML) to extract insights from actual data through a sophisticated encryption algorithm, without exposing sensitive identifiable information.

To derive maximum value from enterprise data, a sophisticated AI-powered data platform connecting data sets is essential. **Dataiku** is a one-of-its-kind, AI-driven, cloud-agnostic centralized data platform that allows the user to integrate data, build and automate sophisticated data pipelines using ML, and perform in-depth statistical analysis. **Feedzai** is a "RiskOps" platform transforming risk management across the value chain for banks, merchants, acquirers, and payment processors. **Neo4j** and **TigerGraph** establish connections between data through their next-gen graph technology, which is especially useful in deriving customer intelligence and financial risk management.

It is not enough to analyze data, business users need to understand it too, and **Toucan Toco**, a leading data storytelling solution, makes this possible by reducing complexity in analyzing and understanding data, interpreting summaries, and driving collaboration via seamless platform integrations, thus creating more impact.

Data is key to achieving sustainability goals. To reduce emissions, companies need a view of their entire supply chain including Scope 3 carbon emissions. There is a need to understand what to measure, and what actions to adopt. **Persefoni** is the ERP for Carbon and provides solutions for carbon footprint management, enabling companies to report on carbon footprints and automating sustainability reporting. **Normative** assesses sustainability in real-time based on data that the organization already collects such as financial

transactions and invoices. **planA**'s platform reduces internal and external costs for carbon reduction and automates data collection and analysis, also engaging employees with tangible actions.

From Aspiration to Execution with Capgemini

At Capgemini, we enable financial services firms to unlock the value of data, making it a strategic asset and a key differentiator.

Customer 890

As an activator of data analytics, 890 by Capgemini informs clients so that they can engage in speedy decision-making, flex and grow at scale, increase efficiency, automate processes, and make products and services that will truly connect with their customers. Being a plug-and-play solution, 890 is available on any cloud, is ready to go, and enables users of data-powered organizations to make collaborative business decisions, faster and more intuitively – all from one single trusted interface.

Connected Marketing

FS firms face multiple issues related to data as they look to remain competitive with fintechs. They look to overcome data inaccuracies, siloed outreach, and legacy tech. Connected Marketing leverages advancements in data and technologies like cloud and AI/ML to ensure banks can switch from product-centric to customer-centric marketing. Pain points that the solution addresses include siloed data, with benefits and results visible across efficiency numbers, NPS, customer lifetime value, and target state capabilities.

Data Powered Underwriting

We bring together powerful data-driven capabilities across the underwriting value chain -- touchless submissions, rule externalization, pricing precision powered by Earnix, telematics, and an 890 by Capgemini-powered underwriting workbench. These capabilities can power the move to the future of underwriting with real-time data availability, continuous underwriting, and close integration with sales.

Data Estate Modernization

To realize the full potential of being a data-powered enterprise, financial services institutions are looking to modernize their legacy data estate. Years of unbridled growth, new sources and types of data, platform divergence, and organizational and technological silos have contributed to a level of complexity that can stifle even the strongest business ambitions. Data Estate Modernization provides an end-to-end migration plan for financial services firms with legacy data warehouses and cloud solutions tailored to fit each individual firm's context and business.
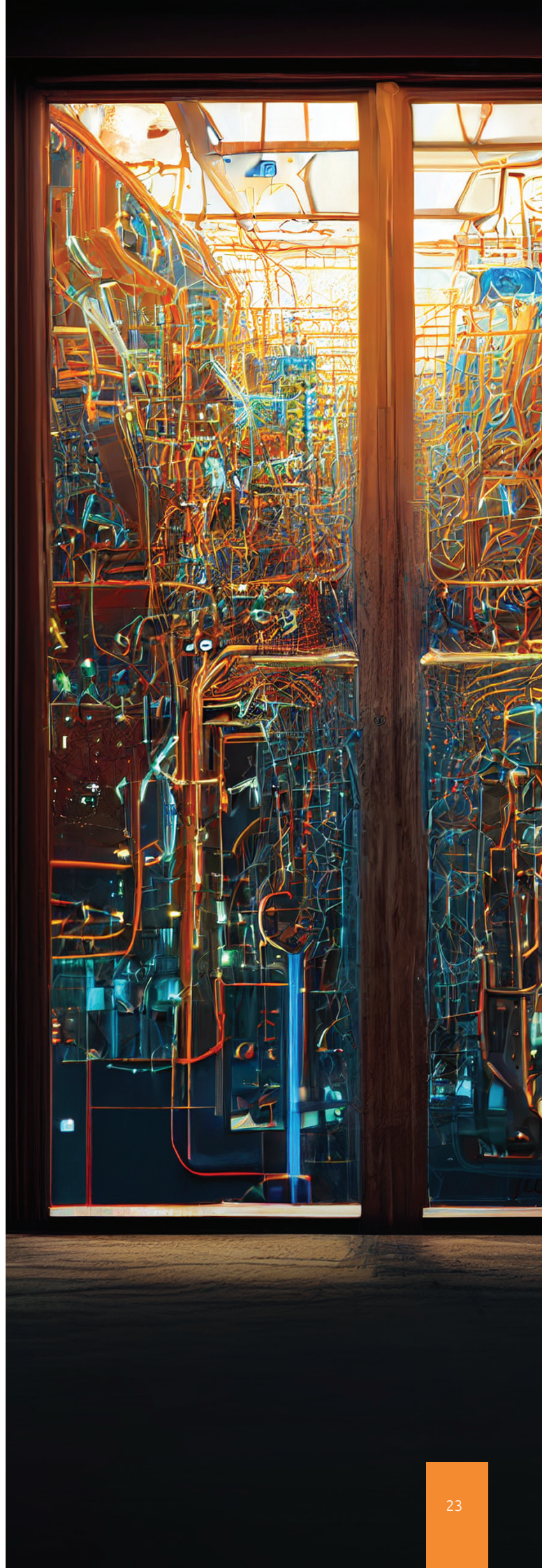
PROCESS
ON THE FLY

FINANCIAL SERVICES IMPLICATIONS

Most financial institutions have implemented numerous process improvements in the recent past; new technology, business, and market developments have further accelerated digitization in the industry. In addition, the drive to connect everything virtually (IoT, 5G, wearables) is leading to huge amounts of data continuously flowing through systems, faster than ever. Consequently, financial institutions need to embed real-time monitoring and decision-making into their processes. In financial services firms, the process is fully traditional and implemented as information technology without operational technology or devices or digital twins, and hence robotic process automation (RPA) and intelligent process automation (IPA) become the key capability sources. With the recent development in generative AI models like ChatGPT and Bard, financial services use cases like chatbot and back-end automation can go to the next level, freeing up manpower for other tasks. Furthermore, it has become key to having the right agility to adapt the process itself to thrive and excel in a VUCA (volatile, uncertain, complex, and ambiguous) world.

As the backlog for process automation is growing rapidly, the need to support the prioritization of digital process improvement use cases has increased significantly. Besides using RPA to gain some time and freedom to think, plan, and focus, creating digital twins will allow financial institutions to experiment, better understand, and simulate alternative scenarios and options. They become ever more important where strategy needs to be implemented even as institutions face a dearth of resources.

AI solutions have found their way into the RPA world, leading to powerful smart automation and orchestration platforms. This expanding technology toolbox fuels the need to integrate all components in a smooth and standardized way, and it facilitates resource optimization by diverting human effort to more productive tasks.

There is an increasing demand for touchless or right-touch services by consumers in the financial services industry. Next to APIs and API management platforms, event processing platforms become a necessity to enable processes to act upon real-time events. In addition, cloud adoption and serverless technologies will also contribute to cost reduction and enable improved time to market.

A big challenge for financial institutions is to find the right balance between agility and stability. On the one hand, business operations teams expect to have the autonomy to automate their own processes, while on the other, IT divisions want to stay in control to keep applications robust and safe. This clearly fuels the need for IT-controlled citizen development platforms, where business teams have the freedom to build their own tools within certain IT-controlled guardrails. Besides defining those guardrails, IT teams must put the right technology enablers in place and offer reusable building blocks accessible via APIs or an as-a-service model.

KEY TRENDS

- Modeling techniques and task-mining technologies are being used to get a better understanding of existing business operations. Simulation tools are then used as accelerators to make better and faster choices among the different options when enhancing or even rethinking business processes.

- RPA technology vendors and cloud providers are expanding their platforms to benefit from AI solutions. Intelligent orchestration, IPA, and AI/ML models are enabling a touchless experience, bringing operational efficiencies and process automation to the next level by further reducing the dependency on human interventions.

- Driven by the need to democratize automation, financial institutions are redefining their governance models to enable citizen development, while keeping sufficient control mechanisms in place to ensure the stability of the systems.

- Combining data from multiple internal and external sources enables financial institutions to truly innovate their products, service offerings, and processes. APIs and real-time event processing play a key role in integrating many siloed applications without having to change the systems themselves.

- Powered by business rule engines and dynamic case management systems, static processes are gradually being replaced by dynamic alternatives. Also, with a continuous stream of data flowing through the systems, automated and real-time decision-making is key to retaining and further improving effectiveness and productivity. The emergence of generative AI will allow for firms to dynamically adapt to client behavior as well as automate previous human-oriented processes, allowing for processes to adapt on the fly to meet changing client expectations.

Gert Helsen
Expert in Residence

Deepak Maheshwari
Expert in Residence

Process is Mine, Mine, Mine

Using Digital Twins to inject continuous process innovation, making it the envy of the entire flock

BANKING

Deutsche Bank

Deutsche Bank has implemented process mining as it aims to improve capabilities in its KYC transformation space. The bank developed a multitude of dashboards specifically for process mining, allowing them to gain real-time transparency into customer onboarding and KYC processes. These data-driven initiatives have resulted in marked improvement in their KYC processes. The bank is also currently working with Celonis in this area, and they have already identified USD 2.5 billion in cost savings.

INSURANCE

Prudential Assurance

Prudential Assurance implemented process mining to identify issues and improve their e-claims filing process. As a result of the mining exercise, an identified bottleneck was that their system was unable to manage an increased volume of paper documents, which then saw their entire system work at below-capacity levels. To help fix the processing issue, the firm implemented a three-pronged AI system adept at optical character recognition, and split their old processes among the three new engines allowing the system to work more efficiently. This exercise also allowed them to move from an inbox system to a fully automated claims handling process.

Rock, Robot Rock

Robots become a dependable digital companion, giving us the time and freedom to think, plan, and focus

BANKING

BNP Paribas

BNP Paribas has implemented a solution for automated tax reconciliation. The bank has implemented OCR, data extraction, and RPA technologies to automate the entire process, from data extraction from file formats like PDF to data synthesis and visualization. Implementation of this tool has resulted in an increase in security and in the efficiency of services. BNP has been able to build this tool by integrating AI to automate the routing of information.

INSURANCE

New York Life

New York Life is working with Human API to expand its access to machine-readable health data. Using the latter's Health Intelligence Platform, New York Life will look to move from manual data-gathering processes to a digital process. This switch will result in significant improvement in performance and efficiency metrics as the company looks to digitize its life insurance underwriting process. The customer experience of purchasing insurance products is also set to see a marked improvement due to the digital switch.

Silo Busters

Busting corporate silos by adding flexible process layers on top of them, rather than breaking or rebuilding already established structures

BANKING

Synchrony Financial

Synchrony announced an extension to their partnership with Sweetwater, the leading e-commerce provider of music instruments. The partnership allows Sweetwater to combine the aspects of credit application and credit checks into one seamless process. Synchrony provided Sweetwater access to their DirectToDevice, and PreQualification capabilities. Sweetwater used DirectToDevice to instantaneously send credit applications to customers while allowing them to simultaneously check their credit eligibility using PreQualification. Combining these features has allowed them to offer a hassle-free purchase experience, reducing overall time and effort.

INSURANCE

Zurich

Zurich has worked with Riskonnect to develop an enterprise-wide risk management and monitoring solution for clients. Called Zurich Risk Clarity, the tool can cut through the length and breadth of an organization to consolidate risk, claims, and safety information into one platform. By breaking down silos, the tool allows firms to get a pan-organization view of risk factors, allowing them to improve their response times and proactively mitigate the impact these risks might have on their business.

Can't Touch This

A process seamlessly adapting to its environment, optimizing itself without human intervention or support – is that even a process anymore?

BANKING

JP Morgan

JP Morgan has implemented UIPath solutions for automation data extraction process relating to corporate action announcements. A robot, created by UIPath studio, is first used to extract relevant documentation from the exchange websites. The document-understanding tool is then used to put any relevant data to fill a template designed by the bank which can then be used internally. The self-trained machine learning model means that the bank does not need to rely on a trained data scientist for any changes to the model, allowing non-technical staff to modify the tool based on business needs.

INSURANCE

Allstate

Allstate has developed an automated mobile damage assessment and claims processing technology that uses machine learning to calculate estimates and settle claims, eliminating the need for human presence in the business operations. The system uses a server to manage photos and videos transmitted from a mobile device and provides feedback on the acceptability of the images. The server also interfaces with repair shops and other third parties and reduces the need for adjusters to inspect damages in person. This ground-breaking technology streamlines the claims management process enabling a superior, seamless, and end-to-end customer experience. Allstate has been awarded a US patent for this technology.

Augmented Me

Adding AI to business operations to accelerate decision-making processes, create a symbiotic relationship, and bring harmony to both human and machine

BANKING

Royal Bank of Canada

RBC's Innovation Hub is currently developing AI tools to improve processes for bank employees. They are employing natural language processes to help the bank deal with incoming mails more effectively and thus improve customer services. An AI system prioritizes incoming emails, allowing for more urgent requests to float to the top of the list. This lets customers who have more urgent queries and needs get services faster, instead of waiting in a queue behind requests that are not as time-bound. Therefore, the bank can expedite client requests more effectively.

INSURANCE

NN Group N.V.

NN Group has integrated Amelia's conversational AI capabilities to increase personalization in its customer service. The firm has found that Amelia's natural language capabilities and sentiment understanding have improved the conversational aspect of its chatbot service. Customers have found that they have wait-on-hold for a lot less time and that it is easier to resolve issues. The resulting reduction in service time has also resulted in a marked improvement in how the firm manages its contact center traffic.

Ecosystem Chronicles

A digital twin is a virtual replica of a real-world object that is run in a simulation environment to test performance and efficacy. The solutions help in accelerating risk assessment and production time, predictive maintenance, real-time remote monitoring, team collaboration, and financial decision-making. **Unlearn** offers AI-based clinical trial management software using a control arm to enable sponsors to reduce the number of subjects. **Twaice** is a provider of digital-twin-based battery data analytics and management platform, offering hardware and software composite systems to analyze and manage battery data. **Waylay** provides a cloud-based hyper-automation platform for IoT applications that supports advanced decision-making, automation, notification, proactive maintenance, and troubleshooting use cases. **Darvis** provides a data analytics platform that allows users to handle real-world analytics solutions, and manage recommendation algorithms to improve processes and operations using KPIs. **SpinalCom** is a developer of a building operating system designed to act as a micro-middleware technology and provide connectivity and intelligence that becomes the core of a local network based operating environment. **SBE Vision** develops interoperability software that sets the standard for managing engineering data across complex product and program organizations.

Predictive analytics uses data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes. **SparkCognition** builds AI solutions for automated model building, AI-built cybersecurity, and deep analytics. **Augury** predicts process failures accurately and recommendations to correct them. **Senseye** provides an automated condition monitoring diagnostics and prognostics product, a cloud-based software solution that enables industrial companies to predict the failure of machines months in advance – developing interesting use cases for insurers for feeding this data into their underwriting processes.

Intelligent process automation is evolving by the day and becoming more sophisticated in improving process execution and efficiency, reducing process failures and resource wastage. **Apprentice** is a developer of an intelligent manufacturing execution system providing a cloud platform integrating augmented reality, voice recognition, and artificial intelligence into wearable, mobile, and desktop devices. **Boon Logic** is a developer of machine learning technology solutions based on a novel, single-source algorithms designed to enable new applications. **Tulip** provides a platform to build/use customized apps to improve productivity.

Bizagi provides business process management software supporting the business process life cycle, driving business process improvement, and capable of integrating seamlessly with existing enterprise assets and systems. **Creatio** is a cloud-based platform offering CRM, helping members in managing the customer journey from lead to order and providing a low-code platform to help businesses to build apps and processes for decision-making. **Decisions** offers a platform focused on process automation and business rule execution, providing impactful solutions.

From Aspiration to Execution with Capgemini

Capgemini can enable your organizational processes to help write your future, from concept to execution.

Instant Payments (Real-Time Payments)

Instant Payments (Real-Time Payments) offers an end-to-end, payment-hub-based transformation framework including advisory services, implementation, and support for product solutions from vendor partners. This solution enables a highly flexible, adaptive, and swift payments system, with the ability to interface easily with a multitude of business services and adapt in different infrastructure models.

Intelligent Process Automation

Intelligent Process Automation enables client companies to plan and start their automation journey, scale up operations, enjoy the advantages of sustainable automation, and pursue capability growth and innovation. The solution is infused with RPA, AI, and process analytics to deliver an unprecedented level of process intelligence and automation to the organization.

Touchless Claims for Insurers

Touchless Claims for Insurers transforms the entire claims value chain, applying automation and innovation on top of claims processes and right-shoring by leveraging technologies such as automation and machine learning, insights from data, and a rich ecosystem of partners to enhance operational efficiency and improve claims accuracy.

APPLICATIONS UNLEASHED

FINANCIAL SERVICES IMPLICATIONS

The applications portfolio is a crucial aspect of any technology business, serving as the organization's thriving heartbeat and responding to every demand. As businesses and market dynamics evolve, applications are rapidly changing and transforming into a composable mesh of microservices, moving away from traditional user interfaces. As applications become more complex and interconnected, it is essential to ensure that they work seamlessly together to avoid any disruptions or errors. An enterprise-level approach to application services can help ensure that applications are integrated correctly, avoiding any potential issues with data flow or functionality.

In recent years, financial services firms have been transforming their application portfolio to drive digital innovation, process automation, compliance, fraud prevention, and sustainability. Financial services institutions are likely to continue adopting cloud-native applications and microservices-based capabilities in 2023 and beyond. With the increasing emphasis on digital transformation and innovation, financial services organizations must remain competitive by adopting new technologies and staying ahead of the curve. Cloud-native applications and microservices-based capabilities can help to enhance operations, deliver more personalized and responsive services to customers, and drive greater efficiency and productivity. They can also strengthen security and compliance posture, and avoid costs on legacy infrastructure.

ESG considerations have become a significant trend in the industry in recent years. Financial services institutions are increasingly recognizing the importance of ESG factors in their operations, as they face greater pressure from customers, investors, and regulators to demonstrate their commitment to sustainability and responsible business practices. In response, many are integrating ESG considerations into their core business strategy and operations, with a particular focus on developing ESG-related applications and services.

KEY TRENDS

- Banks and other financial services organizations are looking for ways to compete by bringing out innovative products and achieving economies of scale with lower capital costs. Organizations have the option to go for either a cloud-native or cloud-agnostic approach. In the case of the former, organizations tend to commit to a single platform exclusively whereas the latter helps organizations to avoid vendor lock-ins with the option of portability when required.

- Core modernization will be key in 2023: this effort becomes mandatory to build the bells and whistles necessary for customer experience and innovation. Hence, banks and other financial service institutions need to bring best-in-class solutions that are in composable form to keep pace with their changing business needs.

- The change in the pace of business, coupled with heavy reliance on IT professionals, heavy application backlogs, and overloaded assignments are leading to the adoption of low-code and no-code platform tools. A low-code platform helps democratize some aspects of application development by empowering rapid solution development, although it is not at a stage yet where it can completely replace the entire application development pipeline. The Metaverse – an immersive three-dimensional Internet that allows participants from around the world to interact with each other in real time – will provide a significant use case for Web 3.0 technologies in 2023 and beyond. For instance, Bank of America has launched a VR training program for its employees that simulates real-life customer interactions, while BNP Paribas has launched an app that allows customers to conduct banking transactions using VR.

- Financial services firms keep looking for more accurate risk management, operating cost reduction, and better customer experience, leading to the making of smart AI-powered applications to achieve digital transformation without any disruptions to existing systems. AI use cases in focus are natural language processing and large language models, recommender systems and next-best-action, portfolio optimization, and fraud detection. Creativity use cases are also presenting themselves because of the mainstream adoption of generative AI.

- ESG and sustainability will continue to be the top priorities in 2023. Financial services firms are uniquely placed in their financing, investing, and underwriting roles to be the guardian that protects and safeguards the existing ecosystem, while also being an agent for good, thorough restoration of the natural world for decades to come.

Swaminathan Santhanam
Expert in Residence

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Expert in Residence

Kondo My Portfolio

Tidying up the applications portfolio in a systematic, decisive way to make room for innovation, agility, and the next generation of powerful application services

BANKING

Discover Financial Services

Discover Financial Services is working with IBM to fast-track its digital transformation and application modernization by moving to a hybrid-cloud architecture model. The firm will look to improve visibility and control over its application development cycle by implementing Red Hat Ansible Automation and Cluster Management for Kubernetes. Key benefits include a multi-cloud integration of its services, increased automation and security, and an increased speed in application deployments. Hybrid cloud architecture will also allow Discover to deliver customized services for its customers in an agile manner.

INSURANCE

MassMutual

MassMutual has modernized its systems by moving to the AWS Cloud using mainframe modernization to improve speed and agility. The insurer has been able to decrease the operating cost of the platform, combined with reduced time to market, due to the slimming down and reduction in complexity of the entire application portfolio. This migration has allowed MassMutual to gain better access to data, improve security, and increase flexibility for both customers and advisors. It has also enabled the insurer to meet its compliance requirements and handle increasing data volumes.

Honey, I Shrunk the Applications

Next-generation agile and response-light application services are built on the concepts of Microservices, API-first, Cloud-native, and Headless

BANKING

Santander

Santander is streamlining the processes by which it interacts with customers by improving client connectivity via its partnership with SAP. By joining SAP's Multi-Bank Connectivity, which is a cloud-native solution compatible with S/4HANA, Santander will simplify its customer onboarding process, improving experience and efficiency metrics. The cloud-based solution will allow Santander's partners to integrate financial processes directly into their business, bypassing the complexity present in different proprietary systems. This standardization allows for easier customer onboarding and interactions.

INSURANCE

Liberty Mutual

As part of Liberty Mutual's digital transformation plan, Liberty Mutual is building a cloud-native, microservices-based architecture by adopting Kubernetes – a container orchestration system. This move has already enabled Liberty Mutual to overcome network fragility and allowed easy, on-demand vertical scalability for its multi-faceted applications. The organization has also benefited from reduced costs due to higher efficiency, increased velocity, and strengthened IT security created through containerization. As future steps, Liberty Mutual is looking at using Kubernetes's common API construct to manage infrastructure across cloud and edge.

When Code Goes Low

Low-code and no-code platforms make building next-generation application services a high-productivity matter, for both IT and business specialists

BANKING

State Street Corporation

State Street Corporation has partnered with Appian Technologies to implement a low-code platform to reach automation and modernization goals. Initially intended as a project to enhance client onboarding, the platform is now being utilized throughout the company to automate intricate workflows and procedures. The improved front end that Appian provides has resulted in data entry operations that the investment facing employees partake in. State Street was able to decrease losses due to errors by 50%, realized a 30% gain in operational efficiency, and cut onboarding time by 20% in a year.

INSURANCE

Zurich Insurance Group

Faced with numerous problems like shadow IT and slow turnaround time due to legacy applications, Zurich has partnered with low-code platform Mendix to roll out a Terrorism Data Capture solution for automated coverage. The solution aims to replace critical legacy applications, resulting in simplified workflows for over 700 underwriters. The solution offers a personalized one-stop platform for Zurich's customers to view all their investment-related information. The implementation of this low-code solution sees a modernization switch in the area of business that brings in almost two-thirds of the insurer's revenue.

Apps ♥ AI

Systematically infusing new and existing applications with AI capabilities, making them smarter, autonomous, valuable, with a positive impact on society and the environment

BANKING

Vanguard

Vanguard has implemented a tool called TORI (Tax Optimized Retirement Income) to provide personalized approaches to investors as they look to generate more wealth. This tool was developed to tackle inherent issues surrounding retirement income including the ever-changing regulatory landscape as well as differing needs. The AI model in TORI allows investors to receive optimized recommendations based on their needs while also allowing advisors to increase their customer base

INSURANCE

Travelers

Travelers Insurance has launched an innovative Wildfire Loss Detector app that uses AI and high-resolution geospatial imaging to assess damage to customer properties following natural disasters like wildfires, hurricanes, and tornadoes. The app aims to simplify the claims process, which was previously slow, labor-intensive, and potentially hazardous. With the capability to process 25 million images daily, the app performs quick virtual assessments of damage and shortens the review time for wildfire damage. The app also considers important information like weather, fire severity, and cost of the property to assist making the entire claims process faster for the customer.

Little Green App

Engineer applications to be less demanding in terms of resources and energy with superior performance: get more sustainable, but also better software

BANKING

EQ Bank

EQ is the first bank in Canada to be fully hosted on the cloud and to have declared carbon neutrality. With the help of Temenos Banking Cloud, EQ Bank is improving energy efficiency and lowering greenhouse gas emissions. Temenos and Microsoft's data-sharing capabilities have resulted in EQ Bank having a complete view of their emissions, allowing for better reporting, and aligning with ESG priorities. Microsoft research suggests that it reduced carbon emissions by 98% and saw a 93% increase in energy efficiency when compared to conventional on-premises server deployments

INSURANCE

Ping An Insurance

Ping An Insurance has upgraded its ESG evaluation system with AI to improve ESG monitoring. The upgraded AI model can collect a wide gamut of data points for multiple industries and generate a comprehensive view of the various disclosures that firms make regarding ESG performance. The AI-based system uses NLP, knowledge graph, machine learning, and satellite remote sensing to cover more than 20,000 listed companies and funds. The system is also dynamic in the sense that it can incorporate real-time data and announcement made by these companies, while also keeping tabs on any updates to regulations. The firm aims to improve its ESG investments and better manage risks because of using this tool.

Ecosystem Chronicles

A majority of fintechs are working to simplify, rationalize, and decommission existing or new applications; they are looking to find ways to make applications truly "unleashed." For years, the banking world has worked on and created applications with the main objective of robustness and absolute security. Today, the industry is evolving toward more agile tools that are much more configurable and provide a much smoother, more transparent user experience. Firms are now opening their systems to integrate fintechs to improve the user experience even further.

Neobanks were the first to apply this liberated application process. **Lydia** has created a global platform, open to other fintechs, to best meet the growing needs of consumers. New users have new needs, and this platform provides the perfect open environment to support these needs.

In the same spirit, **Tink** has opened its APIs to allow others like KYC players to integrate their solutions to meet the needs of the B2B customer first, followed by the B2C customer. They can now offer personalized finance management solutions, payments, and reconciliation at a global level. There have also been fintechs assisting in making a sustainability push: **Powerledger** is an Australian startup that develops software solutions for trading renewable energy which is also blockchain-enabled.

The insurance business has traditionally been very process-oriented, from underwriting to claims processing to payment. While some legacy systems are cost-effective even today, others lack the agility and data analysis capabilities needed to create a data-driven enterprise. Several insurers are moving toward digitalizing their architecture to provide openness and flexibility. **Wakam**, previously known as La Parisienne, is a France-based insurer that is offering over 50 open insurance APIs. It is scaling its open insurance model rapidly across Europe, partnering with highly visible companies like IoT network provider **Sigfox** to offer connected insurance solutions.

From Aspiration to Execution with Capgemini

Capgemini can help you unleash the power of your application portfolio with speed and quality.

Open Banking Platform and APIs

Open Banking Platform and APIs enable banks to open their ecosystem and data to third parties and brings a multitude of benefits – new revenue channels, differentiation through unique partnerships and customer experiences, seamless compliance with local regulations, and continuing relevance in an increasingly digital economy. All these benefits come in the form of a mesh of microservices that enable flexibility and continuous adaptability to changing business needs.

Economic App Portfolio Management (eAPM)

How can one build the right future for enterprise IT that will deliver the outcomes desired and optimize costs? Economic App Portfolio Management helps firms do exactly this – portfolio optimization, best-fit target operating model, accelerated moves to cloud, and sustainable IT. eAPM helps firms make their IT enterprise future ready with data-driven transformation.

INVISIBLE INFOSTRUCTURE

FINANCIAL SERVICES IMPLICATIONS

Cloud adoption is increasing across the globe and across the financial services industry. Financial institutions were slow in this adoption as compared to other sectors due to challenges in managing regulatory guidelines, regional data compliance, and security exposures. To alleviate these challenges, a new set of financial services (FS) industry-specific cloud offerings are getting built. Industry clouds make industry best practices available "off the shelf," without the need for extensive customization. Other benefits include speed-to-market, cost reduction, and accelerated growth while driving seamless collaboration between FS industry partners.

Along with cloud adoption, FS institutions are reducing their legacy footprints by starting on the application modernization journey. One of the important aspects of application modernization is creating cloud-native applications. Cloud-native applications thrive in scalable, always-available, and resilient IT infrastructure provided by cloud solutions.

The capacity of FS firms to adopt private-cloud, multi-cloud, and hybrid-cloud strategies is improved by cloud-native development. Organizations can disperse their workloads that are native to the cloud across different cloud environments using a multi-cloud or hybrid-cloud approach, while reducing the risks and expenses related to using a single-cloud environment. Furthermore, multi-cloud or hybrid-cloud IT infrastructure permits broad development, aids in ROI, enables greater security, provides low latency and autonomy, and is less vulnerable to disasters. This contemporary IT architecture facilitates quick scalability in accordance with time-sensitive demand, enables hyper-personalized services, and shortens the time to market.

Beyond cloud adoption, FS executives are increasingly aligning their efforts to achieve their organization's sustainability goals: there is some work to be done here and the journey toward the cloud can help. A growing proportion of global electricity is consumed by on-premise data centers; in contrast, cloud-native suppliers see significant reductions in carbon emissions, marking the way toward a more sustainable, net-zero computing future. Also, optimized cloud usage – especially when achieved in conjunction with AI – will deliver significant savings in energy consumption and reduce carbon emissions.

The improved availability of high-quality, hyper-scale industry clouds, edge services, and 5G networks are enabling a new wave of solutions that were previously technically unfathomable at reasonable costs. For example, insurers are tapping into new business opportunities by leveraging the right mix of smart devices (IoT), 5G networks, and cloud processing power to create smart property-based solutions. Banks are also integrating recognition software at the teller counters to improve security.

As FS institutions are evolving to a product-oriented model leveraging agile and dev-ops practices, a just-in-time infrastructure platform capability is required. These highly automated, self-optimizing IT infrastructure platforms are so entwined with business operations that they are no longer distinctly noticeable.

KEY TRENDS

- To speed up the process of digital transformation, financial institutions are leveraging cloud, hybrid-cloud, and multi-cloud strategies. These solutions increase asset interoperability, provide organizations the agility to test new goods and services, and make it possible to create a positive feedback loop that can be used to adjust the digital strategy as necessary.

- Confidential computing is becoming more and more popular among businesses because it allays financial institutions' worries about data security by encrypting data even as it is processed. To prevent the disclosure of sensitive data, confidential computing builds an isolated computer memory called a "trusted execution environment."

- The growth of IoT technology, the arrival of 5G, and AI/ML advancements are accelerating cloud-edge integration. Virtual tellers, automated claims validation, and facial recognition technologies are examples of low-hanging use cases that may be used to generate a more individualized customer experience while also improving security.

Hemanth Kumar Lakshmi Narayana
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Expert in Residence

Lord of the Clouds

Cloud adoption moves far beyond the middle-earth realm of cloud migration, now also driven by sustainability, distribution, sovereignty, 'FinOps' and multi-cloud forces – all for that precious, better business flow

BANKING

BBVA International

BBVA International has partnered with Temenos to update its core banking systems. Temenos Banking Cloud is being used as the record-keeping system primarily for the bank's retail and corporate business in the Netherlands and Germany locations of the bank's Turkish subsidiary, Garanti. The cloud offering from Temenos comes with a focus on API-based architecture wrapped around its own ecosystem that will allow the bank to deploy services at a much faster pace. The public cloud model also offers a self-service portal that will enable the bank to refine its cost model.

INSURANCE

Liberty Mutual

Liberty Mutual Insurance has shifted 75% of its workload to a multi-cloud environment as it looks to move from an on-premises to a cloud-first functionality mindset. In addition, it is actively deploying FinOps solutions like the open-source cloud resource management tool – Cloud Custodian – enabling better operating structure and discipline routines to drive cost transparency and management in the cloud. The company has already trimmed an estimated 20% of its cloud cost using FinOps strategies.

My Industry, My Cloud

Industry-specific clouds – focusing on data and solutions for a particular industry, domain or even region – deliver speed, focus, and compliance, while trimming legacy

BANKING

Goldman Sachs

Goldman Sachs has developed a new suite of cloud-based data and analytics tools for financial organizations called the Goldman Sachs Financial Cloud for Data with Amazon Web Services. This exclusive partnership reimagines how users may find, arrange, and analyze data in the cloud to acquire quick insights and influence well-informed investment choices. Institutional clients are benefiting from accelerated time to market and optimized resource allocation in solving the problems of data management and analytics

INSURANCE

AXA

AXA UK has partnered with Microsoft to deploy Microsoft Cloud for Financial Services to speed up the competitive car insurance pricing for customers on aggregator websites. As part of the solution, AXA UK has shifted to the Microsoft Azure platform-as-a-service (PaaS) cloud environment to enable pricing model automation through managed endpoints in Azure ML. This move allows AXA to build a more flexible, agile, and sustainable production cycle for its pricing algorithms and to use intelligent tools to streamline and manage online quotes, keeping the focus on speed and performance.

Ops, AI did it Again

AI renders IT operations fluid, proactive, and resilient, improving efficiency, sustainability, and reliability while it learns – on its way to a handsfree, 'NoOps' autonomy

BANKING

JP Morgan Chase

JPMC collaborated with Grafana Labs to build a comprehensive tool that uses trade volumes, synthetic transactions, and other parameters to track trends and proactively highlight issues instantaneously. AIOps is used by the firm to dynamically generate benchmarks that can be revised as and when parameters are updated to reflect changes in the market. In addition to increased resiliency and transparency, this tool arms the support team with capabilities to remediate critical revenue-impacting issues promptly and minimize downtime.

INSURANCE

Auto & General

Auto & General has chosen Dynatrace technology and its AIOps to empower its front-end and back-end digital teams to deliver integrated customer experiences faster and more efficiently. The solution involves a single, unified platform that offers end-to-end observability, real-time insights into customer journeys, and AI-assisted root cause analysis. A unified view of the entire tech stack has allowed the IT team to make better and more accurate data-driven decisions. This has enabled Auto & General to resolve performance issues before users are impacted, understand complex application dependencies, and meet 99% of its service-level agreements.

Simply the Edge

Intelligent devices, at the 'edge' of central IT and close to operations and OT, add a powerful dimension to the existing IT infrastructure

BANKING

National Australia Bank

NAB is working with Microsoft Azure to integrate facial recognition capabilities in their ATMs. Powered by AI, the bank aims to reduce their customers' dependence on debit cards at kiosks, even though PIN codes will still be needed. Azure will offer its Cognitive Services API that comes with speech, language, and anomaly detection capabilities. In addition to these features, the vision capabilities of the API will allow for image and video analysis, image recognition, and identification and detection of people. This is part of the bank's ongoing adoption of public cloud, as it aims to minimize the risk of card-related frauds and other security issues.

INSURANCE

State Farm

State Farm is moving towards a "predict and prevent" mindset using intelligent IoT and edge services. To power this, it has partnered with ADT, a smart home and small business security company, to offer an integrated security and smart home solution that proactively helps customers recover from risks related to home ownership. On the business front, this move enables actionable insights from analytics at the edge via the use of its SMART monitoring technology, resulting in proactively helping customers rather than dealing with claims after the fact.

Silence of the Servers

Building highly automated, self-optimizing IT infrastructure platforms that are so entwined with business operations, they are no longer distinctly noticeable

BANKING

Wells Fargo

Wells Fargo is working with Microsoft to integrate its compute platforms on all on-premises and cloud infrastructure. They will achieve this by combining the capabilities of Azure Arc along with their Kubernetes Services. This integration will allow for fully managed cloud experiences in their data centers; Wells Fargo can also use this integration as a launch pad for automated management of their servers. This instant server configuration functionality will allow for quicker market launches and constant regulatory compliance.

INSURANCE

Swiss Re

Swiss Re's scale-up division, IptiQ, has partnered with Amazon Web Services (AWS) to launch its P&C insurance business. IptiQ is now able to run code for virtually any type of application without provisioning or managing servers, using the event-driven compute service of AWS Lambda. It is also using AWS Relational Database service to set up, operate, and scale its relational database in the cloud. IptiQ is able to protect itself and its partners' brands and reputations as AWS allows for easy compliance with security standards in the highly regulated insurance industry. In addition, it has reduced partner onboarding time to just a few weeks through a common code base and a single API.

Ecosystem Chronicles

FinOps is an evolving cloud financial management discipline and cultural practice that enables organizations to get maximum business value by helping engineering, finance, technology, and business teams to collaborate on data-driven spending decisions. The cloud-spend model introduces complexity and volatility that can frequently lead to "surprise" bills. Developers and engineers often consume cloud resources "recklessly," with a lack of financial accountability.

FinOps is an entry point to steer the carbon transition. There is a growing demand for converging FinOps and sustainability, leading to "GreenOps." Many measurement tools have been introduced and are constantly improving; therefore, it is crucial that they lead to relevant and personalized multi-cloud recommendations that address the sustainability issues. To begin achieving outcomes related to cloud sustainability, organizations need to consider the full life cycle of their cloud services, from the sourcing of materials and energy used to build the data centers, to the disposal of outdated equipment.

Hyperscale cloud providers offer carbon accounting solutions that let enterprise users measure, analyze, and reduce their cloud carbon footprint. **AWS Customer Carbon Footprint Tool** helps measure the estimated carbon emissions from the use of AWS services. It provides easy-to-understand data visualizations to report on the emissions based on Greenhouse Gas (GHG) Protocol standards. **Google Cloud Carbon Footprint** helps customers view the gross, location-based emissions that are derived from Google Cloud usage, providing transparency into emissions associated with cloud applications. **Microsoft Cloud Carbon Tracking** helps estimate carbon emissions related to using Microsoft Azure and Microsoft 365 cloud services. It provides an Emissions Impact Dashboard for Azure using Power BI template apps and third-party validated carbon accounting.

Cloud Carbon Footprint is an open-source, free tool to measure and analyze cloud carbon emissions and perform public cloud sustainability monitoring. It is multi-cloud by nature and provides guidance and instructions on configuration and maintenance. **EasyVirt** is a sustainable IT company offering solutions that help in monitoring real-time emissions of IT services, servers, and virtual machines. The tool is used to control and optimize virtualized infrastructures, and it provides an in-depth analysis of the activity and consumption of virtual machines.

Aguaro develops an app to help companies reduce their environmental footprint. The app comprises a carbon measurement tool, a strategic module to define objectives, a catalogue of actions, and a communication tool to raise awareness. It can also connect to Cloud Carbon Footprint via API to extract public cloud carbon data.

From Aspiration to Execution with Capgemini

Capgemini can help you realize a truly invisible IT infostructure that is omnipresent yet invisible.

Microsoft Power Platform

Capgemini's Microsoft Power Platform provides consultancy, design, and development at scale for process automation solutions, legacy migrations, integrations, and extensions using Power Platform, D365, and Azure to enable rapid digital transformation. This solution gives banks the ability to clear multiple issues including automating business processes, reduce security risk over sharing financial documents, and incentivize cloud-native app development and migration by keeping costs low.

Connected Banking

Connected Banking provides a complete end-to-end solution to bring together all elements to implement a connected banking solution for clients, fast-tracking their implementation journeys. The solution offers a compliant and modern architecture with baked-in integrations allowing clients to move to a componentized banking structure to meet ever-changing digital needs.

Mainframe Modernization

Mainframe Modernization, a solution implemented along with the Cap360 tool suite, helps firms retool their mainframe to bring optimal resource utilization, business agility, and innovation while optimizing costs. In addition to enabling firms to achieve these business goals, this offering takes care of the firm's business context, maturity, and the future.

Data Center Migration

Data Center Migration provides multiple, flexible, fit-for-purpose options for data center migration to the cloud, aligned with each financial services firm's existing setup and future priorities. The solution helps organizations respond to increasing software costs, lessen mainframe transformation times, and react to a shrinking workforce with appropriate IT and data infrastructure skills.

BALANCE
BY DESIGN

FINANCIAL SERVICES IMPLICATIONS

Every business is a technology business, but this is especially the case for financial services institutions. While applying the technology principles is key, it is important to find the right balances within and for the organization, for employees and customers, and for society and the environment.

In the past year, it has become even more clear that financial institutions face huge challenges. Although ambitions and related strategies are defined, the challenges to reaching the goals are still substantial. Improving flexibility, cost efficiency, and relevance of the service offerings goes hand in hand with keeping up with regulatory requirements, retaining a qualified and motivated workforce, and coping with sustainability aspirations. In all cases, technology should facilitate an open and adaptable organization, supporting efficiency to the maximum. Facing ever-increasing compliance rules forces organizations to minimize the risk of so-called "shadow IT" to stay in control. Which technologies are best fit to cope with these challenges and meet expectations? And then there is the technology push: what are the potential game changers that need to be followed in order to cope with the competition and stay relevant for the customer?

All of these challenges and potential solutions should be considered in a holistic way. Being aware of available technologies is one thing; and finding out where, when, and how they can bring value is another thing. The available technologies should be assessed from different angles regarding their relevance and contribution to overall business goals, taking into consideration the responsibility that financial institutions have in society: we call it Balance by Design.

"Do good, do less, do well," reflects an ambition to add value while at the same time minimizing the environmental impact. New technologies should be applied where they bring added value, not just because they are there. This requires a renewed focus from the enterprise architecture capability to support decision-making. It requires an integrated view of the organization and its ecosystem, with deep insights into available technologies and potential environmental impacts. Unifying business and technology will be pivotal for financial institutions to respond to rapidly changing customer expectations and regulatory reforms with speed and agility. "Platformification" will play a key role in developing new value propositions for the ever-connected financial customer. Extracting the right value out of data through the cognitive and generative capabilities of AI – while managing trust, privacy, and ethics – will enable accelerated business innovation.

KEY TRENDS

- **From product to customer experience:** The focus on providing products and services to customers is ever more replaced by a focus on creating a seamless experience for the customer. Improved and seamless experiences are supported by smooth customer journeys and automated self-services with the customer more in control. In the whole ecosystem, providing the best possible services and products as a service provider is a key aspiration.

- **From data to value:** To remain relevant, every financial organization must leverage data in creative ways across the value chain – to gain insights, to open new revenue streams, to drive new experiences, and to create smooth customer journeys. For this, data centricity is key. Only having accurate and relevant data, available when needed and of the right quality, can create added value.

- **From insight-focused to partnerships:** Financial organizations tend to own the entire value chain of their products and services; this limits the variety of offerings which can be provided, and even the potential client base. Instead of a drive to build and buy proprietary solutions or other assets, effective partnerships are essential for value generation. Fintechs should be considered as an opportunity to engage in new markets, and seen less as threats. Related API strategies should come into place.

- **From fit for purpose to sustainability:** Within the financial industry, there has been a focus on sustainability for a long time. The increased pressure from regulators resulted in increased responsibility to the client base. IT departments are forced to have a closer look at their carbon footprints with climate agreement targets needing to be reached. Conscious and efficient use of cloud services, use of SaaS solutions, appropriate technologies, and green coding practices play an important role. However, sustainable business operations should be tackled comprehensively – simultaneously addressing the biosphere, society, and the economy.

Marcel Becker
Expert in Residence

Gerard Peters
Expert in Residence

Do Good, Do Less, Do Well

Make the organization thrive by saying "Yes" to initiatives that create a positive, purposeful impact, and saying "No" to activities that are energy-wasting, non-essential or non-ethical

BANKING

UBS

UBS and Microsoft have partnered to co-develop a Carbon Aware API. This solution allows the bank to schedule workloads and maximize the use of clean, renewable, and low-carbon sources of electricity. Information gathered from this API was then shared with the Green Software Foundation so that it could be widely accessed by companies across the world to ensure common good. In addition to moving certain technology workloads from private clouds to Azure, this initiative has seen UBS reduce energy consumption by up to 30%.

INSURANCE

Munich Re

Munich Re has taken significant steps to decarbonize its business in its pursuit of supporting the Paris Climate Agreement. To align its operations with environmental sustainability, Munich Re has put in force a policy to halt insurance coverage for all projects related to the operations of oil fields; direct investment will also see a marked reduction when it comes to companies that focus on oil and gas. The firm hopes that these decarbonization steps will result in the wider industry increasing its focus on climate goals and on meeting environmental targets.

Technology ƎƷ Business

Move from alignment to unity of business and IT, creating a seamless technology business strategy and operations

BANKING

BancoEstado

BancoEstado is partnering with Mambu to improve digital service access for its customer base. The bank aims to digitize its infrastructure to ensure faster, better client experiences as well as to support the bank's digital strategy. BancoEstado chose Mambu over old IT platforms that were hampered by outdated systems. Mambu's distinctive composable banking paradigm enables it to quickly, flexibly, and scalable develop solutions in any configuration to satisfy corporate demands. Its open architecture model also results in an improved customer experience.

INSURANCE

AIA

To manage consistent growth and increasing data needs, AIA decided to move its business to the cloud. Using Azure services such as Cognitive Services, Virtual Machines, Data Lake Storage and Data Factory, AIA has increased its capabilities in AI, virtualization, data analytics, and scalable storage, leading to cost savings of 20% and a 73% increase in digital customer engagement. AIA also shifted to the Azure Kubernetes Service to drastically reduce operational failures. Additionally, the Red Hat Ansible automation platform has improved agility, reducing provisioning times from 90 days to just one hour. AIA hopes to embed 90% of its computing in the public cloud, embracing innovation at the heart of its business.

Adapt First

Move adaptability from afterthought to prime time

BANKING

Vanguard

Vanguard has taken on the mantra of constantly adapting in its migration journey to the cloud. They have embraced chaos engineering to regularly test new use cases and hypotheses, and they look to improve site reliability engineering and improve DevOps processes. The team conducted regular chaos game days, fire drills, and break tests to inject failures so that they could better adapt to real-life breakdowns and adapt their live instances to ensure they withstood any stoppages.

INSURANCE

Zurich Insurance Group

Zurich is offering Resiliency Services for sustainability to the Worldwide Broker Network, a community that has a presence in over 100 countries. The firm's offering allows companies to better prepare for risks and adverse events due to climate change and reduce the downtime that they might experience as a result. The offering uses risk engineering as a base and then customizes data insights for their customers, allowing them to mitigate current and future risks they might face.

With Open Arms

Upgrade your technology platform to the ultimate technology business platform: a superior, open set of attractive services, acting as a magnet for active collaboration, internally and externally

BANKING

DBS

DBS is working with FinLync, a global fintech company, to consolidate all its global APIs, allowing their clients easier access to the DBS suite of digital offerings. This partnership will allow DBS's corporate partners to seamlessly integrate the various functionalities that DBS offers in their own business processes, resulting in a reduction in integration time and costs. The customizable nature of these APIs also reduces client dependency on other third-party systems, allowing clients to adapt to changing business environments

INSURANCE

Chubb

Chubb has re-architected its global integration platform, Chubb Studio, to evolve easily and integrate new partners with the introduction of three new features simplifying the embedding of insurance offerings into partners' digital ecosystem. The new features open access for Chubb and their partners. It allows them to share information and onboard partner products via development kits. It also provides a seamless and easy onboarding process for new partners. Via Chub Studio, third-party insurance providers will be able to offer embedded insurance products on their platforms, not only from Chubb but from other players as well.

IQ CQ EQ Up

Ensure a properly measured and monitored balance between three – sometimes conflicting – assets: the corporate intelligence quotient, creativity quotient, and emotional quotient

BANKING

Morgan Stanley

Morgan Stanley has launched an internal technology effort to gain better customer insights so that they can provide unique advisory services to all their clients. Named "Project Genome," the bank aims to gain granular insights from their customers, treating each customer like their own strand of DNA. Insights gained from each data point left by a customer can result in continued and personalized service for a customer throughout their life. The bank feels that this segmentation approach will allow to them reach an untapped market, offering new products and services, with a potential to add USD 1 trillion in new assets as a result of these initiatives like "Project Genome."

INSURANCE

Travelers

The Travelers Insurance and Google Cloud are collaborating on a cloud-based data ecosystem to enhance the commercial underwriting process. Built on Google Cloud, the ecosystem collates data of all types from multiple sources and catalogues it for further use. AI will then be used to synthesize the data, allowing agents access to customer insights, and speeding up the underwriting process. Travelers aims to gain complete visibility into customer risk profiles via data-driven insights, allowing them to make marked improvements in their underwriting quality.

Trust Thrust

Power up the entire trust ecosystem – from the organization's core to its edges – securing your existing business and pushing forward to its next permutation

BANKING

MUFG Bank

MUFG Bank announced that they have chosen to adopt Fusion SIEM, a product by Exabeam, to assist in reducing cybersecurity attacks. Exabeam will allow the bank to analyze abnormal behavior by users, compare them with baseline information, and thus detect both insider threats and cyberattacks. This will help them detect threats early and deploy countermeasures before they impact the business. The bank aims to further solidify safe, secure financial services that are used by their customers.

INSURANCE

AXA

AXA's P&C and specialty risk division AXA XL have partnered with Flashpoint to deploy Cyber Risk Analytics – a comprehensive data breach intelligence program to reduce the organization's risk exposure from third-party vendors. The program offers real-time management of cyber risk through a comprehensive view of the vendor, with end-to-end supply chain monitoring providing data breach intelligence insights like risk ratings with a record of previous data breaches. Further, the solution combines vulnerability intelligence into this mix, enabling deeper insights, better vendor due diligence, reduced risk exposure, and intelligent decision-making.

No Hands on Deck

Assume full, hands-free automation as the default for all new technology business processes

BANKING

Deutsche Bank

Deutsche Bank and its Blue Water fintech lab launched their RPA program by introducing a multibank Data Processing and Reconciliation solution. The tool aims to help corporate treasurers automate and streamline complex processes, making it easier for them to provide management with real-time data and actionable insights. Usage of the tool results in the saving of 60-80 hours of manpower every month. Because the tool can process thousands of documents at the same time, it can shorten reconciliation time from two to three days to almost 1 hour.

INSURANCE

Aflac

Aflac has transformed its email processing by automating over 30% of incoming emails with an AI-powered email bot, which uses natural language processing to understand context and sentiment. The implementation has resulted in a more efficient process for handling the emails received each week, with the bot classifying and assigning emails to cases and even responding to simple inquiries. The automation has improved response times, reduced costs, and simplified service across Aflac's contact center, all while providing faster resolution for its customers. The solution is part of Aflac's "One Digital Aflac" vision to improve customer-centricity and transform customer connections.

Ecosystem Chronicles

Today, the focus has shifted to providing users with a "wow experience," using data to drive real value, and leveraging ecosystem partners to create new offerings – all the while focusing on fostering sustainability. By leveraging solutions like **Vlocity**, **Zelros,** and **FullStory**, financial services organizations can orchestrate customer journeys, manage real-time interactions, and make use of open and as-a-service business models to deliver a personalized experience. By leveraging the full power of data, financial services institutions can drive value to their users. Solutions like **Harbr** for data collaboration, **Alation** for data cataloguing, **Cosmian** and **LeapYear** for data privacy, **Dataiku** for building data pipelines, and Toucan Toco for data storytelling enable financial services providers to gain deeper insights into their customer base and tailor recommendations.

Partnerships with ecosystem players resulting in open and as-a-service business models can lead to newer ways to engage customers and generate revenue. Organizations need to be aware of their carbon emissions and take active steps to reduce them. Carbon accounting solutions provide a view of the carbon footprint, actionable steps to reduce emissions, and visualization capabilities. **Normative** provides a platform to measure sustainability performance, with automated data collection, a tailored reduction plan, and recommendations on high-impact actions. **Sweep** provides a platform to reduce carbon emissions in the business value chain; it helps connect organization data to an emission factor database and provides tailored market insights, including benchmarking against similar players. **PlanA** provides solutions like an automated decarbonization plan and automated data collection to calculate and offset an organization's carbon footprint.

Sustainable IT solutions focus on reducing energy consumption and the carbon impact of enterprise IT infrastructure and applications. **GreenSpector** helps IT teams to lower the energy consumption of the software they develop.

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Data for Net Zero

Data for Net Zero offers CXOs support for setting up a net-zero intelligence nerve center at the crossroad of all enterprise functions. The offering is built across three pillars – Data Strategy, ESG Data Performance, and Sustainability Data Hub. Client benefits include the ability to anticipate current emissions, measure their current ESG performance, and improve their environmental performance.

Inventive IT

Inventive IT is the simultaneous transformation of the technology and operating model that enables business results through three pillars – agile transformation, innovation and competencies, and transformation catalysts. The solution helps financial services organizations to frame their transformation, solve business issues, unlock value, scale progressively, and build technology and operating models from the ground up.

Sustainable IT

Sustainable IT enables organizations to seize the opportunity of sustainable IT by infusing a life-cycle thought process while de-risking the operationalization of impactful actions. The solution is based on four pillars – sustainable strategy, sustainable IT transformation, sustainable employees, and IT for sustainable business. Financial services firms can reduce the carbon footprint of digital technology and support the sustainable business models of tomorrow, while balancing these changes with other business and technology priorities.

TECHNOVISION 2023: Financial Services

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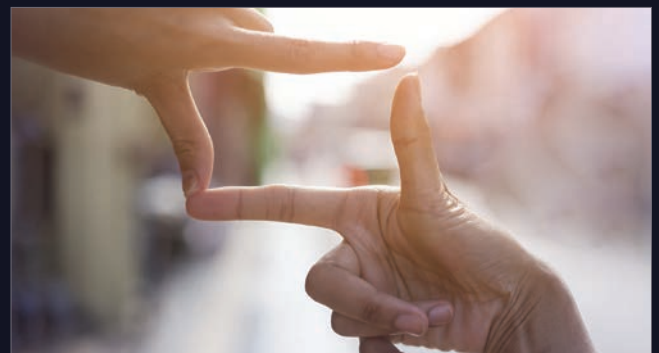# ACKNOWLEDGEMENTS

FURTHER RESEARCH

TechnoVision 2023

Trends for Business Decision Makers, is our proven source of advice that is written by our leading experts. A trusted and insightful technology guide, the 2023 edition of TechnoVision will help you and your C-suite peers to formulate enterprise strategies and a transformation plan.
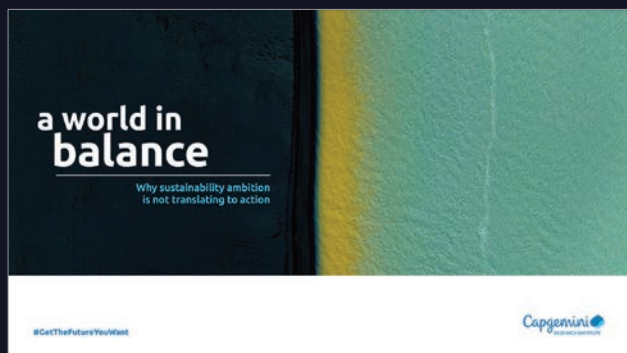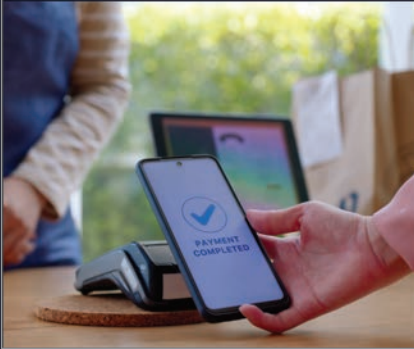

A World in Balance

Top Trends in Financial Services 2023

PAYMENTS
TOP TRENDS 2023

Top Trends in
Payments 2023

RETAIL BANKING
TOP TRENDS 2023

Top Trends in
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LIFE INSURANCE
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PROPERTY AND CASUALTY INSURANCE
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Top Trends in
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