The Intelligent Core: Unlocking Accelerated Innovation in Banking

temenos

Why intelligent core, and why now

For years, banks have focused on modernizing their core systems to enable faster change, increase resiliency, and improve efficiency. What is new is the need to operate these environments with increasing levels of embedded intelligence, where systems do not just execute processes but continuously interpret, decide, and act.

This introduces a more complex challenge: how to innovate at speed while maintaining control over automated behaviors, ensuring governance, transparency, and regulatory compliance as decision-making becomes more distributed across human and machine. And this across the lifecycle of a core banking system, where the context and needs inevitably change over time.

At the same time, AI is moving rapidly from pilots to enterprise adoption. What began as curious and isolated use cases is now delivering measurable value across operations, decision-making, and customer engagement.

The convergence of these trends is reshaping the role of core banking. While core systems remain the system of record, the core will soon play a vital role as the system of intelligence. It will actively support innovation, simplify execution, and adapt as the business evolves.

Since 2019, Temenos has been at the forefront of AI in banking, helping banks build, manage, and interpret automated decisions. With GenAI now mainstream, new capabilities are emerging that power intelligent banking - embedding intelligence directly into Temenos Core Banking to enhance the platform itself, unlock more value from existing banking systems, and enable banks to deliver better value faster.

This paper outlines why this shift is happening now, what makes AI adoption in core banking fundamentally different, and how banks can move forward with confidence through a progressive approach.

How AI has reached the core

AI is no longer confined to isolated use cases. It is becoming central to how banks operate and is defined by rising customer expectations.

Speed

There is increasing pressure on speed. Banks must launch products faster, respond to market changes more effectively, and evolve continuously in competitive environments. Traditional approaches to core banking, where change is complex and slow, no longer meet these demands.

Resilience

The significance of resilience and efficiency continues to grow. Operational stability, cost discipline, and risk management are top priorities. Processes must be inherently resilient, increasingly predictive, and less reliant on manual intervention, with the ability to continuously improve.

Data

Customers increasingly expect context-aware guidance, rather than simply executing predefined processes. Within the core banking domain, financial institutions hold rich data that can enable this shift. However, unlocking this value requires a disciplined approach to data access and interpretation, applied at the right moment and for the right purpose.

These three forces are converging at the core of the bank. The most significant opportunities for AI lie not at the edges, but within the core systems that define products, processes, and policies. At the same time, this is where the barriers to adoption are highest.

The core challenge: introducing AI into critical systems

Applying AI to core banking is fundamentally different from applying it elsewhere. Core systems operate under strict requirements and are built for resilience and longevity. Every transaction must be accurate, every process controlled, and every decision explainable. There is no room for inconsistency or ambiguity.

Core banking complexity is often most visible across three critical lifecycle phases: install, run, and upgrade. Implementations require navigating intricate dependencies, data migration, configurations, and integration requirements. Running the platform demands continuous monitoring, optimization, governance, and operational expertise. Upgrades can be time-consuming and risk-prone, requiring teams to assess impacts across customizations, integrations, and environments. As banks explore AI, a new challenge emerges: how to introduce intelligence without creating additional layers of complexity, inconsistency, or governance risk. In highly regulated environments, AI must be reliable, explainable, and seamlessly integrated into core banking operations—not bolted on as a separate capability. At the same time, core environments are inherently complex. Over time, they accumulate integrations, customizations, dependencies, and configurations that make change harder. This complexity slows innovation and increases operational risk.

Governance is another critical factor. Banks must ensure that every action is traceable and that all decisions meet regulatory expectations across jurisdictions.

These considerations make it clear that traditional approaches to AI are not sufficient. Generic models and external tools can introduce uncertainty in environments where certainty is essential.

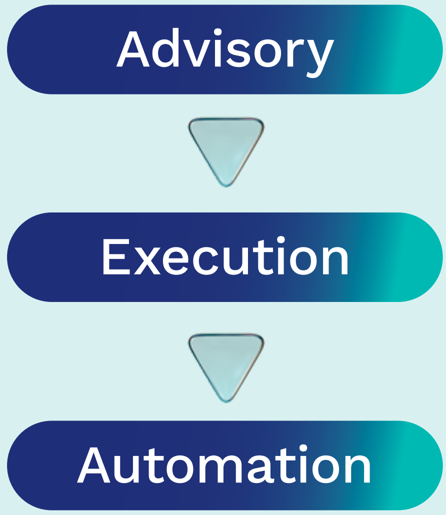
The challenge is not simply to apply AI to core banking, but to do so in a way that is trusted, controlled, and aligned with how banks actually operate.

Intelligence embedded, not added

Temenos addresses these challenges by embedding intelligence directly into the platform. This is fundamentally different from layering AI on top of existing systems. Instead of relying on external models or disconnected tools, Temenos integrates intelligence into the processes, data, and logic of the platform itself.

This ensures that AI is aligned with banking requirements, including compliance, accuracy, and control. Just as importantly, this approach allows banks to adopt AI in a gradual and controlled way. Capabilities typically begin in advisory roles. They guide users, provide recommendations, and support decision-making, while humans remain in control. As trust develops, these capabilities can expand to support execution and automation.

This progression is essential. It ensures that AI adoption strengthens control rather than weakening it, and that innovation is introduced without disruption. The objective is not to automate tasks, but to create a core that is more intelligent, more adaptive, and better able to support continuous change.



The core challenge: introducing AI into critical systems

At the heart of our platform sits the Banking Knowledge Graph, which is a structured representation of banking expertise built over decades by Temenos and our banking community. It includes product definitions, workflows, regulatory rules, and operational logic, all encoded and available in real time, and structured for AI to query in real time.

The knowledge graph extends beyond core processes to encompass Temenos Digital applications and other capabilities on the Temenos Banking Platform, creating shared context across channels, interactions, and core processes.

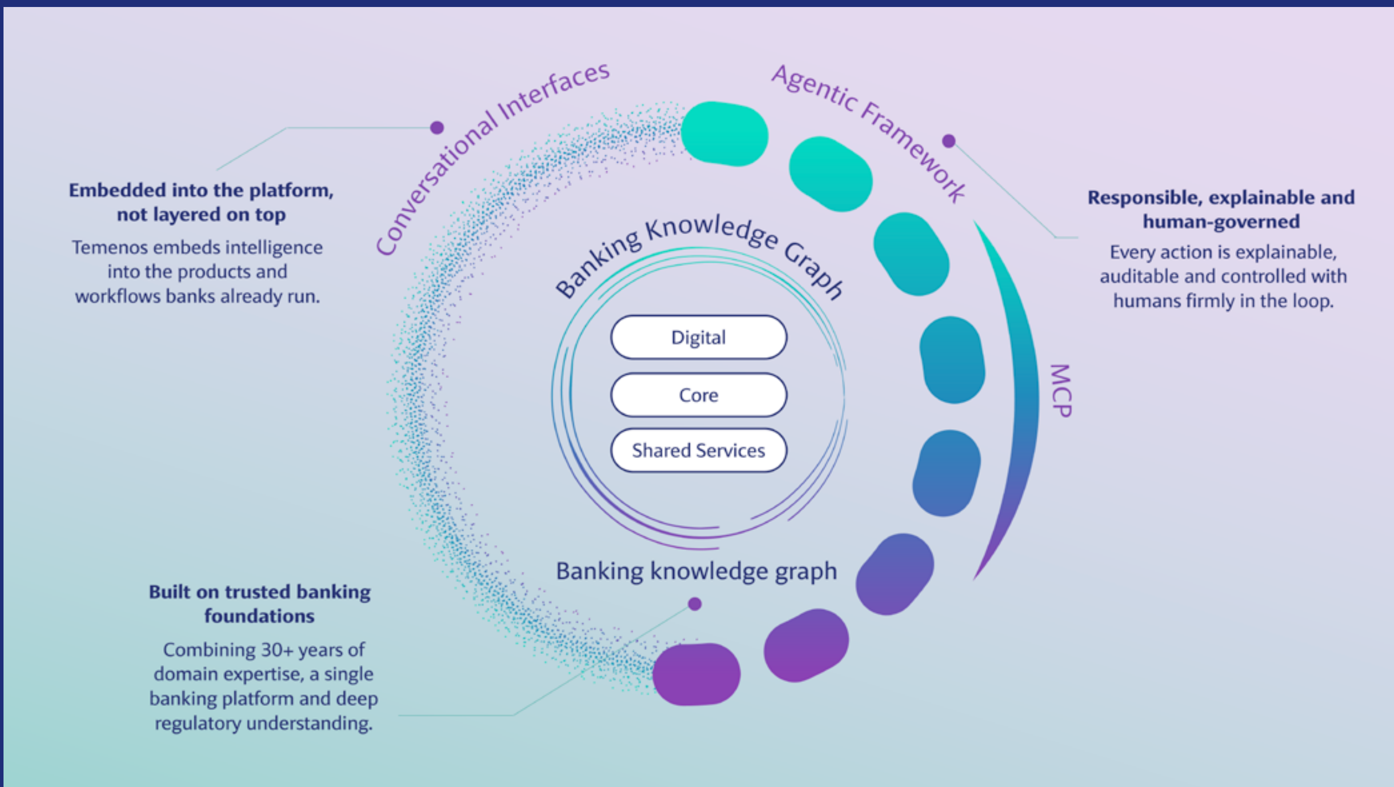
Its role is to ensure that AI is grounded in verified domain knowledge, enabling decisions and actions that reflect how banking products, processes, and regulations operate. As a result, outcomes are consistent, explainable, and aligned with real-world banking requirements rather than probabilistic assumptions across the entire install, run and upgrade lifecycle. This is critical in environments where accuracy and compliance are non-negotiable.

With AI embedded into the platform, banks are interacting with systems in new ways. Users are no longer limited to navigating complex interfaces. Instead, they can engage through natural, conversational interactions that understand context and intent, and provide relevant responses.

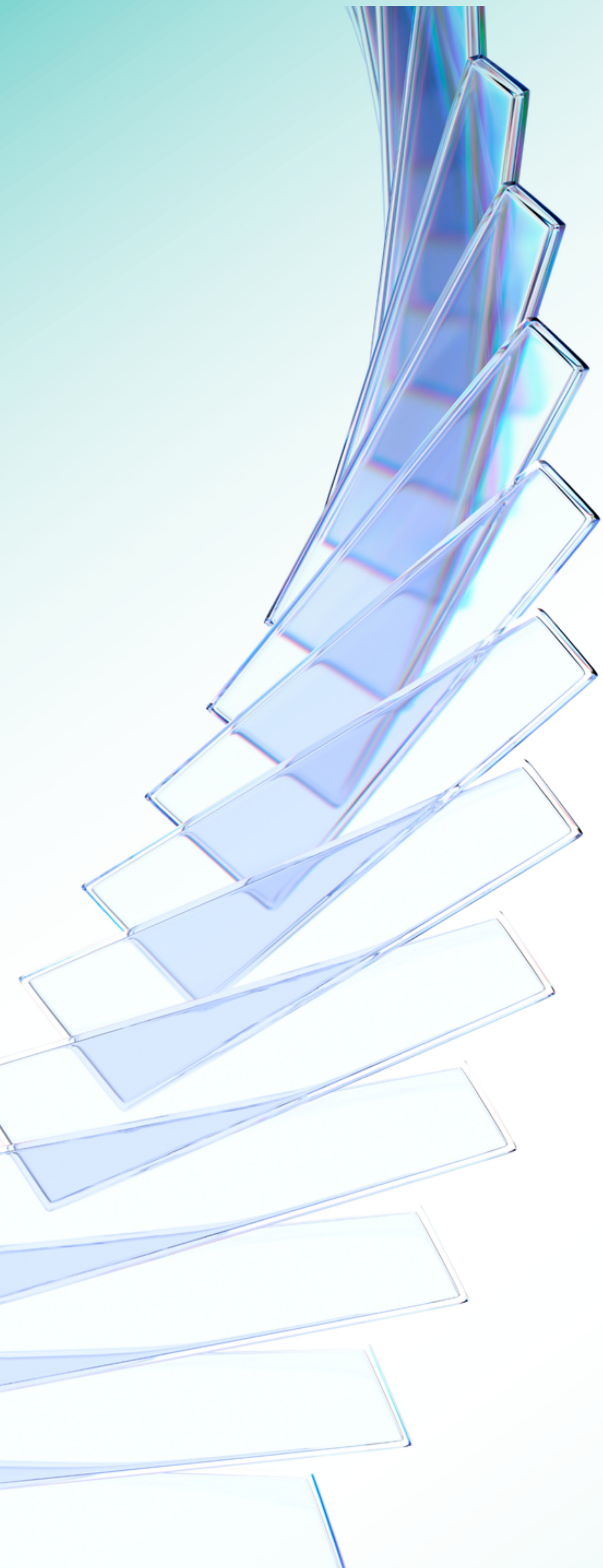
Connectivity across the platform is enabled through Model Context Protocol (MCP). MCP standardizes how context is shared between systems, models, and workflows. This reduces integration complexity and allows intelligence to operate consistently across the environment.

Execution is handled by the agentic framework, which orchestrates agents that perform specific tasks like reconciliation or KYC verification, orchestrated in end-to-end workflows. Crucially, these agents operate within controlled processes, ensuring that every action is auditable and every decision explainable.

Together, these elements create a platform where intelligence is embedded into how the core functions, rather than added as an external capability.



From complexity to flow: reimagining core banking operations



When intelligence is embedded at the core banking operations level, it begins to reshape those operations from end to end.

It changes not just how activities are executed, but how decisions are made and owned. In this scenario, core banking is no longer a passive system of record; it becomes an active participant in shaping outcomes. This shift requires banks to rethink their role—from configuring and monitoring systems to actively governing how intelligence is applied across processes, controls, and customer interactions.

At the implementation level, this changes the nature of delivery. Requirements are no longer simply specified and built; they are interpreted, contextualized, and translated into structured configurations with the support of embedded intelligence. This can accelerate configuration, testing, and validation, reducing manual effort and improving consistency. However, it also places greater responsibility on the bank to ensure that rules, policies, and data inputs are well-defined, governed, and auditable. The quality of outcomes increasingly depends on how well the bank curates its data, defines its intent, and supervises automated behaviors.

Operationally, the shift is even more pronounced. Rather than reacting to issues after they occur, the system can continuously monitor signals across transactions, processes, and external inputs. It can identify anomalies, anticipate potential disruptions, and recommend or initiate corrective actions. This enables a more proactive and resilient operating model, where intervention happens earlier and with greater precision.

For the bank, this introduces a new balance of responsibilities. While automation reduces the need for manual intervention, it increases the importance of oversight, governance, and accountability. Banks must define escalation boundaries, validate recommendations, and ensure that automated actions align with regulatory expectations and internal risk appetite. In this model, resilience is not achieved solely through controls and redundancy, but through the ability to detect, decide, and act in a controlled and transparent way.

Ultimately, embedding intelligence into core banking operations is not just an efficiency play. It is a shift in how banks design, operate, and take responsibility for their core processes—moving from execution-focused operations to intelligence-led orchestration.

Over time, change also becomes easier to manage. As processes become more streamlined and less dependent on manual intervention, upgrades and enhancements can be introduced more smoothly. The burden of maintaining the system also decreases. Instead of focusing on managing complexity, banks can focus on creating value.

Intelligence in action

The principles of an intelligent core are already reflected in capabilities we offer. At TCF 2026 in Copenhagen, new Temenos Copilots and agents were demonstrated live, illustrating how banks can move from concept to execution and benefit from embedded intelligence directly within day-to-day operations.

Temenos Copilot for Workbench

Transforms business requirements into executable plans through natural language, enabling business and development teams to bring products and enhancements to market faster and with greater confidence.

Learn more about Temenos Copilot for Workbench

Temenos AI Ops Agent

Improves operational resilience for Temenos SaaS by detecting issues early, uncovering root causes, and guiding remediation actions, reducing the risk of disruption and minimizing business impact.

Learn more about Temenos SaaS

Temenos Copilot for Core

Introduces conversational interaction within Temenos Core workflows, enabling users to access information, understand processes, and complete tasks faster with greater accuracy and efficiency.

Learn more about Temenos Copilot for Core

Together, these capabilities show how intelligence becomes part of everyday banking operations, rather than an isolated feature. All are supported by the knowledge graph, which connects data, processes, and rules to ensure consistent, context-aware decisioning across the platform.

Accelerated innovation: the real value of intelligent core

The most significant impact of an intelligent core is its ability to accelerate innovation. By reducing complexity and embedding intelligence into processes, it enables banks to move faster. Ideas can be developed, tested, and deployed with greater speed and confidence. This changes the role of the core banking platform.

As such, core banking and the processes and data it holds can be a significant enabler for AI strategies and overall innovation. That is why Temenos applies these principles across the platform - to enable banks to support experimentation and adaptation to new requirements, helping to deliver banking experiences that are modern, personal and scalable, but also work in the demanding context of banking governance.

Key takeaways

- AI has reached the core, driven by the need for speed, efficiency, and resilience.
- Core banking requires a different approach, with a strong emphasis on trust and control across the lifecycle – from install, to run to upgrade
- An intelligent core enhances existing platforms, helping banks maximize the value of Temenos Core Banking.
- A strong architectural foundation enables scalable and reliable intelligence.
- Simplified operations create the conditions for faster innovation.
- A progressive approach allows banks to adopt AI safely and effectively.

Building a core that thinks and evolves

Banking is entering a phase where the ability to adapt continuously will define success. Core banking is central to that transformation. With an intelligent core, Temenos enables banks to move beyond modernization and toward a model where the core is adaptive, continuously improving and supportive to help banks deliver value and innovate throughout their ecosystem.

Watch the Temenos Copilot for Workbench demo to see how intelligent core capabilities help banks deliver smarter, faster change.

[Deliver Smarter with Intelligent Core]

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About Temenos

Temenos (SIX: TEMN) is a global leader in banking technology. Through our market-leading core banking suite and best-in-class modular solutions, we are modernizing the banking industry. Banks of all sizes utilize our adaptable technology – deployed on-premises, in the cloud, or as SaaS – to deliver next-generation services and AI-enhanced experiences that elevate banking for their customers. Our mission is to create a world where people can live their best financial lives.

For more information, please visit www.temenos.com