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Leadership Viewpoint

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The financial services industry stands at an important and strategic juncture. Various aspects of our customers' business and value delivery chains are getting disrupted in fundamental ways and technology stands at the center of it all. The challenge for industry leaders is clear: drive innovation, ensure governance, and build resilient, trusted organizations that can thrive in a rapidly changing landscape.

Artificial Intelligence is no longer a theoretical promise—it is increasingly being seen as a business-critical capability. The transition from AI as a tool to AI as the core of autonomous agents is fundamentally reshaping industries and personal lives as well. In the short term, while there is understandably some hype, the power of this technology to significantly alter our working lives and business models in fundamental ways is beyond doubt, not to mention the changes that technology will herald in our personal lives as well.

At TCS BaNCS, we are embedding AI into our solutions to enable responsible, scalable adoption. Our focus is clearly on enabling our application users to derive significant operational cost advantages and efficiencies as well as a substantially different approach to risk reduction. By focusing on efficiency and risk as two critical dimensions we aim to cut through the clutter and hype to deliver meaningful economic value to our clients. We also deeply understand that this is not just about technology; it's about building a trustworthy, future-ready foundation for growth and differentiation.

Payments are at an inflection point. The acceleration of real-time payment rails, driven by consumer demand and the rise of account-to-account (A2A) services through Open Banking, is redefining the industry and competitive dynamics.

Central Bank Digital Currencies (CBDCs) are moving from concept to reality, promising the efficiency of digital payments with the stability of sovereign currency, and fueling the growth of digital wallets.

By focusing on efficiency and risk as two critical dimensions we aim to cut through the clutter and hype to deliver meaningful economic value to our clients.

Embedded finance is no longer optional; and ISO20022 is emerging as a strategic lever for integration and customer-centricity—not just for compliance. SWIFT's evolution is focused on faster settlements, enhanced client experience, and transaction traceability. At the same time, the industry faces relentless pressure to strengthen security, combat fraud, and build trust at every touchpoint.

At TCS BaNCS, we are ready to participate in the opportunity being unleashed across multiple segments in the payments industry with our "ISO native" design and modular, cloud-native architecture which enables institutions to leverage BaNCS to solve specific, tactical problems (like meeting the ISO adoption deadline) or adopt a broader enterprise payment view depending on their imperatives. Those who have taken a holistic view have clearly benefited in terms of time to market, flexibility and derived business value as adoption metrics clearly show.

The Securities Services ecosystem is undergoing rapid transformation. The drive to compress settlement cycles—from T+2 to T+1 and even same-day in some markets—is reshaping operational models, financial and liquidity imperatives, and risk management paradigms among others. Industry leaders now recognize that greater standardization is essential to absorb change and accelerate innovation.

Digital Assets are another growing area of attention; the tokenization of traditional assets is gaining traction, and regulators are responding with new frameworks—such as the SEC's Project Crypto, which introduces safe harbors and clarifies standards for digital assets. The GENIUS Act in the USA also marks a significant milestone as the United States' first federal regulatory framework for stable coins; the legislation promises to unleash new waves of investment and technological advancement within financial services.

Our industry-leading securities services clients are relying on us to help them navigate their path in this ever-changing world. We are investing in multiple areas including APIs, enhanced user experiences, operational efficiencies, data and AI, all designed to help them stay ahead of the forthcoming disruption and turn challenges into opportunities.

Any picture of today's financial services industry will be incomplete without mentioning Resilience. A consequence of higher velocity of movement of cash and all assets in general, the number of digital touch points, the rapid evolution of technology and the varying levels of maturity of tech adoption of consumers all together create a potent cocktail which bad actors can exploit. Keeping data safe and secure is a huge responsibility and providing stable and highly available platforms has become more critical than ever. We are very much aware of and alive to this responsibility and are continuously investing in capabilities and assets to ensure the desired levels of resilience and regulatory compliance.

Digital Assets are another growing area of attention; the tokenization of traditional assets is gaining traction, and regulators are responding with new frameworks

From the editor

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Ink and Intellect – Charting the future of finance

Welcome to the latest edition of the TCS BaNCS Research Journal for Securities and Banking.

We see writing instruments, physical or digital, as a tool of transformation, a bridge between ideas and action, tradition and technology.

This edition features writing of various hues. Topics range from the role of--and advancements in--AI in financial services, to explorations in cross-border payments, embedded finance, ISO 20022 and what intelligence really means from a core banking perspective.

With the deadlines for T+1 in Europe looming and the compression of settlements to T+0 on the horizon, what kind of opportunities does technology offer to more than merely meet the diktat? Our contributors share prescriptive views, grounded in the experience of working closely with financial institutions, each insight a deliberate stroke on the canvas of progress.

Getting back to the much spoken about topic of AI, we take you through its possibilities from a TCS BaNCS lens, with the objectives of bringing meaning to all this. Meaning - that translates into not just ROI but also real purpose.

Thanks for reading and being part of our community.

Let's continue to share views and thoughts, and stay up to date, as we build a human-powered, AI-advisory world.

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PAYMENTS

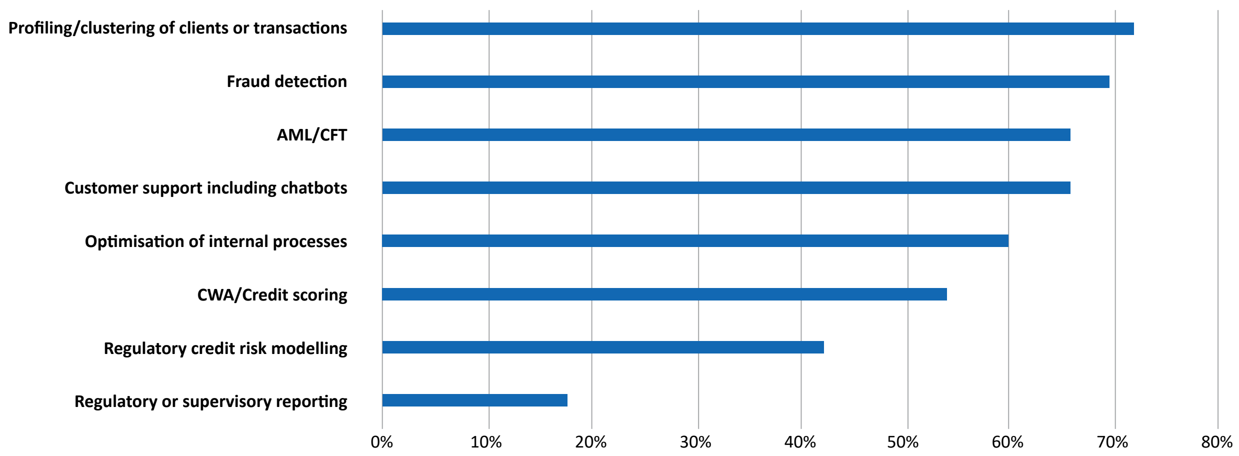
Steering your Firm through the AI Revolution

For the first time in 6 years, Artificial Intelligence has been mentioned more times than ESG, by the top executives of European banks when going through their annual results.i In fact, AI mentions have more than doubled since last year. This is a clear indicator of the mind share that AI is taking amongst the leadership of European banks. AI adoption is well on its way within European banks with a wide variety of areas of usage.

Use of AI by European Banks

This is just the nascent stage, with most use cases focusing on efficiency benefits, and they are expected to soon become more complex and span multiple areas across the bank. This will open a new era of opportunities but will also present a new set of challenges to the leadership of banks across Europe. Leaders will need to reimagine their roles from that of decision makers to navigators of ambiguity, guides to ethics and enablers of human-AI coordination.

This article explores the key leadership challenges posed by the rise of AI in European banking, including strategic alignment, cultural transformation, workforce reskilling, ethics and trust, regulatory complexity, and cross-functional collaboration.



The aim is to provide a perspective on how bank leaders can steer their organizations through the AI revolution.

Strategic alignment: AI with a tangible, measurable purpose

The AI initiatives need to be aligned closely to the business objectives, with a focus on those that bring material value that are assessed by bankers and not technologists. Leaders should not treat AI as a project for the next IT buzzword in the bank but see it as a catalyst for reimagining customer experience, compliance, and competitive positioning. Without a strategic view, even advanced and complex AI projects could end up as siloed experiments. In practice, this would require having AI embedded in the strategic planning process of every business unit and focusing on high-impact, measurable use cases tied to core objectives, rather than dabbling in disconnected pilots.

Cultural Transformation: Fostering a pro-AI mindset

Uncertainty on employment, job displacement and degradation have come out as key concerns in a research study on the impact of AI on banking employment in Europe.iii There's a real fear that AI will replace people, and leaders will have to assuage these fears as best as they can. They need to impress upon everyone that the more likely reality is that the future of banking lies in augmented intelligence, where humans and AI systems work together. Implementing AI at scale requires a profound cultural shift within traditional banking organizations.
It comes as no surprise that 64% of CXOs believe that the success of AI will depend more on the people than on the technology itself.iv Top executives must therefore function as agents of change, promoting a culture that embraces AI rather than fears it. This involves educating employees at all levels about the benefits of AI, addressing anxieties about job displacement, and demonstrating a commitment to ethical use of AI.

Workforce: Upskilling, Reskilling and Retaining

AI is overhauling the skills required within a bank. AI can, not only automate a whole host of repetitive tasks, but is now able to perform more sophisticated tasks. This will have a direct impact on how employees perform their daily tasks with AI, possibly, completely changing the nature of their work. Leaders will need to focus on the optimum ways to upskill and sometimes completely reskill employees. This will need for banks to manage multiple tracks, with one track for most employees to gain broad fluency of AI capabilities in the context of their jobs and the bank's objectives, with other tracks for technical and domain related capabilities. AI skills are in high demand and will continue to be so for the near future, and banks will have to actively engage, challenge, nurture and incentivize skilled employees.

Ethics and Trust: Ensuring Responsible AI

Any conversation in Europe on AI will have the themes of trust and ethics coming up continuously. It comes as no surprise that in a survey of 30,000 Europeans, when it comes to building trust, data security and confidentiality ranks as a top priority (66%) and ranks higher than concerns like track record of accuracy (59%) or transparency of AI decision making process (57%).v It is imperative to have a "trustworthy AI" that is aligned to societal values, transparent, explainable, auditable, accurate and with required human oversight. Leaders should ensure to involve the bank's compliance teams early on, implement strong AI governance frameworks, layout clear ethical guidelines, ensure bias testing, and frame review processes for AI models. Banks should also consider establishing an ethics review board having cross functional oversight.

Collaboration Between Technology and Business: Breaking Silos

AI spans across all departments and functions and needs close collaboration. In a pan-industry survey, 65% of the CEOs were of the view that the organization's success in successful AI adoption is related to the quality of the collaboration between business and technology.[vi] Culturally, banks have been rigid with each department working in silos. Leaders should establish cross-functional teams for AI projects, bringing together stakeholders from compliance, risk, operations, and front-line business areas alongside data engineers. This "one team" approach ensures that AI solutions address genuine business pain points and can be integrated into operations smoothly. Management should encourage and ensure that senior executives share common goals that incentivizes them and their teams to collaborate and enable agility with the realization of various AI use cases.

Regulatory Complexity: Navigating GDPR and the EU AI Act

Europe, possibly, has one of the most stringent regulatory environment in the space of data and Artificial Intelligence. Managing regulations even on a normal day is not easy and advent of AI brings its own set of complexities. The main relevant regulations are GDPR and the EU AI Act. GDPR imposes strict restrictions on the use of personal data and grants individuals' rights regarding automated decision-making and hence implicitly restricts full machine-driven decision making for use cases that may be sensitive in nature. The EU AI Act add another layer of complexity by classifying AI systems into risk tiers having corresponding obligations. For example, a high-risk system will have strict obligations around robustness, transparency, audits, and oversight. Banks can turn these regulations into their advantage with building a perception of trust with strict compliance to the same.

Conclusion

Leaders have a critical role to play in helping their banks navigate as AI reshapes Europe's banking landscape. If the journey of adopting AI at scale is overseen well, it will unlock the potential of AI. The map for the journey is clear: invest in people and culture; setup the guardrails; enable collaboration; uphold the vision. Successfully negotiating these exciting times can help a bank be well placed for the new AI powered era.

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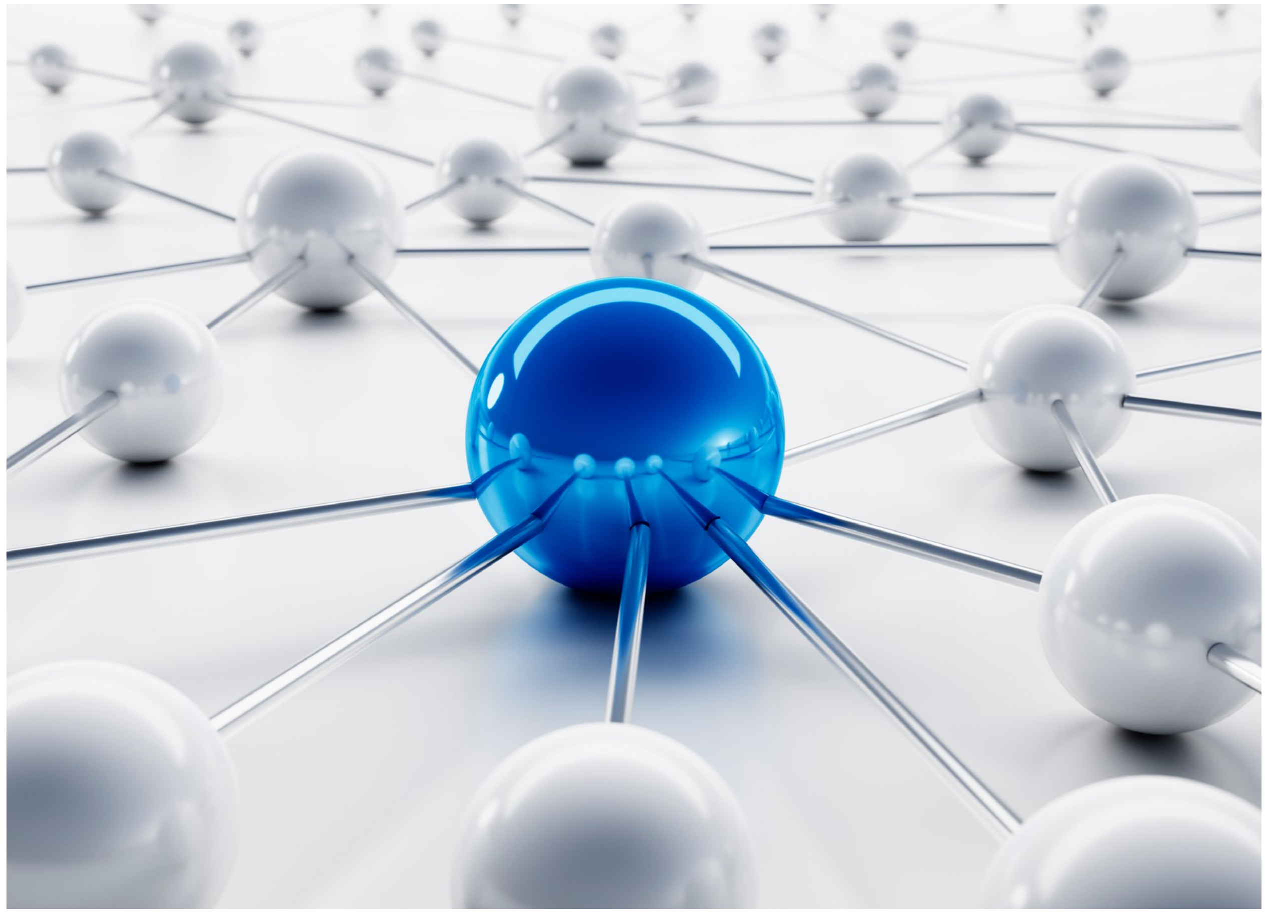
The Intelligence Revolution: How GenAI and Agentic Systems are Redefining Enterprise Payment Hubs



Enterprise payment hubs (EPH) stand as the unsung heroes of the financial ecosystem—silently orchestrating millions of transactions daily, from your morning coffee purchase to billion-dollar corporate transfers. These sophisticated networks have evolved to handle everything from instant domestic payments to complex cross-border transactions navigating multiple regulatory jurisdictions. Despite their mission-critical-like importance, many institutions continue struggling with outdated systems plagued by manual interventions and operational bottlenecks.

The past decade has witnessed a steady evolution in payment processing infrastructure, but nothing has shown more transformative potential than recent advances in Generative AI (GenAI) and Agentic AI technologies. Through extensive research and direct conversations with industry leaders and operations teams, it is becoming clearer that these innovations aren't merely improving payment systems incrementally—they have the momentum to fundamentally reimagine how an EPH functions.

For financial institutions, the implications are profound. Early adopters aren't just reducing operating costs marginally—they are attempting to completely redefine the art-of-the-possible. They are processing payments in seconds that previously took days, dramatically reducing fraud losses, and creating payment experiences that generate genuine customer engagement.

This article shares insights from the impacts that AI-led evolution can have on the payment processing value chain.

This also dwells onto practical implementation strategies, realistic assessment of the challenges, institutions would face on the frontlines of payment transformation.

The Evolving Landscape of Enterprise Payment Hubs

Current State and Persistent Challenges

Despite billions invested in digital transformation, many payment hub landscapes remain patchworks of legacy systems connected by custom integrations and manual processes. These environments must contend with escalating complexity of:

- **Real-time payments (RTPs)** requiring 24/7/365 processing with zero tolerance for delay or error
- **Cross-border payments** navigating correspondent banking networks, currency conversions, and conflicting regulations
- **Domestic payment networks** (ACH, wire transfers) each with unique formats, settlement windows, and limitations

Traditional payment hubs operate through interconnected modules handling multiple acquisition channels, validation checks, compliance screening, format translation, exception handling, settlement processing, account posting, and reconciliation. Despite technological advancements, persistent challenges include:

- **Manual interventions:** Exceptions and complex cases requiring human review
- **Compliance complexity:** Evolving regulations demanding constant updates
- **Format fragmentation:** Multiple messaging standards and protocols
- **Operational inefficiencies:** Redundant checks and delayed processing
- **Customer experience gaps:** Limited personalization and transparency

The Transformative Promise of GenAI and Agentic AI

Generative AI and Agentic AI represent paradigm shifts in how payment systems can operate:

Generative AI employs large language models (LLMs) and other generative approaches to process unstructured data and natural language, generate content, code, and structured outputs, learn patterns from vast datasets and adapt to new scenarios without explicit programming.

Agentic AI builds on these capabilities by taking autonomous actions based on objectives, coordinating between multiple systems and processes, making decisions with limited human intervention, planning and executing multi-step workflows.

Together, these technologies can transform payment hubs from static, rules-based systems into dynamic, intelligent networks capable of learning, adapting, and operating with unprecedented autonomy.

Implementation of Ideas to Revolutionize Payment Hubs

Intelligent Payment Routing and Optimization

Traditional Challenge: Most institutions rely on static routing rules defined months or years ago. A payment to Germany always follows the same path, regardless of network congestion, temporary outages, or fluctuating costs—resulting in unnecessary delays, higher fees, and frustrated customers.

AI-Powered Solution: GenAI and Agentic systems enable intelligent routing that works more like an experienced navigator, tracking real-time conditions across SWIFT, SEPA, Ripple, and domestic networks, calculating optimal paths considering speed, cost, reliability, and customer priorities and anticipating problems before they happen, such as rerouting payments that would otherwise get stuck in end-of-day processing windows

Implementation Idea: Imagine this: you've got a "smart router" working behind the scenes, always keeping an eye on the web of correspondent banks and processing options. One day, a big payment from Singapore to Mexico is about to hit a snag—delay at the main route. No problem! The system instantly finds a quicker alternative, reroutes the payment, and saves nearly eight hours. The customer? They're pleasantly surprised to see the money arrive sooner than expected, blissfully unaware there was ever a hiccup in the process.

Enhanced Compliance and Sanctions Screening

Traditional Challenge: Rule-based compliance systems generate high false-positive rates, requiring extensive manual review and creating processing delays.

AI-Powered Solution would perform contextual sanctions screening that understands transaction intent and context, with entity resolution that distinguishes between similar names and identifiers. The solution performs anomaly detection identifying unusual patterns without explicit rules and goes onto identify regulatory change monitoring which automatically updates compliance parameters

Implementation Idea: A GenAI system analyzes transaction narratives, beneficiary information, and historical patterns to determine the true purpose and risk profile of payments. The system can distinguish between a legitimate payment to "John Smith" and a sanctioned individual with the same name by analyzing contextual information—reducing false positives while maintaining compliance effectiveness.

Automated Exception Handling

Traditional Challenge: Exception handling remains largely manual, with specialized staff reviewing and resolving issues like formatting errors, missing information, or compliance flags.

AI-Powered Solution can perform an Intelligent classification of exceptions by type, severity, and resolution approach, provide automated correction of common formatting and data issues, predict resolution suggesting likely successful resolution paths and self-healing workflows learning from past resolutions

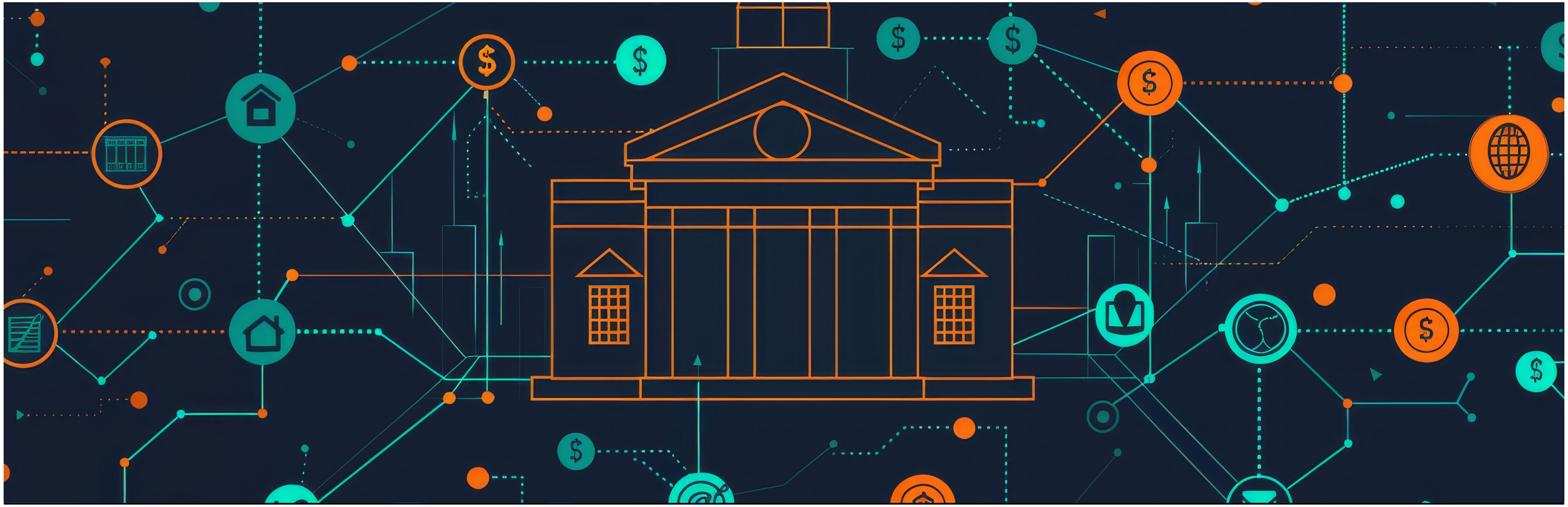
Picture this: the agentic system spots a payment missing beneficiary account details. Instead of kicking it over to a human for manual review, it instantly scans past transactions for similar patterns, pulls the most likely account info from trusted sources, double-checks it, and resubmits the payment on its own. If it comes across a trickier exception, it doesn't just throw up its hands. Instead, it puts together a set of recommended solutions, complete with supporting evidence, so that when a person steps in, they know exactly what to do. Smooth, seamless, and efficient.

Intelligent Format Translation

Traditional Challenge: Payment systems must translate between numerous messaging formats (ISO 20022, SWIFT MT, proprietary formats), often requiring custom mapping rules and data enrichments across the formats.

AI-Powered Solution does **adaptive format translation** learning mapping patterns without explicit rules, carries out **Semantic understanding** of payment data across different schemas. This also performs **Automatic adaptation** to format changes and new standards while carrying out **Field enrichment** completing missing information based on context

Imagine this: instead of wrestling with a tangle of payment formats and custom rules, your GenAI system simply "gets it."



When a new field pops up or a format changes, it intuitively understands what needs to be done—figuring out the right mapping based on the meaning behind the data. No more scrambling to update manual mappings or worrying about translation errors. The result? You slash those format mishaps by 90%—and your team can finally focus on what really matters.

Predictive Fraud Detection

Traditional Challenge: Traditional fraud detection systems rely on static rules and threshold-based triggers that struggle to identify novel fraud patterns.

AI-Powered Solution does **Behavior-based anomaly detection** understanding normal patterns for each customer. Identifies **Cross-channel correlation,** Social Network Analysis connecting activities across multiple touchpoints and builds upon **Adaptive risk scoring evolving** with changing fraud tactics

Imagine this: your fraud detection doesn't just sit in the background crunching numbers—it's actively learning and adapting to your customers' transaction habits across every channel. Instead of relying on outdated, rigid rules, this intelligent system spots even the most subtle anomalies, flagging only what truly matters. The moment it detects something suspicious, it can automatically send an alert for review, temporarily adjust transaction limits, or prompt for extra authentication—all while providing clear explanations to your compliance team. The result? Proactive protection, less noise, and more confidence that you're staying one step ahead.

Intelligent Data Enrichment – Turning Payment Data into Business Intelligence

Traditional Challenge: Most institutions treat payment data as merely transactional information to be processed and forgotten. Valuable intelligence remains buried in unstructured fields, remittance information goes unutilized, and payment patterns that could predict customer needs go unnoticed.

AI-Powered Solution:

- **Contextual Understanding of Unstructured Data:** GenAI systems parsing free-text payment descriptions to extract invoice numbers, contract references, and project codes with remarkable accuracy
- **Entity Resolution and Enhancement:** AI identifying that "Acme GmbH," "Acme Germany," and "ACME-DE" represents the same entity, then automatically standardizing and enriching these records
- **Predictive Working Capital Insights:** Analyzing payment timing patterns, seasonal variations, and counterparty behaviors to predict cash flow with unprecedented precision
- **Supply Chain Intelligence:** Mapping entire supply networks from payment flows, identifying concentration risks and suggesting alternative suppliers before disruptions occur

Imagine putting GenAI to work as your behind-the-scenes payments expert—quietly studying your clients' historical payment data and learning the quirks of every vendor's reference formats. With this "translation layer" in place, reconciling incoming payments to the right invoices suddenly becomes automatic, even when suppliers change their formats or new vendors are added to the mix. The result? Fewer reconciliation headaches, faster cash application, and a much smoother process overall.

Challenges for Financial Institutions

> **AI transformation isn't primarily a technology problem—it's a people and process challenge with a technology component.**

Organizations that fail to recognize this typically achieve minimal benefits despite substantial investments.

AI Readiness Assessment – Be Brutally Honest

Before initiating implementation, institutions must honestly evaluate their readiness:

- **Data Readiness:** Banks have to know where their data resides, its currency, its quality and in what shape or formats.
- **Technical Infrastructure:** Multiple considerations here for e.g. The AI models in use, the API ecosystem maturity, the infrastructure to host these models, the related costs and the speed of the AI engine

Governance and Risk Management

AI systems in payment processing require robust governance frameworks:

- **AI Risk Assessment:** For Model Governance, banks must invest in model risk evaluations, bias detection and mitigation, and security measures.
- **Operational Controls:** Design and frame the human oversight mechanism, fall-back procedures in case of AI system failures, audit trails for the AI-driven decisions.
- **Regulatory Compliance:** Explainability, especially in case of automated decisions, is a key requirement. Many countries are evolving on the regulatory reporting for the AI systems in use.

Change Management and Skill Development

Successful implementation requires organizational transformation:

- **Workforce Evolution:** Creation of a Human-machine collaborative environments, redefining the operational roles as well as upskilling the payment operations team. This will involve redesigning workflows and new performance metrices

Ethical Considerations

As AI systems become more autonomous in payment processing, institutions must address the following challenges around Ethical practices:

- **Algorithmic Fairness** to ensure equitable access to payment services across demographics, while preventing inadvertent discrimination in risk scoring or maintaining transparency in payment routing decisions
- **Human Oversight and Accountability** through responsibility frameworks for AI decisions, determining appropriate levels of human intervention and creating explainable AI systems for regulatory review
- **Privacy and Sovereignty:** As this Intelligence is based on past data, balancing personalization with privacy concerns, addressing cross-border data sovereignty issues and implementing privacy-preserving AI techniques would help gain customer and regulatory trust.

The Future of Intrinsic AI Payment Hubs

The Intelligence Economy – Data Enrichment as the New Currency

We're entering what could be called the "Intelligence Economy"—an era where insights derived from payment flows often deliver more value than the payment processing itself. This shift has profound implications:

Sovereign Payments360: New opportunities exist for “payments intelligence vaults”—secure environments where payment data can be enriched, analyzed, and converted to actionable insights while maintaining strict compliance with privacy regulations.

Intelligent Ecosystem Networks: The next frontier involves collaborative intelligence networks enriching payment data across institutional boundaries while preserving privacy.

> **Early implementations using federated learning and zero-knowledge proofs allow banks to collectively detect fraud patterns without sharing raw transaction data.**

From Reactive to Just-In-Time Treasury Services: Treasury services are transitioning from solely processing payments to managing financial flows using predictive intelligence. This shift includes supporting clients within their supply chains and may serve as a distinguishing feature in the industry. EPH should predict supplier payment needs before invoices are issued, optimize payment timing to maximize float or capture early payment discounts, and dynamically allocate working capital based on continuously enriched payment intelligence.

The Orchestration Challenge: Data enrichment in a payments lifecycle is not as an add-on feature. This is the orchestrating force for their entire payment ecosystem. Next-Gen architectures place intelligence at the center, with transaction processing as just one of many services feeding into and consuming from this central intelligence layer, representing perhaps the most significant architectural shift in payments since the introduction of the hub model itself.

The Path Forward

The window for gaining competitive advantage from AI in payments is closing faster than most executives realize. The leaders began their AI implementations 18-24 months ago and are already seeing dramatic results. The middle of the pack is scrambling to catch up. The laggards are still debating whether this is hype while their customers gradually migrate to more innovative providers.

> **Generative AI and Agentic systems aren’t just another incremental improvement in payment technology —they represent a fundamental shift in how payment hubs function.**

The benefits are too substantial to ignore. The most successful institutions will approach this transformation as a strategic journey rather than a tactical technology implementation.

As payment ecosystems continue to evolve, GenAI and Agentic AI will transition from competitive advantages to table stakes. Financial institutions beginning this journey today will be best positioned to lead the payments industry of tomorrow.

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Cross Border Payments – Drivers, Evolution, Multiple Rails and Interoperability

Cross-border payments are essential for international trade and various other financial activities. An efficient payment infrastructure is crucial for supporting any kind of transactions.

The backbone of cross-border payments is a correspondent banking network connected by SWIFT, which acts as the traditional infrastructure for international financial payment transactions. This traditional system involves banks having relationships with each other across borders to facilitate payments. When a customer in one country needs to pay someone in another country, their bank will use its correspondent banking network to route the payment through intermediary banks until it reaches the bank of the beneficiary.

Key Challenges in the traditional Correspondent Network

The current cross-border payment environment is fragmented and relies

on intermediaries to achieve a global reach. Transactions are often slow, taking several days to settle due to reliance on legacy correspondent banking networks. This leads to high costs for a payment transaction and lack of transparency. Regulatory mismatches due to limited coordination between the countries as well as fragmentation around anti-money laundering (AML)/ Combating the Financing of Terrorism (CFT) rules and regulations create further frictions and complexity.

Innovative companies have emerged as strong players in the cross-border payments market, offering alternative payment infrastructure and solutions that can often be more cost-effective and faster than traditional banking methods.

Beside business innovation, new technologies as well as local and global initiatives drive the evolution of cross border payments:

- **Globalization of Commerce**
  Growth in international trade, e-commerce and Gig economy platforms increase the demand for efficient cross boarder payments
- **Technology Innovation**
  New technologies such as distributed ledger technology (DLT) and digital currencies (e.g. CBDCs, stablecoins) enables faster and cheaper cross-border payments processing with less intermediaries.
- **Standardization based on ISO 20022 message formats**
  The richer ISO 20022 data format allows transmission of more detailed transaction and tracking information (Legal entity identifier, UETR). This should lead to smoother interoperability between different payment systems across the border and ease compliance checks with enhanced and structured data.
- **European Union (EU) initiative Single Euro Payments Area (SEPA)**
  The primary goal of this initiative has been to harmonize the euro payments with the EPC SEPA payment scheme for Credit Transfer and Direct Debit payments. Setting cost limits and fee transparency rules for SEPA payments were further goals of the EU directives.
  The latest initiative by the European Payment Council (EPC) is the introduction of the SEPA One-leg out (OLO) Instant Payment (IP) Scheme which enables new IP cross boarder business cases: as for example to connect the SEPA IP scheme with Swish from Sweden. Starting from April 2025, TARGET Instant Payment Settlement (TIPS) supports (besides the Euro) and the Swedish kronor (SEK) now also the Danish kroner (DKK). TIPS goes in the direction of a multi-currency settlement approach which will fuel SEPA OLO within EU.

Governmental and Multilateral Initiatives
The G20 has made improving cross border payments a global priority due to their critical role in the global economy. In coordination with the Financial Stability Board (FSB) and other bodies, the G20 pursues a multi-year roadmap with 11 targets in the following categories:

TCS BaNCS - Payments - G20 Goals of Cross-border Payment enhancement

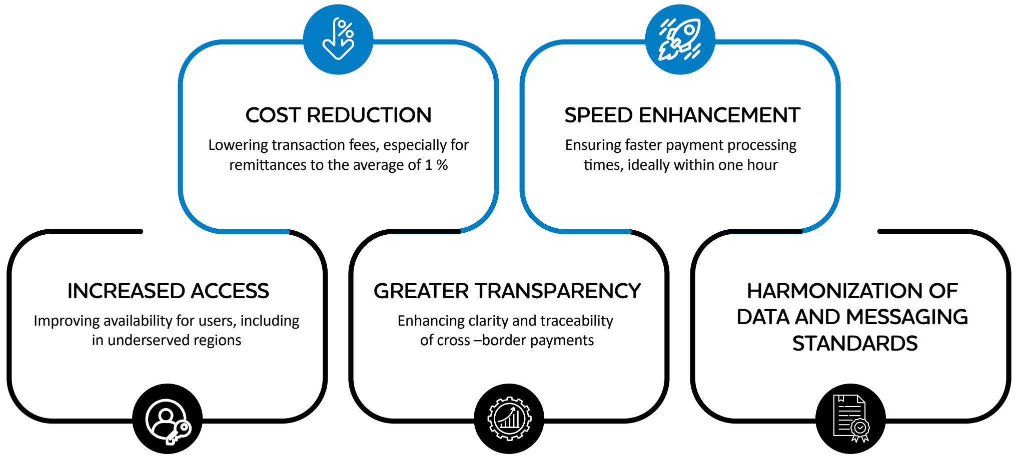

Figure 1: Categories of G20 Roadmap goals for enhancing cross border payments until 2027

Multiple Payment Rails

This evolution has led to the development of multiple payment rails built on different technologies, optimized for speed, and lower costs to meet the business and customer experience needs of different payment stakeholders:

- **The traditional correspondent banking network/SWIFT**
  Payments are routed through a chain of intermediary banks, using a system like SWIFT. The latest evolution step of SWIFT is the introduction of SCORE+ for corporates. SCORE+ allows real-time tracking of payments and optimizes liquidity management by initiating real-time balance queries for timely cross-border payments.

  For consumers, SWIFT Go is the new standard in low-value international payments. SWIFT Go enables retail customers to send quick cross-border payments with fees and FX costs known upfront. SWIFT Go supports also several pre-validation services; for example, beneficiary validation.

  Use Case: SWIFT focuses on high value transfers and inter banking covers payments, B2B payments, and supports trade finance transactions. With SWIFT Go, the low value consumer segment is also supported.

- **Real Time Gross Settlement (RTGS) linkages for real/near time payments**
  The EPC introduced in 2023 the SEPA One-leg out (OLO) Instant Credit Transfer scheme which links the fragmented instant payments clearing system networks within SEPA countries. For example: SEPA Instant Payments in Europe can be linked with Swish in Sweden over the OLO scheme or with the SIC5 instant payment RTGS in Switzerland. The cross border forwarding of the payments will be performed by a so-called Exit/Entry Payment Service Provider (PSP), which has the opportunity of currency exchange earnings.

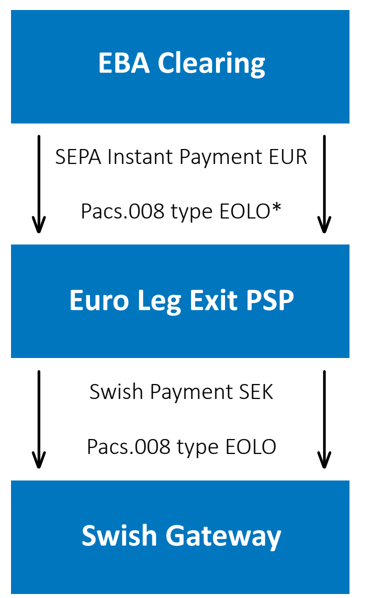

Figure 2: SEPA instant payments is linked with Swish from Sweeden over Euro Leg Exit PSP

The domestic real time payment systems of Singapore's FAST were linked with Thailand's PromptPay for cross border real-time payments.

Use Case: Enabling low-value cross border (e.g. SEPA OLO is restricted to EUR 100k) fast money transfer which includes also the possibility of currency exchange. The linkage of IP networks leverages the existing instant payments transfer infrastructure.

- **Blockchain and Crypto networks**
  Using Distributed Ledger Technology/Blockchain to send value across borders (Bitcoin, stablecoins).

  As an example, the projected Agora under the umbrella of the Bank for International Settlements (BIS) could be emphasized: The Agora project involves seven central banks and a large group of private sector companies and investigates proposals and solutions that combine tokenized commercial and wholesale central bank money on a multi-currency unified ledger for cross-border payments. The objective of Agora is to demonstrate how a unified ledger could enhance the efficiency of business processes in correspondent banking payment chains, thereby reducing transaction times and costs. The project will continue throughout 2025, and a report will follow when this phase is completed.

  Use Case: Transfer amount can be cut into any small pieces. This enables so called micropayments. Blockchain and crypto networks enables fast and low-cost remittances and the development of unserved markets

- **Fintech/Alternative Payment Networks**
  Non-bank Payment Service Providers (PSP) (build their own payment networks, often using local settlement in each country on a daily base.

  Use Case: Consumer remittance

- **Mobile Money and Wallet Networks**
  Digital wallets and mobile money transfer platforms (e. g PayPal, Alipay, and Twint in Switzerland) enable near time transfer between mobile device users. These platforms have high user experience and offer additional services.

  A disadvantage is that these platforms are closed ecosystem with poor connectivity to outside.

  Use Case: Mobile payment solutions support P2P Money transfers, especially micropayments.

- **Card Networks (VISA, Mastercard)**
  The big players in the card business maintain global payment network systems which facilitate payments between consumers, merchants, acquiring banks (merchant's banks) and issuing banks (cardholder's banks). Card to card transfers or the load of prepaid cards can serve as a remittance method.

  Mastercard offers "Move Commercial Payments", a near-time cross-border payments solution that operates 24/7. The solution is integrated with the existing SWIFT messaging systems, and compatible with current correspondent banking relationships. These elements help banks maximize operational efficiency, improve liquidity management while minimizing risk.

  VISA offers a similar solution called Visa Direct: Visa Direct also leverages a multi-rail approach that supports card-based and account-to-account transfers which is integrated with The Clearing House RTP and FedNow.

  Use case: Card payments have the focus on consumer purchases especially on e-commerce and travel. Multi-currency settlement is supported as well as the possibility of chargebacks in case of not authorized bookings.

Interoperability between payment rails

TCS BaNCS for Payments supports multiple rails of payment processing through coupled architectural components and concepts such as microservices. Comprehensive Order Management enables the acquisition from various payment initiation channels, display and routing different payment types to the processing microservice instances of these payment rails like SWIFT cross-border, SEPA Instant, WISE, Blockchain and local automated clearing houses (ACH). Central services offer common reference data like Beneficiary Master, bank and clearing directories, routing rules, Payment Limits and Customer Product Agreements. These reference data are replicated or can be accessed by APIs.

The payment solution supports APIs of Fintech's like WISE and Ripple to process payments alongside Distributed Ledger Technology (DLT) based payment rails.

TCS BaNCS can directly interact with a clearer using Distributed Ledger Technology (DLT) / Blockchain or update the blockchain with TCS Quartz. TCS Quartz is the crypto gateway component of the TCS BaNCS family and delivers the capabilities to manage blockchains and crypto currencies.

The further evolution and usage of stablecoins and digital currencies as central bank money (CBDC) will push this digital asset payment rail and makes it even more interesting for banks and Payment service providers to integrate the crypto currency payment rail into its payment universe.

To summarize: Multiple rails of cross-border processing could be used by banks to provide best fit of turnaround time, optimize FX spread in case of currency exchange and reduce costs to their customers, depending on the banks' business model.

The interoperability between the different payment rails optimizes customer experiences and enables to optimize the operational revenue of the bank. The dynamic routing between the different payment rails is based on routing rule KPIs such as speed, low costs and contractual situation with counterparties.

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Embedded Finance – How are Corporates Evolving

Why Embedded Finance for Corporates?

Embedded Finance offerings for retail customers are well known: BNPL (Buy Now Pay Later), Embedded Payments like Google Pay, Apple Pay, retail branded cards and financing, embedded Insurance, loyalty and rewards program or Wallets.

Embedded Finance in the retail business is experienced as an enabler to improve customer experience and open new business opportunities and revenue streams.

Maybe you, as a bank or Fintech, have already had some discussions on these topics.

What about Embedded Finance for corporate customers? This article will shed some light on this topic.

Embedded Finance for corporates is experienced at an early stage.

> **Depending on the industry, geographical location, respective business behaviours', Embedded Finance does not gain high priority.**

In some opinion Open Banking or Open Finance is seen as Embedded Finance, but it is only the entry point for it to get the interactions for such services.

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In a **future view, payments will be part of the process** of purchase, e.g. Delivery versus Payment or use of service and less seen as an independent activity.

Therefore, **Open Banking is an enabler for seamless customer journeys**, but **Embedded Finance opens the door for additional services**, and is an enabler to streamline operations, improve customer and partner experiences, and unlock new revenue streams.

The same benefits experienced in retail businesses are leveraged in corporate businesses.

By integrating financial services directly into platforms and workflows, companies can reduce friction in B2B transactions and offer more comprehensive solutions.

The graph below gives you an overview of actual Embedded Finance use cases in corporate businesses.

Embedded Payments in B2B Platforms	• Corporations are integrating payment solutions into their supply chain and procurement platforms, allowing seamless invoicing, payment processing, and reconciliation. • This reduces manual work and accelerates cash flow management.
Lending & Working Capital Solutions	• Embedded lending is used to offer short-term credit or trade finance directly to corporates. • Platforms such as B2B marketplaces or ERP systems partner with fintech's or banks to provide pre-approved financing or invoice factoring.
Embedded Treasury & Cash Mgmt	• Corporates integrate banking services into their ERP systems, enabling real-time cash flow monitoring, forecasting, and liquidity management. • This provides better control over treasury functions without switching between platforms.
Embedded Insurance	• Businesses can offer tailored insurance products (e.g., cargo, equipment, or liability insurance) as part of their service offerings to partners or customers.
Corporate Cards & Expense Mgmt Tools	• Embedded finance enables corporations to offer smart corporate cards and automated expense tracking tools directly within internal financial systems or employee platforms.
Payroll & Employee Financial Services	• Some companies embed salary advance features, savings options, or benefits management into HR platforms to support employee financial wellness.
Revenue Based Financing & Subscription Billing	• Some companies embed salary advance features, savings options, or benefits management into HR platforms to support employee financial wellness.

Examples of use cases by industry

The following examples of impact and use cases by industry help to understand the impact of Embedded Finance:

- **Manufacturing**
  Impact: Improved liquidity management, reduced working capital gaps, and stronger supply chain resilience with use cases such as:
  - » **Embedded Payments:** Automating supplier payments and receivables within ERP systems (e.g., SAP, Oracle). Using smart contracts in permissioned blockchain ecosystems, or other delivery versus payment patterns can be introduced.
  - » **Trade Finance & Embedded Lending:** Manufacturers provide financing options to distributors or dealers directly through digital platforms. Based on trade finance events, e.g. delay of deliveries, the bank can support corporates with lending.
  - » **Insurance:** Offering embedded equipment or production line insurance during asset sales as insurance on demand.
- **Logistics & Supply Chains**
  Impact: Faster settlements, more secure transactions, and better protection of goods in transit with use cases such as:
  - » **Embedded Freight Insurance:** Automatically offered during cargo bookings or shipment tracking as insurance-on-demand.
  - » **Instant Payments & Escrow:** Integrated payment solutions to reduce fraud and delays in global trade transactions. The bank acts as a trusted intermediary as is today known in credit operations, where payment is executed only when the delivery is made.
  - » **Financing Options:** Embedded invoice factoring or load financing for carriers and freight companies.
- **Software-as-a-Service (SaaS) / B2B Platforms**
  Impact: Higher user retention, additional revenue streams (via transaction fees or lending

margins), and a more seamless user experience with use cases such as:

» Embedded Payments & Billing: SaaS platforms integrate payment gateways and subscription billing directly to reduce manual actions in invoicing and reconciliations. This requires transparency and traceability in billing for SaaS customers. A bonus system would enhance customer loyalty.

» **Lending Platform Users:** Platforms offer credit or cash advances to small business users based on usage or revenue history (e.g., Shopify Capital).

» **Wallets & Payouts:** Platforms hold and distribute funds on behalf of users (e.g., marketplaces or gig platforms).

- **Construction & Real Estate Impact:** More transparent project funding, faster access to capital, and risk mitigation with use cases such as:

» **Project-based Financing:** Embedded loan options for developers or contractors within project management tools. Based on the progress and payment plan of a construction, liquidity, delay and other risks are detected early on and can be mitigated. Banks get more insight into risk exposures and a better handle to actively manage the risk in cooperation with their corporate customers.

» **Embedded Insurance:** Builders risk or liability insurance offered during contract signing or procurement. With integrated progress milestone and payment plans, the risk can be actively managed and mitigated.

» **Payment Flows:** Milestone-based payments embedded in construction platforms streamline contractor payouts. With integrated progress and payment plans, the risk can be actively managed and mitigated.

- **Agriculture & Agribusiness Impact:** Increased access to capital for smallholder farmers, reduced financial risk, and digitization of rural payments with use cases such as:

» **Input Financing:** Seed, fertilizer, and equipment providers embed financing directly in their ordering platforms.

» **Crop Insurance:** Embedded insurance coverage for weather or yield losses during product sales as insurance-on-demand.

» **Farmer Wallets & Mobile Payments:** Allowing farmers to receive and manage funds via embedded wallets in agriculture platforms.

- **Energy & Utilities Impact:** Improved customer onboarding, higher adoption of sustainable solutions, and smoother payment collection with use cases such as:

» **Embedded Billing & Payments:** Smart energy platforms integrate payments into usage monitoring tools. Transparency and traceability in billing offered to customers.

» **Green Financing:** Offering embedded financing for solar panels or energy-efficient equipment. This could be provided as a 'lease and buy' model.

» **Usage-based Insurance:** Embedded services for equipment breakdown or liability based on usage data as insurance on demand.

- **Healthcare & Medtech Impact:** Enhanced affordability and accessibility for patients, and simplified administration for providers with use cases such as:

» **Patient Financing:** Clinics and providers embed instalment payment options for expensive procedures.

» **Embedded Insurance:** Health platforms offer coverage for diagnostics, outpatient, or telemedicine services. This can be factored in a special healthcare insurance offering to invite customers for early clarification and detection of illnesses to reduce healthcare costs and improve customer satisfaction and health.

» **Expense & Reimbursement Tools:** Corporate wellness platforms offer embedded wallets for reimbursable medical expenses.

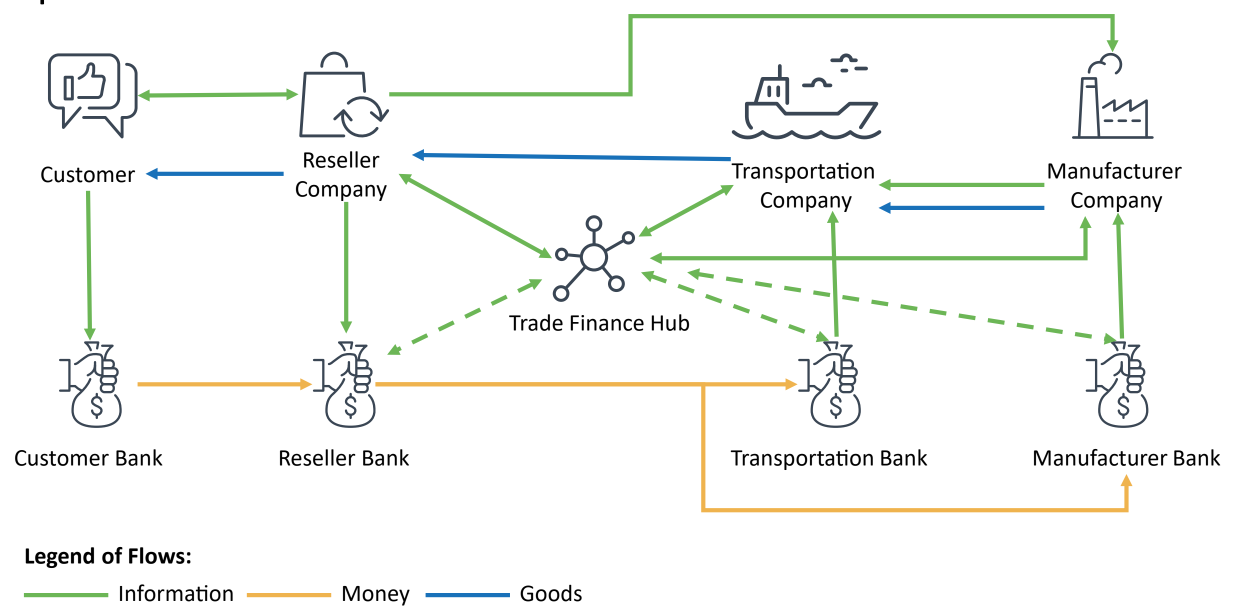
With Embedded Finance for corporates, banks and FinTechs need to consider this is a 7x24x365 high available service.

While implementing for EU areas, consider best practices in other areas such as PSD2/PSD3 regulation, data privacy of GDPR, and resilience requirements of DORA to avoid bad surprises. It is easier to factor this regulation in the design of business instead of mitigating it in later productive use.

How to integrate Embedded Finance for Corporates as a bank or Fintech?

The recent disruptions of value chains due to COVID, tariff wars, and de-globalization make it difficult for corporates and banks to manage their risks and maintain their services. Well-introduced processes and offers may fail to serve the purpose of the corporates in times of disruption.

Simplified Information Flows in business



Banks are focused on money flow, which gives them a restricted and delayed view of the risks, shortage of liquidity, impact of working capital and business revenues of corporate.

In the graphic above, a bank only gets information to process payments.

How can a bank successfully manage the risks faced by corporate customers and related financing with this limited information base?

If by chance, a bank interacts with a Trade Finance Hub and is using the additional information in a good way, it gains more insight into the ongoing business of its customers, e.g. delays of deliveries, the change of a supplier, and use of other currencies to cover cross-border purchases. Even with information about Trade Finance, a bank has limited but improved information to manage counterparty risks of corporate customers.

Depending on your business, you can evaluate cooperation with well introduced Trade Finance Hubs.

Normally, banks have their limits on corporate clients in respect of liquidity, turnover, and wealth. In the case of strong growth or decline, the bank will contact corporations to gain more insights and discuss the next appropriate steps.

This approach looks lean, but it is dependent on the person involved, process-heavy, error prone, difficult to track, and hard to leverage.

Initially, Request-to-Pay was targeting retail customers for POS (Point of Sale) and eCommerce to compete with card payments, but business cases are more promising in implementing it in a B2B area to streamline invoicing, payment reconciliation.

In the section," Example of use cases by industry", we give you ideas to explore further.

Depending on the industry you are working in, I invite you to think about the benefits of the Embedded Finance business case.

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Monetize on ISO 20022 – Build the Basis

Implementation of standard ISO 20022 opens the door to implement new and enhanced value-added services

ISO 20022 payments – hardly keeping pace with implementation

The adoption of the ISO 20022 payment format triggered significant operation and strategic changes worldwide. Payment systems and schemes implemented this new standard to process incoming and outgoing payment messages.

Central payment mechanisms like SEPA have forced payment chain participants to adopt their release schedule. The co-existence of old and new payment formats during transition phases will not be allowed anymore soon – the predominant example is the retirement of the old SWIFT MT-formats in November 2025.

European banks must ensure **end-to-end compatibility** with ISO 20022 for cross-border payments and high-value (RTGS) transactions. Many institutions hardly kept pace with the speed of introducing ISO 20022. High implementation costs of new payment platforms and complex migration needs left legacy systems in place. Instead of adopting future-proof platforms, mere format conversions back and forth or to/from legacy systems are being put in place. Financial institutions prioritized external interoperability for the various payment rails, and postponed implementing state-of-the-art platforms. The technical debt piled up, and is still piling up.

Harmonization – but with different flavours and timelines

ISO 20022 builds the basic framework to reach a harmonised payment message landscape. At the same time, ISO 20022 provides necessary flexibility at various levels – to mention a few: not all fields are mandatory, enumeration values are not to the full extent (if at all) everywhere, and alternatives (e. g. unstructured addresses, hybrid addresses, structured addresses) are in place.

The adoption of ISO 20022 across the various payment mechanisms (SEPA/SEPA Instant, TARGET2/T2, SWIFT/CBPR+, CHAPS, SIC, RIX, …) understand the messages but their usage guidelines apply different flavours (one could also refer to having different dialects) leading to different processing needs. At the same time, since the full-scale implementation is still ongoing, we see a lack of uniform readiness.

Benefits and Potentials

Implementing ISO 20022 would not be done if it did not have benefits and a huge potential down the road. Along with the compliance to new payment regulations as a bare minimum benefit, we see

1. High degree of standardization and interoperability (compared to the past);
2. Improved automation: STP rates can be improved significantly, and cost-effective payment services can be provided;
3. Enriched data becomes available which addresses required improvements to static and reference data (e. g. customer names/addresses, supplier data, beneficiary data etc.), leaving alone updates needed for databases, user interfaces and templates
4. Significant increases in the payment speed, especially, with instant payments.

Building upon these benefits, the potential of ISO 20022 adoption is huge. Multiple value-adding services can be built. Trying to name them all is almost impossible. Some of them could be enhanced to payment reconciliation and reporting, API-based payment initiation and tracking, Request-to-Pay (R2P)/smart invoicing and e-billing integration, ESG and regulatory enhancements, and embedded finance.

Let us focus and detail a bit more on the following two examples which are already part of the discussion between market participants: one focusing on reducing costs, the other one looking at additional revenue.

A - Compliance checks and risk insights

One of the main targets of anti-financial crime (AFC) measures are payment details. Two factors for preventing money laundering and countering financing terrorism are: accessing reliable data and speed. Banks prioritising those factors are ahead of the game.

ISO 20022 fosters the use of more and more structured information and common identifiers (e. g. addresses, LEI, IBAN, UETR). It paves the way for communicating additional data like beneficiary details.

Payment platforms digesting all this data on a real-time basis would be a bonanza for AFC tools. Not only the speed of their compliance checks would be increased by a great deal, the input of more messages and details would provide new insights for analyzing payment behaviors of suspects. The subsequent use of AI/ML tools would be much easier.

But what is in it for financial institutions apart from additional implementation costs? Complying to regulations obviously does not pay off directly. However, looking down the road one could easily foresee less hassles with non-compliant cases, reduced fines and a protected reputation in the market.

B - Enhanced liquidity management and cash forecasting for corporates and SMEs

Corporate treasurers and many SMEs often rely on

- Outdated reports (end-of-day CAMT files or even old MT9xx messages with low depth of data)
- Manual reconciliation across banks
- Inaccurate cash flow forecasts

leading to inefficient use of liquidity, costly overdrafts, and poor investment of idle funds.

With ISO 20022 we will see:

- Structured data in CAMT.052/053/054 (including value dates, settlement dates, and remittance)
- Common and end-to-end references (e. g. UETRs (Swift), instruction ID, e2e ID, return with original reference instead of MT field 20/21)

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- Real-time updates via PACS and CAMT messages leading to improved and faster reconciliation of transactions by corporate ERP systems (better references, and higher transparency on applied FX rates and fees in comparison to MT based processing)

This enables banks to offer services like

- **Intraday liquidity insights** using real-time PACS/CAMT flows
- **Predictive cash flow forecasting** across multi-banking setups
- **Just-in-time liquidity alerts** and optimization tools
- **Benchmarking services** for SMEs (e.g. average payment terms by industry, transaction volumes)

The solution underlying these new services could provide these features:

Feature	Description
Real-time CAMT ingestion	Ingest camt.053/054 from multiple banks instantly
AI/ML Forecasting	Predict inflows/outflows based on payment behaviour
Visualization Dashboard (see picture for mock-up)	Cash position by currency, region, legal entity
Alerts	Early warning on liquidity shortfalls or surpluses
ERP/treasury system integration	Via APIs with structured data mapping

These enhanced or new services could be prized by applying these example revenue models:

- Freemium for SMEs (basic analytics)
- Subscription pricing for corporates (tiered by volume/bank accounts)
- White-label options for other banks/ FinTechs

These AI projected, value-added KPIs should easily compensate for the additional charges on the customer side:

- Forecasting accuracy improvement: up to +30%
- Reduction in idle balances: up to -20%
- Manual reconciliation time: up to -50%

TCS BaNCS – future-proof + payment rail-agnostic platform to leverage the potential of ISO 20022

Financial institutions need to use a future-proof, state-of-the-art payments platform to lay out the basis for future growth. TCS BaNCS is a proven payment platform fulfilling these requirements.

It's payment engine supports the ISO 20022 standard whilst being able to deal with various dialects (interoperability). This means we have one payment platform for all payment rails. TCS BaNCS RTP Service covers multiple payment schemes in one instance as an enabler of the various linkages (e. g. linking domestic payment schemes to cross border payments).

Once payment messages are ingested, data are agnostic of their origin (payment mechanism/rail) within its EDL (Enterprise Data Layer) and can be exploited with ease – may it be for simple feeds or AI ML/deep learning.

If changes come up, may it be new payment rails (e. g. SEPA OLO) turn up or existing ones are adjusted, TCS BaNCS can easily be accommodated for this. Multiple parameter options ensure that your payment solution is future proof.

Don't wait – stay ahead

Staying ahead of the game or at least being an early adopter in the payment industry becomes, with the introduction of ISO 20022, even more relevant.

High investments will have to be made to build the basis for the future as a payment industry participant. However, this future will not only prove more efficient and transparent payment processes but also show already promising use cases for additional revenue by providing added-value services.

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Harnessing AI for Human-Centric Engagement in Financial Services

While intelligence is abundant in today's digitized financial services landscape, the challenge lies in applying intelligence to drive customer trust, business value, and sustainable growth.

Artificial Intelligence powers credit approvals, automated investment advice, and personalized insurance coverage. But without purpose, it risks adding complexity or eroding trust.

While customers appreciate speed and convenience, they expect accuracy, transparency, and empathy from financial institutions. Used purposefully, AI can meet and exceed these expectations.

From Raw Data to Meaningful Engagement

Financial institutions on modern platforms handle immense volumes of transactional, behavioral, and market data. Retail banks track deposits, lending, and digital interactions; broker-dealers manage trades across asset

classes; insurers record policy status, claims activity, and risk scores.

The paradox? They are data-rich but insight-limited — with valuable signals often trapped in system silos or locked in performance reports.

To move from volume to value, institutions must pivot from:

- Fragmented analytics to connected intelligence ecosystems.
- Reactive to predictive engagement by anticipating needs and guiding action.
- Broad segmentation to truly 1:1 personalization and delivering relevant offers at the right time.

Four Pillars of Purpose-Driven AI in Financial Services

1. **Empathy at Scale**
   Purpose-driven AI goes beyond transactional convenience to serve human needs. AI can help anticipate customer needs, such as alerting a customer to an upcoming loan repayment shortfall or recommending a tax-efficient investment near fiscal year-end.

   Some examples of how leading brands use AI to drive empathy at scale:

   A leading banking firm from India has started using AI to automatically detect real-life events like salary crediting from a new employer. and uses this information to suggest offers on home and personal loans. One of the top insurance providers in the United States actively uses AI to spot patterns in telematics and health data and offers wellness rewards.

   However, it is important to remember that brand communication and product recommendations need to be framed keeping the customer's life in context, not just financial metrics.

2. **Transparency and Explainability**
   Trust increases when customers understand why an AI-driven decision happened. Whether it's explaining loan eligibility or why a transaction was flagged, AI, used in the right manner, turns potential friction into trust-building moments.

3. **Adaptive Journeys**
   AI can move beyond linear customer journey maps to create dynamic, decisioning-led pathways. This involves continuously adjusting the "next-best action" based on moment-to-moment behavior, channel preference, and even emotional sentiment detected in communications.

   A top Fintech mobile app in the Middle East created an AI-led workflow automation that skips redundant steps based on applicant behavior, such as when data they've shared is already validated via open banking APIs. This adaptive customer journey helps their customers convert faster.

4. **Ethical and Regulatory Alignment**
   Purpose means balancing personalization with privacy. AI engagement must follow strict governance in line with data protection laws and ethical principles, making customer interest the north star alongside business aims.

Engaging Tomorrow's Customers Across the Customer Lifecycle

1. **Onboarding and Activation**
   The early stage is critical for lifetime value. AI can identify early drop-off points in application flows and push assistive interventions, such as real-time chat handoffs or how-to micro-videos. For digital KYC, intelligent document classification paired with fraud risk scoring speeds up onboarding while ensuring security compliance. This ensures higher completion rates, reduced onboarding costs, and stronger first impressions.

2. **Deepening Active Engagement**
   Over 70% of customers prefer lifecycle-relevant communication. The WEF report predicts that by 2035, contextual immediacy will become the baseline, with BFSI players competing more on how timely and seamlessly they embed value into customer life events than on traditional product features.

   To drive higher engagement, an online mobile app in Singapore implemented AI to detect "micro-moments" like spikes in trading activity during market swings and then triggered timely and contextually relevant messages instead of generic alerts, leading to higher mobile app traffic from their customers.

3. **Retention and Advocacy**
   Churn prediction is common, but the purpose requires acting on those predictions. If risk of lapse is rising for a policyholder, an intelligent engagement system can prescribe exactly which outreach approach has historically improved retention for similar profiles — whether a call, an incentive, or a policy review session. Similarly, customers showing advocacy

potential can be nurtured for referrals or brand ambassador roles, closing the engagement loop. This results in lower churn, better Net Promoter Scores, and improved lifetime value. It's clear that the future of customer engagement in the BFSI sector is AI-driven.

The Road Ahead: AI Decisioning, Agentic AI, and Generative AI as Core Engines

Future-focused BFSI leaders will combine predictive models, AI decisioning, and Agentic AI — powered by Generative AI — to deliver compliant, human-centric, always-on engagement.

1. **AI Decisioning Engines**
   AI decisioning moves beyond static journeys to create truly 1:1 personalized communications that adapt to each customer's real-time context.

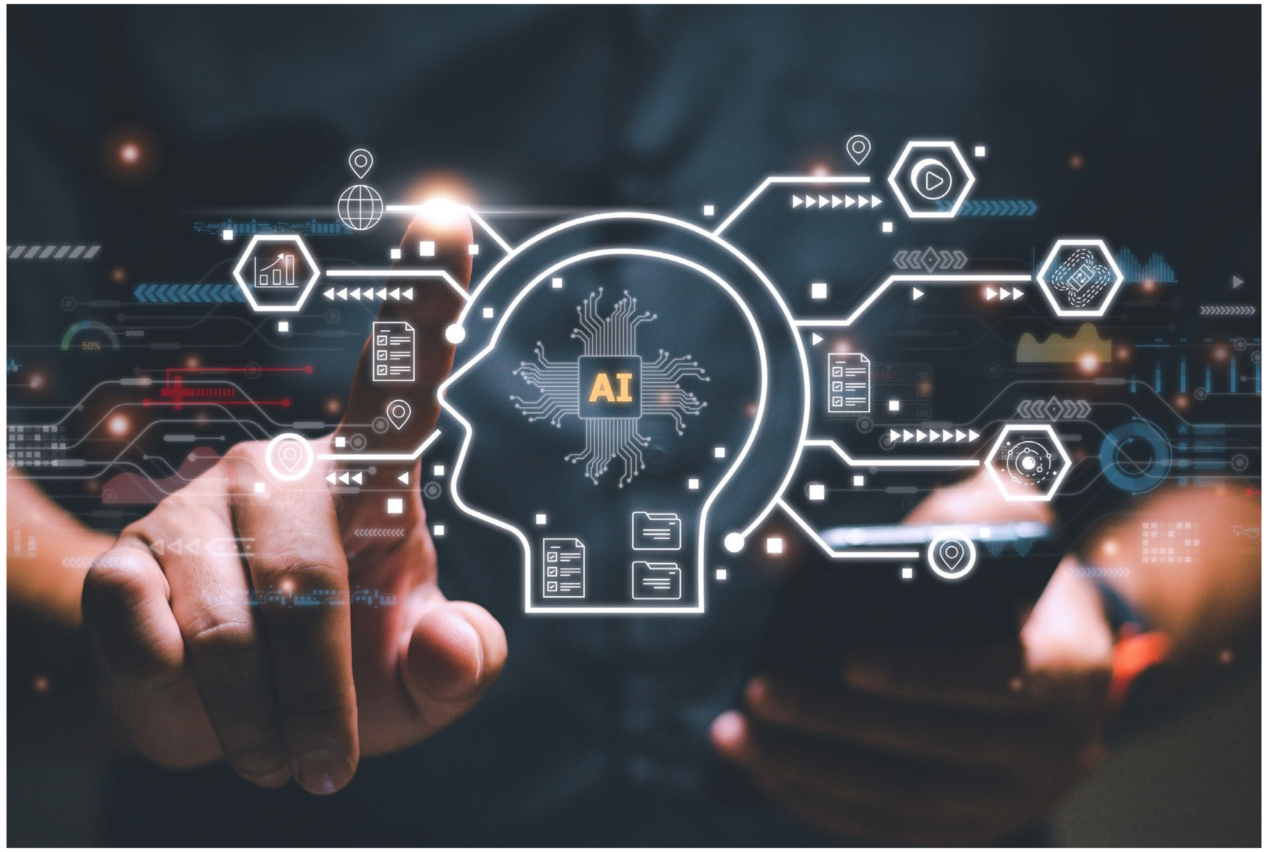
   In Banking: Deciding in milliseconds whether to serve a fraud alert before a promotional offer.

   In Insurance: Choosing whether to send seasonal safety tips or renewal reminders based on policyholder engagement. These decisioning engines combine predictive AI models with business rules and compliance guardrails, ensuring every "next-best action" is profitable, timely, and aligned with customer trust.

2. **Offer Decisioning for Hyper-Personalization**
   The latest generation of AI in customer engagement includes Offer Decisioning, which autonomously identifies and decides the best possible offer for every individual customer — not just at the segment level.

For BFSI, this means:

- **In Retail Banking:** Determining whether to offer a top-up loan, credit card upgrade, or fee waiver based on current balance patterns and recent spending.
- **In Insurance:** Selecting the optimal retention offer — such as a premium discount, coverage extension, or loyalty reward — within predefined eligibility, frequency, and expiration constraints
- Offer Decisioning gives marketers tight control via guardrails (eligibility rules, frequency caps, offer usage tracking), ensuring personalization operates within both profitability and compliance boundaries.



Agentic AI: From Automation to True Autonomy

Agentic AI represents the next stage of AI maturity. Unlike traditional automation or standalone Generative AI, agents understand context and reason through complex trade-offs and autonomously execute campaigns while learning from results.

A leading financial institution in India has successfully implemented AI agents to:

- Optimize onboarding flows in real time as soon as friction is detected by automatically switching the customer to a faster KYC validation path.
- Dynamically sequence different lending, investment, or insurance offers based on market conditions and predicted customer intent.
- Monitor live performance metrics and recalibrate campaigns to meet revenue and customer satisfaction KPIs.

Generative AI for Tailored Communication
Generative AI can craft compliant, hyper-localized, and context-appropriate messaging for any lifecycle stage, such as drafting policy or contract summaries in the customer's preferred language and tone or producing personalized investment advice narratives based on portfolio performance. When paired with Offer Decisioning and Agentic AI, Generative AI ensures the right message is delivered at the right moment — multiplying campaign impact.

From Prediction to Prescription

While predictive AI flags churn risk, fraud likelihood, or portfolio exposure, the leap forward is prescriptive AI, which, powered by Offer Decisioning and Agentic AI, immediately acts on those predictions with targeted, compliant, and tested interventions.

This allows BFSI enterprises to operate with agility, responding to market shifts, customer micro-signals, and regulatory demands in near real-time.

Conclusion: Orchestrating Sustainable Value Through AI and Purpose

In financial services, the true power of AI is not in faster decisions, but in more meaningful ones. When intelligence is applied with empathy, transparency, and integrity, every engagement becomes an opportunity to deepen trust. The leaders of tomorrow will be those who fuse technology with a human touch — using AI not just to predict outcomes, but to shape lasting relationships and sustainable growth.

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Bias in Artificial Intelligence and Mitigation Strategies

The significant advancements in applying artificial intelligence (AI) to various domains have raised concerns about the fairness and bias of AI systems. Responses from such systems can result in unfair outcomes and carry forward existing inequalities. Drawing the line between using AI for decision making and avoiding accusations of bias requires a combination of transparency, fairness and accountability. This is an attempt to review aspects of these biases, general and specific strategies that can be employed to mitigate such biases.

Bias in Artificial Intelligence refers to systematic errors in an AI system that can lead to unfair, prejudiced, or unbalanced outcomes. These biases often reflect and amplify societal inequalities present in the data used to train AI models. Bias can manifest in various ways, affecting different groups unfairly based on factors like race, gender, age, or socio economic status.

Drawing the line between using AI for decision making and avoiding accusations of bias requires a combination of transparency, fairness, and accountability. Here, we look at the various aspects of bias and how they can be mitigated by choice of appropriate strategies to overcome each of them.

Bias classification

Here's an overview of the aspects of bias and how they contribute to the overall problem of intervening with AI outcomes. Doing this helps us understand the basis for the bias and the problems it can cause and lead us to strategies in mitigating them.

- **Data Bias**
  Data bias occurs when the training data is not representative of the real world population causing skewness. E.g. A bank is using AI to predict loan repayment capacity of a person before approving his loan application, if the trained model reflects historical biases (gender, race etc.), the results would be discriminatory.

- **Algorithmic Bias**
  This happens when an AI model's design or mathematical assumptions lead to biased outcomes. E.g. If the loan repayment capacity predictor model algorithm uses address as a feature, people from certain neighbourhoods which may be racially segregated could be unfairly penalized with their applications getting rejected.

- **Selection Bias**
  Selection bias arises when the data used to train the AI does not fully capture the diversity of the population. E.g. In the loan repayment capacity predictor, since the bank may not have enough data about young people or immigrants, suggesting their applications to be reject.

- **Confirmation Bias**
  Confirmation bias is when AI systems reinforce existing beliefs rather than presenting diverse perspectives. E.g. In the loan repayment capacity predictor, since the bank may have a lot of data about people with account with them for a long time, the loan applications of only such customers would get recommended for approval.

- **Automation Bias**
  Automation bias is when users overly rely on AI decisions, assuming they are always correct, without questioning potential errors. E.g. In the loan repayment capacity predictor, if a human doesn't review all recommendations from the system and chooses to accept them directly, it would result in automation bias.

- **Measurement Bias**
  Measurement bias is when incorrect or unfair labels are used in training data – when the correlations are incorrectly assumed. E.g. A credit scoring AI that uses ZIP codes as a proxy for financial reliability may disadvantage lower income neighbourhoods.

General strategies in overcoming bias

The following is a listing of general strategies which can be followed in overcoming various bias.

- **Understand and Mitigate Bias in Data**
  Bias often comes from the data used to train AI models. Ensure that training data is diverse, representative, and regularly audited for disparities. Use fairness metrics to detect and mitigate bias in AI outcomes.

- **Use Explainable AI (XAI)**
  AI decisions should be interpretable. Use explainability tools (e.g., SHAP, LIME) to provide reasons behind AI driven outcomes. Make AI generated recommendations easy to understand for stakeholders.

- **Human Oversight and Review**
  AI should assist, not replace, human decision makers, especially in high stakes scenarios (e.g., hiring, lending, medical diagnosis). Implement "human in the loop" processes where necessary.

- **Transparency and Documentation**
  Clearly communicate how AI models work, including data sources, methodologies, and limitations. Provide documentation on AI decision making frameworks, ensuring regulators and stakeholders can assess them.

- **Regular Audits and Bias Testing**
  Conduct ongoing audits of AI

models to identify and correct any emerging biases. Use fairness tests (e.g., disparate impact analysis) to measure bias in outputs.

- **Ethical Guidelines and Governance**
  Establish AI ethics policies aligned with regulatory frameworks (e.g., GDPR, AI Act). Set up an AI ethics committee to review sensitive AI applications.

- **User Feedback and Redress Mechanisms**
  Allow affected individuals to challenge AI decisions and provide alternative inputs. Create pathways for users to report potential biases or errors in AI outputs.

Specific strategies to overcome various types of bias

Next, we dwell into specific strategies using which bias can be overcome in AI – addressing each of the types of bias specifically

Data Bias

When the data used to train AI models is not representative of the real world population, it leads to biased outcomes. Mitigating bias in training data is crucial for building fair and ethical AI systems. Bias in AI isn't intentional and can have serious consequences. It may not be able to completely avoid bias in training data. However, by actively managing them, one can build AI systems that are fair, ethical, and trustworthy. Here are some strategies to mitigate bias in data.

- **Collect Diverse and Representative Data**
  Ensure training data includes a broad range of demographic groups (e.g., race, gender, age, geography, socioeconomic status).

  Avoid datasets that are skewed or overrepresent certain populations at the expense of others.

  Use multiple data sources to capture different perspectives. e.g. In facial recognition, include images of people from different ethnic backgrounds, lighting conditions, and facial expressions to improve accuracy across groups.

- **Preprocess Data to Reduce Bias**
  Reweighting: Assign higher weights to underrepresented data points to balance the dataset.

  Resampling: Over sample minority groups or under sample majority groups to create a balanced dataset.

  Synthetic Data Generation: Use AI techniques (e.g. GANs) to create synthetic but realistic data for underrepresented groups

- **Remove Proxy Variables that Introduce Bias**
  Some features act as proxies for sensitive attributes like race, gender, or income level. Example of problematic variables: ZIP codes (which correlate with race/income), names (which can imply gender/ethnicity), or college names (which may favor privileged applicants).

  Run statistical tests to detect unintended correlations between input features and protected attributes.

- **Use Fairness Aware Algorithms**
  Train AI models with fairness constraints, ensuring they do not favor or disadvantage specific groups.

  Implement techniques like: • Adversarial debiasing – Train the model to minimize bias while maximizing accuracy

  Fair Representation Learning – Encode data in a way that removes discriminatory factors.

  Fair Regularization – Add penalties for biased outcomes in the model's loss function.

Conduct Regular Bias Audits and Testing
Perform bias detection tests before and after model training.

- **Demographic Parity:** Check if different groups receive similar predictions.

- **Equal Opportunity Testing:** Ensure all groups have equal chances of positive outcomes.

- **Disparate Impact Analysis:**
  Verify that no single group is disproportionately at advantaged or disadvantage.

- **Ensure Transparency and Human Oversight**
  Document AI model decisions to explain how predictions are made.

  Include a human in the loop to review AI generated decisions and override them if necessary.

  Provide feedback loops where users can report biased decisions for further investigation.

- **Continual Monitoring and Updating of Data**
  Biases can evolve over time, so AI models should be retrained with fresh and unbiased data periodically

  There should be a process to set up ongoing audits to detect bias drift.

  Use real world feedback to identify and correct biases as they emerge.

Algorithmic Bias
Algorithmic bias refers to instances where an AI model generates outcomes that differ across groups as a result of its design, training data, or decision-making process.

- **Perform Fairness Testing & Bias Detection**
  Evaluate whether different demographic groups receive significantly different outcomes.

- **Use Explainable AI (XAI) to Understand Model Decisions**
  Use interpretability techniques to reveal biases in decision making:

  – SHAP (SHapley Additive Explanations) – Shows which features influence a decision more than others.

  – LIME (Local Interpretable Model Agnostic Explanations) – Generates human readable explanations for AI predictions.

  – Counterfactual Analysis – Changes certain input values (e.g., gender, race) to see if the outcome changes.

- **Conduct Real World Testing with Diverse Data**
  A/B Testing: Compare AI outcomes for different groups before deployment.

  Edge Case Analysis: Test the model with underrepresented groups to check its reliability.

  User Feedback: Collect feedback from affected individuals to identify potential biases.

- **Selection Bias**
  Selection bias occurs when the dataset used to train an AI model does not accurately represent the real world population, leading to skewed or unfair outcomes. This bias can cause the AI to generalize poorly, favouring certain groups while disadvantaging others.

- **Improve Data Collection for Better Representation**
  Ensure balanced sampling across demographics.

  Collect new data to supplement underrepresented groups.

Use data augmentation techniques (e.g., synthetic data, SMOTE for oversampling).

- **Reweight or Resample the Data**
  Oversample underrepresented groups (e.g., duplicate minority class samples).

  Under sample overrepresented groups (e.g., reduce dominant class samples).
  Reweight data points to equalize their influence in training.

- **Use Fairness Aware Algorithms**
  Train AI models with fairness constraints to minimize bias.

  Apply adversarial debiasing, where an auxiliary model identifies and reduces biased patterns.

  Use fair representation learning, transforming data so that sensitive attributes (like race or gender) do not affect outcomes.

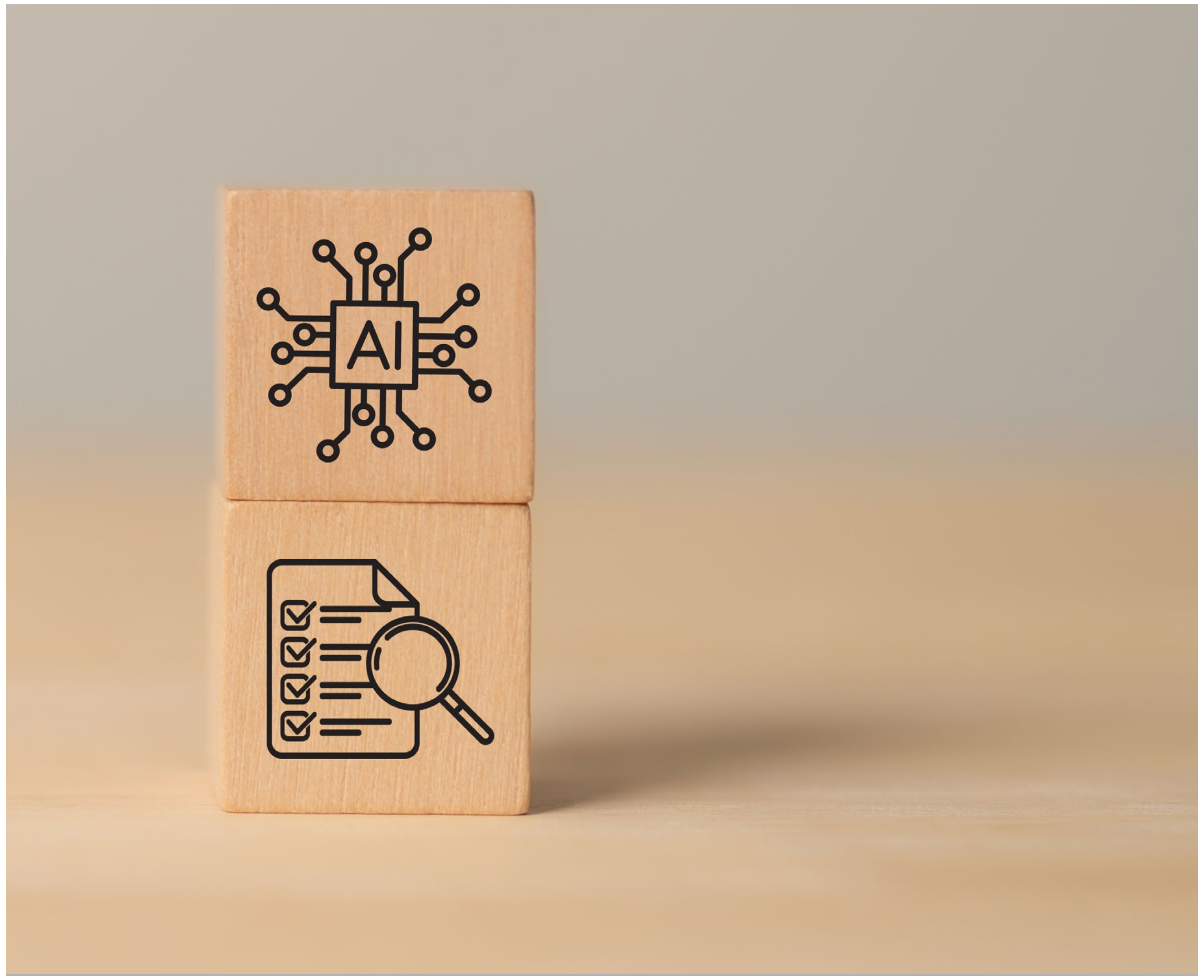
- **Adjust Model Outputs (Post Processing Fixes)**
  If selection bias remains, adjust AI predictions after training.

  Use reranking methods to balance outcomes for different groups.

- **Maintain Continuous Monitoring and Updates**
  Bias can shift over time, so conduct regular audits om generated output to identify if bias has crept in. This can be done by setting up automated fairness checks to catch emerging bias.

  Periodically retrain the model with new, more balanced data.

- **Confirmation Bias**
  Confirmation bias occurs when AI models reinforce preexisting beliefs or selectively favour information that aligns with prior assumptions,



leading to skewed decision making. This can happen in recommendation systems, hiring AI, news feeds, and predictive analytics, among other applications.

- **Diversify Training Data and Sources**
  Collect data from multiple perspectives to ensure balance.

  Avoid filtering data in a way that excludes alternative viewpoints

- **Modify the Algorithm to Promote Diversity**
  Use fairness constraints to encourage balanced decision making.

  Apply reranking techniques to ensure a mix of diverse content.

  Introduce exploration strategies so AI does not always reinforce prior choices.

- **Adjust AI Outputs to Encourage Diverse Perspectives**
  If bias remains, tweak AI generated outputs to ensure fairness.

  Introduce randomness to prevent reinforcing existing patterns

- **Implement User Controls and Transparency**
  Allow users to adjust recommendation settings to explore other viewpoints.

  Provide explanations for AI decisions, so users understand why certain content is recommended.

- **Monitor AI Over Time for Bias Drift**
  Bias can change as AI learns from user interactions, so periodic audits would help identify such drifts.

  Set up automated fairness checks to detect emerging biases.

- **Automation Bias**
  Automation bias is bound to happen when users overly rely on AI decisions, assuming they are always correct, without questioning potential errors

- **Design AI with Explainability & Transparency**
  AI should provide clear explanations for its recommendations.

  Use Explainable AI (XAI) tools to show why the AI made a decision

- **Implement Human in the Loop Systems**
  AI should assist, not replace, human decision makers.

  Require manual review before acting on AI decisions in high stakes applications.

- **Introduce AI Challenge Mechanisms**
  Users should have an easy way to question or override AI decisions.

  Provide a **"second opinion"** system where AI outputs are verified by alternative methods or experts.

- **Train Users to Critically Evaluate AI Outputs**
  Educate users about AI limitations and possible errors.

  Implement bias awareness training for professionals relying on AI (e.g., doctors, lawyers, pilots).

- **Monitor AI Performance and Bias Over Time**
  Continuously audit AI decisions to detect patterned mistakes.

  Create feedback loops where users can flag AI errors for improvement

- **Measurement Bias**
  Measurement bias is said to happen when incorrect or unfair labels are used in training data – when the correlations are incorrectly assumed.

- **Improve Labelling Methods to Reduce Human Bias**
  - Use multiple independent labelling to reduce individual bias in data annotation.
  - Implement blind labelling so annotators do not see demographic information.
  - Use active learning to focus labelling efforts on uncertain cases
- **Remove or Modify Proxy Variables**
  Identify features that correlate with protected attributes (e.g. race, gender, age) and either remove, reweight, or modify them.

  Use causal analysis to determine if a feature is leading to biased decisions.
- **Use Fairness Aware Algorithms**
  - Train AI models with fairness constraints to minimize bias
  - Implement fairness aware machine learning techniques like:
  - Reweighting – Adjust weights for different groups to ensure fairness
  - Fair Representation Learning – Encode data in a way that removes biased information.
- **Continually Audit and Monitor AI Performance**
  Regularly test AI models for new measurement bias.

  Set up automated bias detection to prevent unintended drift.

  Collect user feedback to identify biased outcomes in real world usage.
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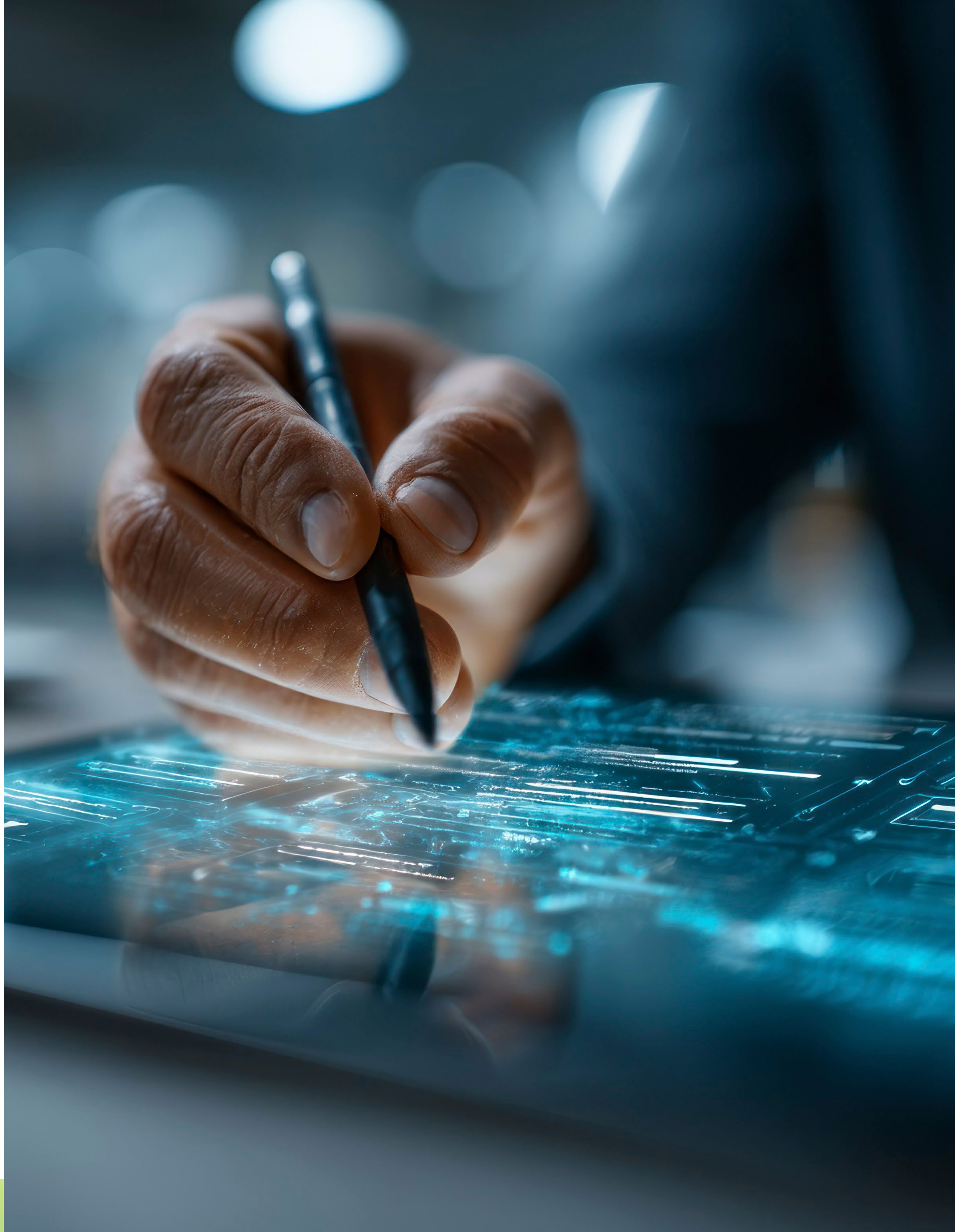


SECURITIES
SERVICES

Leveraging AI in Asset Servicing Operations

Background:

In recent decades, leading financial institutions have poured considerable resources into transforming their asset servicing operations. Their focus has spanned everything from technological modernization and bolstering straight-through processing (STP) rates to tightening risk and control frameworks.

While legacy systems have managed to drive down transaction costs, the indispensable need for expert, knowledge-driven operations teams remain—and is now becoming more pronounced than ever. The surge in transaction volumes has only amplified the demand for seasoned professionals and heightened operational risk.

Enter artificial intelligence: over the past few years, AI has ushered in a transformative shift in the outlook for Corporate Actions operations. Purpose-built models now open new horizons, offering fresh opportunities to reimagine efficiency. A spectrum of innovative use cases leveraging AI is emerging, each with the potential to reshape the landscape of asset servicing.

Types of use cases leveraging AI

1. **Transforming Data Extraction and Free-Text Intelligence**
   In the high-speed world of capital markets, AI-driven data extraction is transforming Corporate Actions. With advanced LLMs, teams can instantly decode complex documents, surfacing crucial insights—tax rules, regulatory nuances, client needs—faster than ever. The result? Less manual grind, smarter risk mitigation, and more time for strategic moves. When every decision counts, AI-powered intelligence turns operations into a true competitive edge.

2. **Predictive Insights Driven by Operational Users.**
   Predictive analytics is now essential for organizations. Advanced machine learning models, trained on production data, recommend likely actions for each transaction, helping teams make informed decisions quickly. By using diverse features and context, these models generate accurate predictions that help leaders allocate resources, reduce risk, and resolve issues faster. For executives, this means greater agility, better decision-making, and improved performance in a fast-paced market.

3. **Detection of Anomalies**
   Not every anomaly is actually a mistake, but it's important for the team to spot them early and handle them before they turn into bigger issues. If something's off in announcement data, payment info, or even just in how something was entered manually, it can cause a lot of headaches later—like having to redo work or risking money and reputation. Using AI to pick up on these unusual patterns can give your team a heads-up so you can deal with them before they cause trouble.

4. **Configuration optimization**
   These days, most product solutions have a powerful configuration engine to meet different business needs and handle tricky process flows. AI tools that use real production data and configs can suggest ways to fine-tune things on a regular basis—so you're always running at your best. Taking it up a notch, some AI tools can even tweak and fix configurations on their own, learning and optimizing as they go.

5. **Knowledge Management**
   Instead of relying on old-school manuals or long-winded procedures, AI can help by giving operations teams quick, clear answers to any question about the app or business process. With smart tools that tap into all those docs in the background, users can just ask and get the info they need, right when they need it.

6. **Automated Correction of Business Transactions**
   Users often update fields like payout rate or option type after seeing details in announcement data. Usually, this happens because the system that sends the info has its quirks, so people step in to fix things manually. With smart auto repair using AI, the

system can catch these situations and make the right changes automatically, saving time and keeping stuff running smoothly.

Identification of AI tool and Data dependencies

There are lots of different AI tools and algorithms out there that can tackle specific challenges, but it really comes down to picking the right one for your organization. You want something that can handle all the behind-the-scenes data work, make sense of it, crunch the numbers, and suggest the best approach for whatever business problem you're facing. While normal ML algorithms can be used for typical clustering or classification problems, the interpretation of free text has become very convenient with the usage of LLM/SLM's. Companies are investing in the development of AI agents designed to operate independently in the background and address specific problems.

Further to running the ML models, the data residing in asset servicing applications need to be cleaned/ denormalized and provided as an input to the AI tool. 'Training data' sets play a key role in defining the prediction accuracy of a model. While synthetic data can be created and used for training, there is always a preference to train the models on production data.

Bringing together a smart AI tool that can handle data, host different AI agents with all sorts of techniques—like ML algorithms and LLMs—and connect seamlessly with your asset servicing application makes adopting AI in operations much simpler and more effective.

User Experience of AI Output

User experience plays a significant role in the development of any application feature in the context of operations users being exposed to multiple kinds of apps in their daily life. Any AI output needs to be plugged into the core application in such a way that the user experience is not inhibited in any way. Suggestions should be displayed alongside any business exceptions on the relevant page reviewed by the user. Likewise, AI-related workflows should be integrated into the core application processes. Also, in AI use cases, which use the context of the page from where the request is invoked, it is important that the output is delivered to the same page within the business process flow.

Trust in AI Output and feedback loop

ML algorithms rely on historical data for training and testing purposes and provide a confidence score associated with the output. While a high degree of confidence denotes higher accuracy of the output, there are outliers which sometime make the results incorrect. Thus, it is important that the financial services institutions identify the importance of the business transaction and enable review controls on the AI output. Low-importance transactions may be updated via straight-through processing (STP) using AI-generated outputs. For other transaction types, initial user acceptance is required. Additionally, it is essential that feedback on the acceptance or rejection of AI suggestions be provided to the AI system for ongoing retraining and algorithm optimization.

Outlook of Asset Servicing systems leveraging AI.

Financial institutions increasingly use AI to optimize operations, allowing teams to focus on key tasks instead of routine work and ensuring resources go where they matter most.

Use cases around providing suggestions in the operations workflow (based on historical actions taken) as well as allowing the user to query for answers (Q&A) will become a mandatory feature in all transaction processing applications. Concepts around self-optimization/self-healing are gaining traction and could disrupt the way in which business flows are configured.

As AI becomes an integral part of asset servicing, the evolution of standard operational procedures is not just inevitable, it's essential.

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An analysis of the EU and UK T+1 roadmaps for post-trade securities settlement

With the 30 June publication of the high-level roadmap for T+1 securities settlement in the EU by the European T+1 Industry Committee, momentum is now gathering pace as industry participants mobilize their collective efforts towards the adoption of a T+1 settlement cycle.

What does the paper outline?

The EU T+1 roadmap introduces the concept of an 'Operational Timetable' outlining a single standardised set of 'gating events' capturing processes occurring post trade execution. Timings for these gated events are informed by 3 key principles and are based on 7 key criteria.

- **Key principles**

  The key principles aim to drive harmonizsation across EU jurisdictions by seeking flexibility in respect to the mandating of a timetable on participants but at the same time aims to avoid detrimental impact to settlement efficiency timings. As such, there will be no obligation for participants to adopt these timings. However, it is important to note that an 'adhere or explain' principle for non-adoption of the timetable may require firms to justify their actions to their stakeholders.

- **Key criteria**

  The recommendations for gated events have been determined by way of several benchmarks Including improving Settlement and liquidity efficiency, the criticality of maintaining pre migration settlement rates, maintaining operational liquidity and ensuring systemic risk is minimised.

- **Gating Events**

  The operational timetable introduces prescriptive hourly breakdowns for parties involved in key processes during the post trade lifecycle. This will include the generation of settlement instructions, stock loan recall deadlines, submission of FX transactions to Continuous Linked Settlement (CLS) and allocation and confirmation timings.

So, what are the key themes and how does the roadmap aim to achieve its T+1 settlement objectives?

Firstly, the report advocates adoption of automation and firms are strongly encouraged to implement electronic standardised communications and eliminate manual and non-straight through processing (STP) solutions. Automation efforts should focus specifically on such areas as the electronic exchange of Trade allocations and confirmations, automatic protocols for the exchange of Standard Settlement Instructions (SSIs), standardised settlement instruction formats in compliance with Securities Market Practice Group (SMPG) standards, automation of intra-day cash forecasting and the automation of lending recalls utilising electronic messaging.

A second key theme are the revised timelines for post trade events. EU deadlines for Stock loan recalls notifications should be initiated no later than 17:00 CET on trade date, allocations and confirmations processing finalised no later than 23:00 CET on trade date, the submissions of settlement instructions by 23:59 CET on trade date and FX transactions submitted to CLS by 00:00 on settlement date.

Additionally, there will be functional changes for Central Clearing Houses (CCPs) including their end of day processes, additional intra-day cycles for Collateral Management and harmonised timings for Central securities depositories (CSD) securities system platforms.

What should Market Participants do?

It cannot be overstated that the compression of these processing events and functions will require an immediate call for action from market participants. Firms must be strongly encouraged to begin preparations without delay.

One of the key insights from the T+1 transition in the U.S was firms operating with outdated, batch driven systems not suited to real-time processing, resulting in an over reliance on outsourcing and/or increased headcount to address operational inefficiencies.

Consequently, it will be of critical importance that firms develop a comprehensive business plan to secure funding and executive buy-in so that budgets and resources can be mobilised rapidly to drive implementation efforts throughout 2026 to ensure sufficient time for industry-wide testing in 2027.

One interesting point to note is the likelihood that CSDR cash penalties will be suspended during the migration period. Some from of relief from the penalty regime would seem to be a prudent approach with the rationale being the prevention of any obstacles to a successful implementation, allowing the market to absorb any operational challenges without the distraction of undue financial burdens.

What are the key operational similarities and differences between the EU Roadmap and the UK Accelerated Settlement Taskforce (AST) Roadmap?

Firstly, aside from the alignment of the transition date, both roadmaps advocate enhanced automation and standardisation across the post trade life cycle with emphasis on trade matching, securities lending and FX. For example, both roadmaps stipulate the use of auto partial/split, auto shaping, hold and release functionality, the exchange and maintenance of SSIs and the electronic exchange of Trade Allocations/Confirmations and Financial Markets Standards Board (FSMB) market standards for SSIs.

There is also convergence with both the UK and EU exempting Securities financing transactions from T+1. This is mainly driven by the recognition that there are unique operational characteristics in these transactions with the potential for disruption.

Most importantly, both roadmaps highlight the cost of delaying preparation resulting in potential non-compliance, settlement failures and increased costs due to manual intervention.

key operational differences between the roadmaps lies in the level of detail regarding operational timings and the approach to implementation. The EU roadmap is very much focused on gating events detailing prescriptive hourly deadlines for post trade processes. In contrast to this approach the UK roadmap adopts a more principles-based behaviour driven approach with an emphasis on critical actions and expected behaviours.

In addition, the EU roadmap state their recommendations are not legally binding, whereas the UK Government has accepted all recommendations of the ACT which suggests the UK regulator are likely to perform some level of oversight on participants with possible actions for non-compliance.

It is worth noting that this divergence in approach may pose challenges for the industry as differing operational timings may prove difficult to implement for firms operating across jurisdictions.

What are the next steps?

For the ACT, priorities will focus on the continued development of the T+1 Code of Conduct (Roadmap & expectations) with the aim of completing process reviews, with recommendations and best practice guidelines. There will also be a focus on dialogue with EU authorities with the aim of agreeing a unified approach for settlement discipline and the need to monitor preparations/settlement performance both during and post the migration.

In addition, the ACT will publish their implementation playbook (best practice and operational standards) for market participants.

For the EU, there will be the establishment of several taskforces to agree new standards for SSI management, the development of a single 'gold standard' for settlement instructions and a new market practice for mandating the use of partial settlement as a default.

Finally, the European Commission, in conjunction with European Securities and Markets Authority (ESMA) and the European Central Bank (ECB) will finalise the legislative framework and provide detailed guidance on new market standards leading towards the October 2027 go live date.

For industry participants, the focus must now be to commence with planning, system enhancements and automation as new standards, formats and practices are further elaborated by the technical groups.

Andrew Dobbs
Solution Architect, TCS BaNCS

Are you Ready? Transition to the T+1 Settlement Cycle by 2027 in Europe

The reduction of market settlement timeframes from T+2 to T+1 has been a subject of discussion in capital market events and forums for some time now. The European Securities and Market Authority (ESMA), the regulatory body overseeing capital markets, has suggested that Europe transition to a T+1 settlement cycle by 11 October 2027. How will this pan-European transition be implemented? Is it influenced by the approach adopted by the US markets? Additionally, what measures need to be undertaken by pan-European financial institutions and market participants to prepare for this change? The potential challenges will be present in the areas of automation, increased pressure on post-trade processes, and potential complexities for cross-border transactions.

Lesson 1: Automation – Key to success

The US market has effectively moved to a T+1 settlement cycle; however, a significant challenge encountered by financial institutions and market participants was the insufficient level of automation. Numerous financial institutions depended on manual processes and found it difficult to manage the increased volumes. Those who underestimated the effects of the shorter settlement cycle (T+1) were compelled to expand their workforce, which considerably raised their operating expenses, adversely affecting their profit margins. They could have implemented automation in a timely manner to reduce their workforce and overall operating costs.

European financial institutions and market participants must recognize that automating manual processes is crucial not only for transitioning to a T+1 environment but also instant settlement (T+0). Organizations should explore automation across all functions involved in the settlement cycle, which includes trade processing, funding, securities lending, corporate actions, and addressing fund settlement mismatches. Real-time views on exceptions will serve to reduce settlement failures and improve operational post-trade/pre-settlement errors. Automation accelerates processes and enhances accuracy, as humans, despite their best intentions, are still prone to mistakes. Those financial institutions which ignore this transition risk falling behind their competitors, potentially resulting in overstaffing, mounting pressure on the costs, and a decline in overall profitability.

Lesson 2: Reducing the settlement cycle from T+2 to T+1, an interim journey

The reduction of the settlement cycle from T+2 to T+1 is regarded as a transitional phase, as stock markets are expected to progress beyond a one-day settlement cycle. Not long ago, a decade earlier (2014), the European market transitioned from a T+5 to a T+2 settlement cycle. While major western markets have historically led to such transformations, emerging markets have established a new benchmark. For example, India has adopted a T+0 or instant settlement cycle. The Indian stock market has implemented a phased approach to shorten its settlement cycle, opting to move companies based on their respective indices, market capitalization rather than transitioning all companies simultaneously. Advanced back-office platforms, which are highly configurable, rules- and event-driven systems, are equipped to support these changes.

As the European market gears up for the T+1 transition, it is essential to anticipate the evolving market dynamics that will result in new changes. By comprehending the diverse strategies employed in global markets, European regulators and financial institutions can enhance their preparedness for future developments.

Lesson 3: Start Early

The European Securities and Markets Authority (ESMA) has announced a transition to a T+1 settlement cycle, in November 2024, and has suggested an adoption date of October 2027. This timeline offers a preparation period of three years, in contrast to the US market, where the regulatory body has allowed only 14 months for preparation. European financial institutions must evaluate their existing operating models and technical systems, pinpoint areas that necessitate modifications, and allocate resources to ensure seamless implementation.

Way forward

The preparations made during this period not only guarantee readiness for T+1 but also position us favorably for the future development of market settlement practices. By drawing insights from global markets, European financial institutions can navigate the transition to T+1 and beyond with confidence, transforming this challenge into an opportunity for growth, operational resilience, and enhanced efficiency.

How TCS BaNCS Global Securities Platform (GSP) can help you win the transition journey:

TCS BaNCS's proven and high-performance solution for securities processing can help make your journey towards this complex transition an easy one. It can help you with:

- Automate settlement processes to achieve high levels of STP and manage exception via centralized risk dashboards
- Business processes can be configured using operational parameters, market practices, rules, and standing instructions
- It is designed for real-time, continuous processing in a multi-entity setup across all asset classes and markets

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T+1 Settlement in the UK and EU: Impact on Corporate Actions

With October 11, 2027, two and half years away, is it too early to evaluate its impact on the corporate action processing?

Even as the UK, Europe, and Switzerland prepare to move to the T+1 settlement cycle by October 2027, hugely impacting settlement processing, there needs to be a considered thinking around what this means for corporate action processing.

If we look back at the US T+1 transition, there were a lot of unknowns leading up to it, at least from a corporate action perspective. The two areas that posed the greatest concern were buyer protection and claims management. However, on the whole, there has been little impact on either of these areas or on any other corporate action processes. In fact, some participants are claiming improvements in processing overall, with fewer failed trades to manage, so the T+1 transition seems to have had a positive impact.

So certainly, plenty of positive lessons for the Europe region by not going first.

But corporate action processors are cautious by nature and need to consider the end-to-end impact and take actions to mitigate risks, particularly in the areas of date alignment and processing standardization.

In terms of alignment, the good news is that the UK, Switzerland, and various European markets are all transitioning on the same date. This will remove the current issue around dual listed securities and having different ex and record date periods, which have been observed in the US version of this transition.

> **We see 2025 as the year of planning and budgeting, 2026 that of building and implementing solutions, and 2027 of testing and migrating.**

However, until October 2027, there will remain additional complexity for securities that are traded both on the US and non-US trading venues, where the settlement cycles of the two markets are different. The move to T+1 has created a misalignment of the ex dates of corporate actions; this misalignment has not been harmonized well enough by the EU and UK market players. This has led to a difference in the treatment of holders depending on the method chosen by the underlying central securities depositories (CSDs).

There are two approaches here:

- Keeping the key dates aligned with the T+2 settlement cycle. This means having two different key dates for the same security in the EU or the UK and the US.
- Adopting the same key dates of the T+1 settlement cycle but settling T+2. This can lead to an increase in market claims since trades made on ex date 1 (thus still with the entitlement) will be settled after the record date.

Eliminating the misalignment will bring clear benefits by reducing the risks and fragmentation created by the application of different key dates for corporate actions.

Fair to say, the (re)alignment of dates could not come sooner.

With respect to standardization, there are a few more considerations. In particular, event dates, which must be aligned to the trading period, meaning that the ex and record date must be the same.

It is hoped that the SCoRE Standards, due for go live in November 2025, will see greater standardization across all the EU markets and across the various processes in the corporate action lifecycle. This will also increase the use of ISO 20022 standard messaging.

However, as always, there is one possible area of concern when you reduce the corporate action dates, and that is depot realignment. If a trade settles in the wrong depot or at the wrong agent, will there be enough time to move it to the correct depot or agent? There may be a need for the greater management of standard settlement instructions (SSIs) and a more proactive approach to depot management.

Overall, the general consensus is that there will be negligible impact for corporate actions when moving to T+1. Although, this is probably only true where the current processing is of a high standard and is as automated as possible.

Where current processing is largely manual or has many touchpoints, there will be an increase in processing in these areas. This will increase the operational risk as the timelines will be shorter and position checks or reconciliation will have to be made in real time.

As such, all parties and participants should consider the implementation of automated solutions to support their corporate actions processing. Ideally, this should be before rather than after the T+1 implementation. At a minimum, automation should be considered for processes that are currently carried out manually and are inevitably time consuming and error prone, as these are the risk areas that will become more vulnerable.

Every corporate action processor references automation, standardization, and harmonization, but they do so for a reason.

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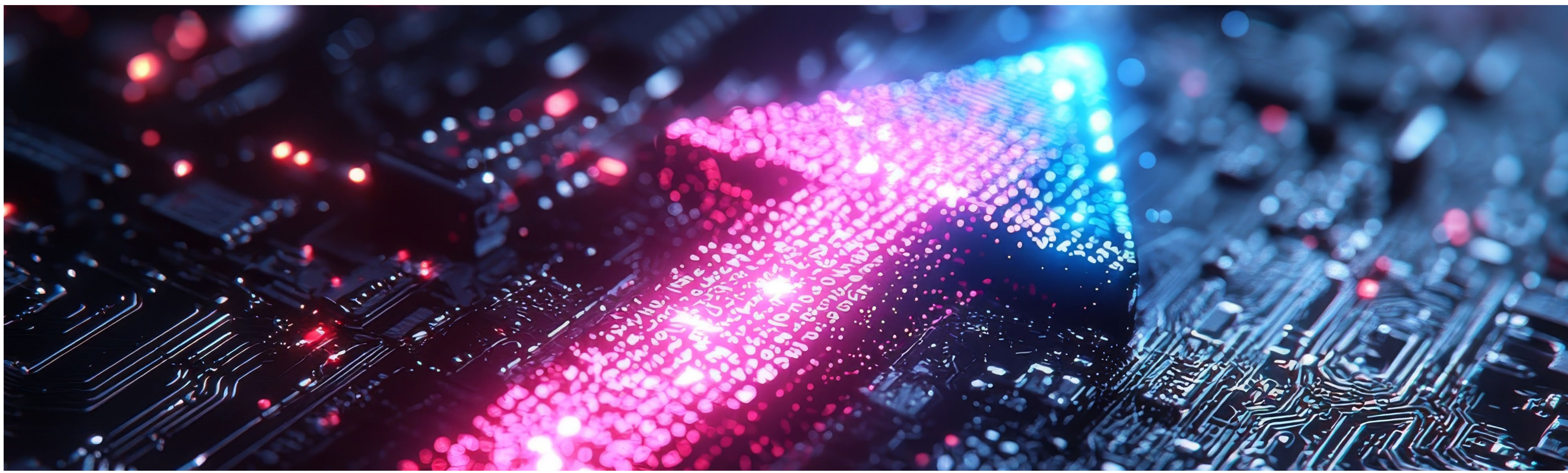
TCS Financial Solutions (TCS BaNCS)

Opportunities with Technology as we Compress Settlements Towards T+0



Although many firms have viewed the migration to T+1 as a further compression of an existing tried and tested model, the models for T+0 will need a far more radical change in approach and far wider use of different technological tools.

The fact that regulators and markets are actively considering the merits and viability of T+0 is in part down to progress that has been made with underlying technologies and applications – including use of cloud, development of APIs, the growing use of AI and Machine Learning and the expanded use of data parameterisation to drive real-time analytical engines.

There are 3 core models that industry groups are considering for T+0 including end of day netting, atomic settlement and RTGS based settlements. Although each brings different benefits and implementation challenges – our view is that we are likely to see all 3 models evolve – where each aligns to different asset classes or market priorities, and hence any future focused systems will need to cater for all such options.

While atomic and RTGS settlement infer a need for total accuracy at the point of trade execution – netting still allows for an element of post trade resolution.

To accommodate these same-day and instant settlement models at scale, the market needs to address a few core areas of functionality:

- maximising settlement system availability windows and removing downtimes
- intensifying the levels and scope of pre-trade validations,
- developing near-real-time data exchanges between the actors in the trade lifecycle, and
- developing highly automated post-trade exception resolution tools.

With each of the T+0 models- the goal is to resolve as many potential issues ahead of trade execution as possible and this is the most important area of operating model transformation for the industry.

In terms of pre-validation of information – the use of Cloud and APIs will help drive the core processes to ensure that all data is accurate. For example, we have seen an expansion in the use of Cloud based central SSI repositories to digitise traditional documents and firms will use APIs to continuously validate this information ahead of trading.

The same tools on client static data will be necessary to reduce inconsistencies and errors in data related errors, ensuring these are synchronised across clients, their trading partners and custodian banks.

The industry may need to go further than this – to ensure that areas such as commissions, standard allocation ratios and securities identifiers are pre-checked and available to all parties, where reconciliation breaks are actively and rapidly resolved ahead of trading, using AI based anomaly detection tools.

Asset managers will require more sophisticated tools to control and channel their trading activity. Asset managers may need to select brokers for a trade based on the state of pre-validation matching, avoiding executing through firms where known unresolved discrepancies exist, and also ensure coverage of other areas of data pre-validation. We will see a benefit from more standardised trade allocation sets – which in turn may adjust what accounts are amalgamated under existing bulk trading models. And funding cycles will need to start prior to trading – a shift from existing models – and maybe a move towards more sophisticated treasury engines linked to front office platforms.

The final area that is critical to atomic and RTGS focused settlement is the need to validate availability and immediate blocking of inventory and funding, and clarity on the place of settlement.

This really emphasises the importance of API based integration with trading engines / order management platforms and with near-real-time data exchange capabilities between the clients, brokers and settlement / custodian entities, and CSD/market matching platforms.

In terms of post-trade exception resolution, for the netting model, the windows will be far shorter than exist under existing T+1 or T+2 models. The industry must consider a model where issues are resolved automatically under a self-healing approach and this will require far more extensive use of APIs and AI/ML technologies.

This will require stronger market principles for resolution of mis-matches between parties, so that firms can automate resolution of discrepancies instantly without the traditional bi-lateral exchanges. Our systems will need to hold these rules and execute workflows based on the interpretation of a mis-match under these rules. Platforms that can identify parties at fault and immediately suggest digital changes will be critical to self-healing models.

Inventory issues trigger a broader set of challenges under the T+0 models, and while models for atomic and RTGS will require pre-trade validations and blocking, the netting models will offer more flexibility. Issues around different PSETs or Place of Settlements, or partially available positions will need highly automated approaches to resolution, where market rules principles are clearly configured into settlement systems across asset managers, brokers and their settlement banks and custodians.

We haven't really talked about blockchain as a solution. At a conceptual level many of the underlying issues would be solution if common single views on static and reference data are used and a common view on execution related data and integrated access to inventory data. However, the complexity lies in its rollout – and bringing multiple fragmented parties onto a common platform – for this reason we feel this is more viable initially with newer less liquid asset classes than for heavily traded equities.

At the heart of this transformation, every firm will need a clear view on their technology journey and partners that can help this journey. All the toolsets that we have discussed are available today and commonly used, however, firms will need to consider what can be progressively introduced into their existing T+1 models, and develop the foundation for these in live environments.

We are rapidly moving from scheduled push-based models on data exchange towards point of time-based pull models at a time that data is required. Our proficiency on APIs and increased standardisation to expediate adoption will be critical. It is also an excellent use case for development of AI and ML based tools – where predicting outcomes from far more complex sets of parameter data, sophisticated anomaly detection, active suggestion-based exception resolution paths and dynamic automation of operations workflows will need to be core capabilities.

And the most exciting part of this – is that all of these tools can be used to enhance existing T+1 models. And maybe for the first time – firms can get ahead of market changes and truly be future-proofed in Settlements!

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How does the new Treasury clearing rule affect custodians and buy-side participants?

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The SEC (Securities and Exchange Commission of the USA) has approved a new rule requiring most of the U.S. Treasury Securities transactions, including repo's, reverse repo's and tri-party repo to be cleared through a central clearing agency (CCA). Currently the FICC (Fixed Income Clearing Corporation) is the main CCA utilized for Treasury clearing and netting (novation).

Other CCA's are entering the market as alternatives to FICC such as ICE Credit Clear (ICC) and the Chicago Mercantile Exchange (CME). Although most of the material spoken and published has been focused on the sell side, there are significant implications and changes associated with buy side transactions.

The SEC's original proposal included all cash transactions (Outright Buys and Sells), however they amended the original plan with a few exceptions, to exclude buying and holding US Treasuries often engaged in by buy side participants such as, customers of custodians (institutional investors), asset managers hedge funds, money market funds, etc.

The original mandated timelines associated with this change were December 31, 2025, for cash transactions and June 30 2026 for repo clearing. The SEC has since moved these dates forward one year to December 31, 2026 for cash and June 30, 2027 for repo, after considerable pushback from the industry participants and Securities Industry and Financial Markets Association (SIFMA).

As previously mentioned, most of the dialogue has been on the sell side, but how does this affect the custodians and buy side participants even though buy and hold cash transactions are exempt under most circumstances. Firstly, any bank acting as a custodian for active traders such as a treasury desk of a bank that engages in frequently buying and selling of cash US Treasuries must submit their trades to a CCA such as FICC for matching and netting purposes. Additionally, any underlying customers of a custodian that engages in repo, reverse repo or tri-party repo activity must also submit their trades to the CCA, for example the FICC. This rule also applies to non-US domicile banks and broker dealers engaging in US Treasuries.

How is this accomplished from a custodial point of view?

There are 3 ways to accomplish this:

1. Direct CCA membership

The custodian has a direct relationship with the CCA (FICC). Deliveries and receive messages are submitted to the FICC for comparison and netting by the custodian and novated (netted) delivery/receive messages are received from the CCA (FICC) to the custodian (the direct CCA (FICC) member).

The custodian as a direct member will take complete control of the executed buy/sell, repo/reverse transaction after execution and submit it to the CCA(FICC) for comparison and netting. The custodian as a direct member will segregate these trades from any proprietary activity to calculate whatever margin is required from the CCA (FICC) and will collect the cash/collateral amounts from the underlying custodial customers. The custodian will also be required by the CCA to have adequate capital to meet its clearing obligations to its customers.

Direct membership system changes required:

As a direct member, the custodial banks system must now direct all its US Treasury transactions for settlement (receive and deliver orders) to the CCA (FICC) instead of settling trade for trade with each counterparty's settlement provider. This will require directing some cash trades (active traders) and all repo and reverse repo transactions to the CCA (FICC) for comparison and netting purposes. In turn, the CCA (FICC) will deliver comparison and netted transaction information back to the custodian bank system. Both the submission of transaction information and the receipt of comparison and netted information will be done preferably in real time due to the repo same day settlement cycle.

2. Sponsored CCA membership

The custodian is sponsored by an affiliate or an intermediary.

Affiliate Example- XYZ custody utilizes XYZ Security's direct membership to FICC. Delivery and receive messages are delivered to XYZ securities for submission to the FICC for comparison and netting.

Intermediate Example- XYZ custody utilizes a broker-dealer (not an affiliated member of the custodian) with direct membership to the FICC e.g., ABC Securities, DEF Brokerage, GHI Capital etc.

> **Under the sponsored membership, the custodian bank through an affiliate that is a direct member, can act as the intermediary between its underlying customers and the affiliate direct member with the CCA (FICC).**

Additionally, if the underlying custodial customer(UCC) wants to submit its US Treasury transactions with the broker/dealers it's executing through, and the executing broker has a direct membership with the CCA (FICC), it can submit trades on behalf of the (UCC) This will require separate executing broker and repo trade agreements with each broker dealer, between the broker/dealer and the UCC. Under this scenario, the UCC will require credit and KYC approval with the broker/dealer prior to being accepted.

Sponsored membership system changes required:

Depending on whether the custodial bank is a sponsored member of an affiliate or whether your UCC's are being sponsored by several other broker/dealers, it will predicate what system changes are necessary. If the custodian bank is sponsored by an affiliate, all these trade types will be sent to the affiliate for comparison and netting. The affiliate will in turn send all the comparison and netted information back to the custodian for the remaining balance order settlement. Again, this will be preferably done in real time.

> **In the case of a UCC transacting in repo with a direct member, the transactions will be directed to the individual broker dealers on a trade-for-trade basis, but a netted settlement balance order will be received from the individual broker dealer for the custodial bank to settle.**

This will be different from the current process that will always expect the individual settlement information back from the UCC's settlement counterparty.

3. Agency CCA membership

This membership is not applicable. This is when a direct member clears for an executing broker who is not an FICC member. Correspondent Clearing and Prime Broker related.

The agency membership applies to non-clearing executing brokers (Away trades) and Broker/Dealer correspondent and prime broker clearers. This membership should not apply to custodians.

Conclusion

Custodians and custodial customers will have choices to make. Custodians who do not have affiliates that are direct members of CCA's (FICC) must decide if they want to engage in this type of business.

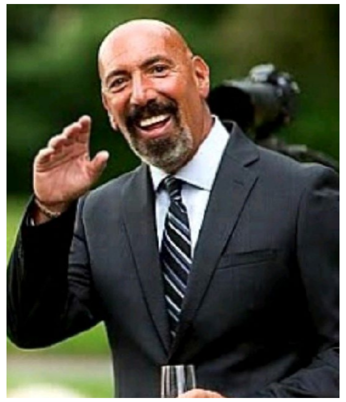
> **A substantial capital contribution is required and there is credit risk associated with being a direct netting member as the custodian will act as the middleman between the UCC and the CCA fronting the risk in the case of insolvency.**

There is also an investment in software upgrades that will be required to facilitate real time comparison and netting. The custodian will also need to decide if it wants to be competitive with other custodians that either have affiliates that offer these services or offer it themselves.

> **Custodial customers will have to decide whether they want to choose a custodian that provides direct or sponsored membership services,**

or if it's worth it to independently have several agreements with each US Treasury securities executing and clearing brokers while maintaining a relationship with their current custodian.

As 2026 and 2027 deadlines are fast approaching, these are the decisions that will have to be made in the coming months by custodians and the custodial customers.



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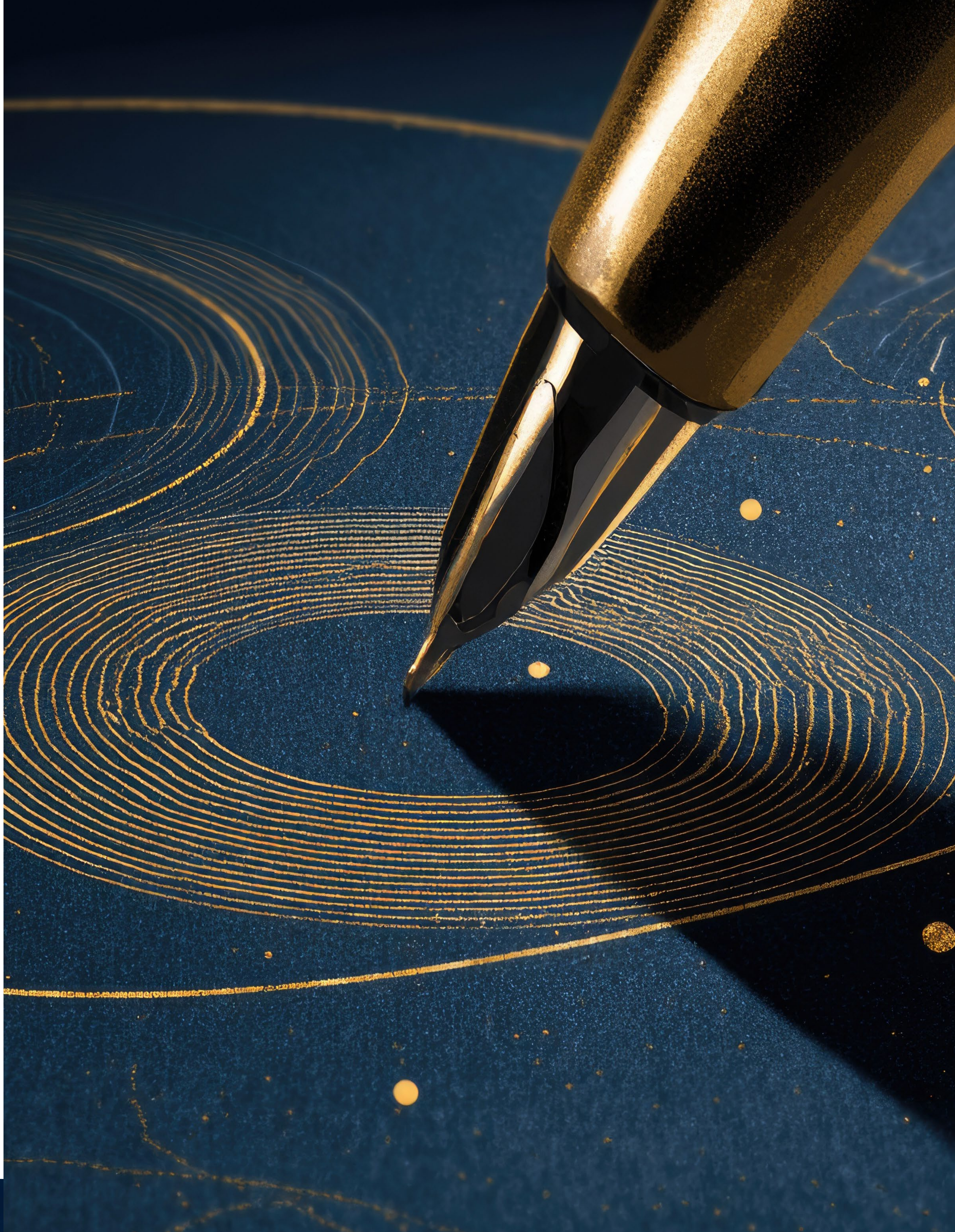


BANKING

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Redefining Banking Intelligence

A Fully Agentic AI-Driven Bank Operating Platform

ABOS represents a shift in how banks think about their technology foundations. It goes far beyond managing transactions. Banks of all sizes and types—legacy, digital, and embedded—can now create, launch, and refine their entire banking experience from the ground up. This isn't just another core banking system; it's a dynamic, living operating system that adapts and evolves with your needs.

Let's break down what makes ABOS such a compelling solution and why it matters for the future.

Why Change Banking?

Most banking systems are entrenched in outdated practices, making them tough to update and slow to respond when the market shifts. ABOS tackles these pain points head-on by embracing flexibility and speed. Imagine building a bank the way you'd build with LEGO blocks, swapping features in and out, combining services, and launching new ideas as soon as you think of them. Nothing feels stuck or static.

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What Makes ABOS Different?

The architecture of ABOS is layered, with each layer acting like a specialist at its task. The Genesis Layer is essentially the bank's brain, where teams can describe their business models in plain English. The AI interprets these instructions, instantly generating microservices for accounts, loans, or payments, as well as APIs and compliance rules—no manual tweaking required.

Genesis Layer: Natural Language-Driven Bank Modeling

Natural Language Interface - Enables bank modeling using simple natural language commands for ease of use.

Intuitive Configuration- Allows rapid model customization without requiring deep technical expertise.

Hyper Composability Layer: Agent-Based Workflow Orchestration

Intelligent Agent Utilization- The layer employs intelligent agents that autonomously manage and orchestrate complex banking workflows efficiently.

Dynamic Workflow Composition - Workflows are composed dynamically, enhancing flexibility in assembling banking services in real time.

Real-Time Adaptation- The system adapts instantly to changes, ensuring seamless service orchestration and response to varying needs.

Moving up, the **Hyper Composability Layer** lets agents assemble workflows for services like KYC or treasury management. These agents combine and adapt services on demand, scaling up in response to market surges and adjusting workflows in real time, so the bank always operates at peak efficiency.

The **Autonomous Product Layer** is where innovation happens quickly. AI analyzes risk, market data, and customer behavior to propose and launch new products such as dynamic credit or real-time FX hedging. The moment you need an API for embedded finance, the system produces into late nights for the tech team.

Autonomous Product Layer: Rapid Product Innovation

Swift Product Development - Enables fast creation of new banking products to meet evolving market needs efficiently.

Automated Deployment - Supports automatic release and integration of banking products, reducing time to market.

Market Responsiveness - Empowers banks to quickly adapt their product offerings to dynamic market demands.

Regulations change constantly, but the Autonomous Watchdog Layer keeps the bank on top of every new requirement, from Basel IV to PSD3 and beyond.

The AI updates code, data models, and reporting as soon as new rules appear. Fraud detection and anti-money laundering aren't afterthoughts; they're part of the system's continuous oversight, handled smoothly and proactively.

Autonomous Watchdog Layer: Continuous Compliance and Oversight

Ensures ongoing adherence to regulatory requirements to maintain organizational integrity.

Detects potential risks and fraudulent activities early to prevent operational disruptions

Enables organizations to act proactively through continuous oversight and timely interventions

Learning doesn't stop, either. Thanks to the Adaptive AI Engine, the platform studies user behavior, suggests improvements to interfaces, and manages risk using predictive models. Every interaction, every transaction, helps the system get sharper and more responsive.

Real-Time Adaptability and Scalability

Efficient Scalability - Think of ABOS like a bank's growth partner—it makes sure services can expand smoothly, even when there's a sudden surge in demand or new branches are opening.

Real-Time Adaptability - Think of real-time adaptability like this: the bank's systems are always on their toes, ready to adjust the moment something changes—whether that's a market trend or a customer's needs.

Fostering Resilience and Growth - The system gives banks the resilience they need to handle changes and challenges, so they can keep growing and thriving no matter what comes their way.

From Theory to Practice

Picture a traditional bank wanting to launch a new digital lending product.

> **With ABOS, the business team describes their idea in everyday language, and the AI handles the rest—from designing the workflow to setting up compliance checks and building solid pricing models. The whole process takes hours instead of months.**

Imagine a digital-first bank aiming to improve its Know Your Customer (KYC) processes. With this ABOS platform, adjustments are made automatically and instantly—no long nights spent rewriting code or troubleshooting issues. The system responds in real time to new regulations or policy changes, streamlining compliance and making sure the bank's operations stay efficient and secure without putting extra pressure on the tech team.

Key Features

ABOS is an AI-native platform, built for autonomy and speed. The system handles itself, allowing teams to focus on strategy instead of maintenance.

> **Its modular nature means you can combine and adjust different functions as needed, creating or scaling a bank to fit your ambitions. With low-code and no-code capabilities, describing a business requirement is enough for the AI to make it real—no technical jargon required.**

As conditions shift, the system learns and adapts, keeping you ahead of both the competition and regulatory curve.

Agentic AI Capabilities in ABOS

Imagine a banking platform where intelligent agents independently design and coordinate every step of service delivery, ensuring products truly fit each customer's unique needs. ABOS doesn't just automate tasks—it actively monitors transactions, swiftly detects fraud, and upholds regulatory standards, making security and compliance feel effortless. When laws or markets shift, the system adapts on its own, keeping banks nimble and prepared for change. Its modular design lets banks assemble and customize services rapidly, much like building with blocks, so they can respond to customer needs with agility and creativity. The result is a banking experience that balances speed, safety, and personalization, helping institutions stand out in a fast-moving world.

Role of AI Agents in Assembling Bespoke Workflows

- **Autonomous Design -** AI agents independently create banking workflows tailored to specific product needs and customer interactions.
- **Workflow Orchestration -** AI agents coordinate and manage the execution of customized banking processes seamlessly and efficiently.

Automated Risk, Fraud, and AML Management

- **Continuous Transaction Analysis -** Agentic AI monitors transactions in real-time to identify suspicious activities promptly and accurately.
- **Fraud Detection -** AI detects patterns of fraudulent behavior, minimizing financial losses and protecting customers.
- **AML Compliance -** AI ensures compliance with Anti-Money Laundering regulations through automated risk assessment and reporting.

Dynamic Response to Regulatory and Market Changes

- **AI-Driven Workflow Adjustment** - AI agents automatically modify workflows to align with new regulations and market changes, ensuring agility.
- **Regulatory Compliance Maintenance** - Automated controls help maintain compliance with evolving regulatory requirements to reduce risks.
- **Market Competitiveness -** Adaptations driven by AI keep the organization competitive amid market shifts and uncertainties.

Transformative Impact of ABOS on Banking

By leveraging modular service composition, banks can assemble tailored solutions from flexible components, allowing for rapid customization to meet a wide array of customer needs. These composable services not only streamline internal operations—improving efficiency and service delivery—but also empower the organization to innovate at speed.

By handling repetitive tasks and optimizing development processes, automation shortens product cycles and paves the way for faster, smarter iteration. AI-driven workflows enhance the decision-making process, fueling innovation and enabling institutions to swiftly adapt their offerings in response to changing market demands.

This synergy of AI and automation ensures that banks not only launch new products more quickly but also maintain high standards of compliance and customer service.

Ultimately, these advancements culminate in a superior customer experience. By automating routine processes, banks reduce wait times and deliver services with greater efficiency, positioning themselves at the forefront of digital transformation in the financial sector.

Why Should You Care?

> **How much are you spending to keep legacy systems running? How fast can you roll out a new financial product? ABOS erases the usual barriers. Banks become nimble and competitive. Time to market shrinks. Compliance becomes less of a headache and more of an automatic process.**

Challenges and Questions for Leaders

As agentic AI takes over compliance and coding, how ready is your team for such a shift? What kinds of skills will your IT professionals need as the system evolves? How will you make sure transparency and trust remain intact when AI drives the core of your operations? Can you imagine abandoning quarterly release cycles for an environment where your bank evolves instantly, adapting as fast as the market itself?

Final Thoughts

Banking is moving at breakneck speed. ABOS doesn't just keep pace—it sets a new standard. The move to AI-driven operations isn't a question of if, but when, and who will be bold enough to lead the way. Are you ready to let AI take your bank further? Or are you still coaxing that old system along, hoping it won't break? It's time to think bigger, move faster, and maybe, finally, get a good night's sleep.

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Understanding Cash Handling Operations in a Bank Branch

Cash handling is one of the most critical operations in any bank branch, ensuring the smooth flow of funds to support day-to-day customer transactions. Here's a simplified overview of how cash is managed within a branch:

Step 1: Receiving and Securing Cash

Cash is received in the branch either from the central bank or a designated currency chest. Once received, it is stored securely in the branch's main vault, which is typically managed by the Chief Cashier or Head Teller. The receipt of cash is recorded in the core banking system (CBS), which increases the branch's cash-on-hand balance.

Step 2: Allocation of Cash to Tellers

Cash is distributed to the tellers for servicing customers—whether for withdrawals, deposits, or currency exchange. Tellers raise a request for cash in the CBS, which is fulfilled by the chief cashier. When cash is transferred to the teller, the vault balance decreases and the teller's cash drawer balance increases. Importantly, the overall branch cash-on-hand remains unchanged, as the cash is only moving within the branch.

Step 3: Daily Teller Transactions

Throughout the day, tellers perform various cash transactions—deposits, withdrawals, and exchanges—based on customer needs. A cash deposit increases the vault or teller balance, while a withdrawal decreases it.
These changes directly affect the cash available at teller cash drawer and in the branch vault but again do not impact the total cash-on-hand of the branch unless cash is physically moved in or out of the branch.

Step 4: End-of-Day Reconciliation

At the end of the day, each teller performs a reconciliation by matching the physical cash in their drawer with the balance shown in the system. In rare events , In case of any discrepancies, appropriate adjustments are made after due diligence.

Step 5: Closing Balances and Vault Transfer

Tellers return the remaining cash to the vault or chief cashier and close their cash drawers. In certain cases, a small amount may be retained in the drawer overnight, within approved limits. The vault balance is updated accordingly, while the teller's drawer balance is reduced to reflect the transfer.

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CREATING FRICTIONLESS DIGITAL FINANCIAL JOURNEYS