RETAIL PAYMENT INNOVATION

BURKHARD BALZ

Member of the Executive Board – Deutsche Bundesbank

Wallets, AI and instant A2A payments: building a sovereign EU payment space

Retail payments in the European Union are being shaped by several developments, including instant account-to-account (A2A) payments and increasingly sophisticated wallets, as well as more recent innovations like agentic payments. These developments promise to create a more seamless, data-rich and programmable retail payments ecosystem. The challenge for Europe will be to harness these innovations in a way that strengthens sovereignty, protects users and avoids new forms of fragmentation.

Instant A2A payments are suited to form the backbone of this ecosystem. Fueled by the Instant Payments Regulation, real-time credit transfers are to become the rails for many retail use cases across Europe, from peer-to-peer (P2P) payments to e-commerce and payments at the point of sale (POS). Built on European infrastructures and subject to European rules, instant payments can reduce dependence on non-European schemes and platforms, while enabling business models such as Pay by Bank. Features like the mandatory Verification of Payee will be crucial to maintaining trust as transaction speeds increase.

Digital wallets are evolving from simple containers for cards into multifunctional platforms that can hold payment instruments, identity credentials and – potentially– public money such as a future digital euro. The European Digital Identity (EUDI) wallet, if implemented in a secure and interoperable way, will be able to provide a trusted layer for strong customer authentication and consent management across borders. Wallets, including initiatives like wero from the European Payments Initiative (EPI), can build on common standards to offer pan-European instant A2A payments at the POS, online and P2P.

Agentic payments – where artificial intelligence (AI) agents manage payments on behalf of users – may represent another step into the future of payments. Instead of users manually initiating each transaction, AI agents – embedded in apps or platforms – could manage recurring payments, optimise the settlement of bills and trigger micropayments in the background. For example, travel agents could orchestrate multimodal journeys and handle related payments. Over time, we may see an evolution from simple, rule-based reordering and subscription management towards sophisticated, context-aware payment decisions. These developments could improve convenience and efficiency, but raise fundamental questions about control, liability and data use.

The risks associated with these innovations are significant and must be addressed proactively. Fraud is likely to evolve as criminals exploit faster payment rails and automated processes. Instant irrevocable transfers reduce the window for intervention, while agentic payments may create new attack surfaces if agents are poorly secured or misconfigured. Regulators and supervisors should therefore promote robust authentication, transaction risk analysis and real-time monitoring, supported by data sharing frameworks that respect privacy. Exclusion is another concern. An inclusive payment ecosystem must ensure that basic, user-friendly options remain available, including accessible interfaces and offline capabilities.

Fragmentation remains a structural risk. Interoperability hubs, such as those envisaged in the cooperation between the European Payments Alliance (EuroPA) and the EPI, can help connect domestic and pan-European solutions, but they should be guided by a clear vision of a coherent European retail payments architecture.

Ireland's experience with digital payments offers valuable lessons for the broader European debate. The country has seen rapid adoption of contactless and mobile payments, supported by a modern financial services sector and high smartphone penetration. At the same time, Ireland illustrates the challenge of relying heavily on non-European card schemes and global platforms for everyday payments. This dependence underscores the importance of developing European alternatives that can compete in terms of convenience and user experience.

To steer innovations in a direction that serves Europe's strategic interests, regulators and central banks should focus on three priorities. First, ensuring that instant A2A infrastructures are secure, ubiquitous and accessible. Second, promoting interoperable wallet and identity frameworks that allow both public and private solutions to coexist and reinforce each other. Third, developing sound rules for agentic payments, covering consent, transparency, liability and data governance, so that innovation is fostered but users remain in control even as payments become more automated.

If Europe succeeds in combining instant A2A rails, trusted wallets and well-regulated agentic payments within a coherent framework, it will be able create a retail payments ecosystem that is innovative and distinctly European. The objective is to strengthen sovereignty through European solutions, to support fair competition and to enhance operational resilience by adding robust new rails alongside existing ones.

Key Sentence: The challenge for Europe is to harness innovations in a way that strengthens sovereignty, protects users and avoids fragmentation.

VASILEIOS MADOUROS

Deputy Governor, Monetary and Financial Stability – Central Bank of Ireland

Unlocking the benefits of innovation in retail payments

The transformation of European retail payments continues apace. Over the past two decades, the way we pay for day-to-day transactions has changed dramatically, amid a rapid shift towards electronic payments. The entities in the payments ecosystem have also changed, with a growing role of non-bank payments providers. And the infrastructure supporting retail payments has evolved, including through the Eurosystem's platform to settle instant payments in central bank money. Looking ahead, the integration of DLT in mainstream finance is likely to spur further innovation, including by enabling programmability in payments. And advances in artificial intelligence have the potential to transform commerce, with implication for payments.

Substantial opportunities in European retail payments remain untapped. Despite numerous efforts over many years, an electronic means of retail payment that covers the entire euro area, across the main use cases, has not yet been achieved. A number of local pay-by-account solutions have emerged across different parts of Europe, but these do not have pan-European reach. Card schemes dominate electronic payments, limiting choice for European citizens and introducing concentration risks. This persistent fragmentation of retail payments in Europe is preventing us from reaping the full benefits of the Single Market.

The ongoing transformation in payments needs to be managed carefully – but there are also costs to standing still. Clearly, the transition to new ways of money movement, or indeed the emergence of new forms of private money, create risks that need to be managed. An uncoordinated transition towards DLT-based financial infrastructures can lead to costly fragmentation. Fraudsters are innovating at a rapid pace, increasing risks to consumers. And the emergence of stablecoins – especially if not subject to appropriate regulatory standards – could have broader macro-financial implications. These are important risks that need to be managed. Equally, though, there are also costs to standing still: households and businesses would not reap the benefits of innovation in payments, and payments activity could shift to less regulated segments of the financial system.

Responding to innovation in payments requires a system-wide approach. The history of payments has been – and will continue to be – one of public-private partnership. In that partnership, the role of central banks and regulators is to ensure trust. We do this by issuing the safest and most liquid asset in the economy – central bank money; by operating core infrastructures; by supervising financial institutions; and by overseeing payments systems and arrangements. These foundations then enable the private sector to do what it does best: interface with customers, innovate, compete and, ultimately, meet the evolving needs of households and business. Effectively responding to innovation in payments also requires the private sector to work together, whether it relates to fraud prevention, payments interoperability or system-wide preparedness to possible operational disruptions.

> Responding to innovation in payments requires a system-wide approach.

Amid broader innovation in the payments landscape, central bank money – a key anchor of trust – also needs to evolve. While we cannot know precisely what the money and payments landscape will look like in the future, central bank money will remain an essential foundation of any future configuration. This is why the Eurosystem is responding, both through the Digital Euro and by enabling settlement of wholesale transactions on DLT in central bank money. As a complement to cash, the Digital Euro could be used for all digital payments throughout the euro area, be free for basic use, be available both online and offline, and offer the highest level of privacy. It would also provide an open and interoperable pan-European infrastructure, upon which private operators can compete and innovate. On the wholesale side, the Eurosystem's work will ensure that – amid a broader evolution of finance – central bank money continues to form the core settlement anchor of large-value transactions, which ultimately support all payments in the economy.

In Ireland, the National Payments Strategy (NPS) is providing a compass to navigate the continued evolution of retail payments. Building on European initiatives, the NPS takes a holistic approach. It focuses on access and choice; security and resilience; innovation and inclusion; and sustainability and efficiency. It seeks to harness the benefits of innovation in payments, while safeguarding the role of cash in society. And it recognises the importance of taking a system-wide approach, spurring further collaboration and engagement within the payments ecosystem in Ireland. Ultimately, Ireland and Europe have an opportunity to unlock the benefits of innovation in payments from the perspective of households, businesses and the broader economy. This is an opportunity we need to collectively grasp.

HENDRIK BOURGEOIS
Senior Vice President
Government Affairs & Policy
Europe – Mastercard Europe

Europe's payments future: competition, choice and innovation

Europe's payments ecosystem is evolving rapidly. Initiatives such as Wero, EuroPA, open banking and the digital euro reflect both the diversity of Europe's payments landscape and the profound transformation currently underway across the sector. Digital wallets, open banking providers, and fintech innovators are introducing new services and business models. Technologies such as tokenization, digital identity and artificial intelligence are creating new opportunities for consumers and merchants. Competition in payments will continue to intensify as new technologies and business models emerge. Trust, cybersecurity and advanced fraud prevention will be critical building blocks of this new ecosystem. They are the foundation that will allow innovation and digital transformation to not only scale but flourish.

Europe's strength lies in a secure and efficient payments landscape where different solutions contribute to innovation, resilience, and choice. A competitive and innovative payments ecosystem is better equipped to adapt to technological change and emerging challenges. This will raise expectations around speed, convenience, and security. Mastercard is helping to shape this evolution through continued investment in innovation, security, and the technologies that will define the future of commerce.

The future of payments will not be defined by a single technology or network. Consumers and businesses will increasingly expect seamless payment experiences. Whether enabled by cards, account-to-account payments, open banking, digital wallets or future digital currency solutions, Mastercard's role is to provide the technology, security and connectivity that enable safe payments. As Europe implements the revised PSD3 and PSR, it is important that the regulatory framework supports this evolution. Regulation should remain technology-neutral, proportionate and outcomes-based, creating the conditions for competition, innovation and investment while maintaining strong protections for consumers.

Strong Customer Authentication provides a good example. Payment providers are deploying increasingly sophisticated tools to combat fraud and verify legitimate users, including behavioural biometrics such as typing patterns and device interactions, which the European Banking Authority has recognized as an inherence factor. Businesses are also using behavioral and environmental data to strengthen fraud detection. In the UK, these data sets are recognized as an authentication factor, providing greater flexibility for innovative security solutions. As fraud threats evolve, Europe should continue to draw on emerging international best practices, while maintaining a technology-neutral framework that enables innovation, strengthens security and preserves high standards of consumer protection and trust.

Europe's payments future will be shaped by choice, interoperability and innovation.

Digital asset innovation is also becoming a more important part of the payments landscape. Stablecoins, tokenized deposits and other forms of digital money have the potential to improve the efficiency of payments, settlement and cross-border transactions. Recent developments in the digital asset ecosystem illustrate the pace of innovation. One example is Open Standard, an industry-led initiative developing Open USD, a new stablecoin model supported by more than 140 companies across payments, technology and financial services. The initiative is designed as a neutral, multi-participant infrastructure that can help reduce fragmentation, improve efficiency and support wider participation in stablecoin infrastructure.

Europe has played an important role in enabling digital asset innovation through frameworks such as MiCA, providing greater legal certainty for digital asset activity. Innovation in public sector money is equally important for the next generation of digital finance infrastructure. The challenge for Europe is not to choose between these models, but to create the conditions for them to work together safely and efficiently. Interoperability between regulated stablecoins, commercial bank money and future public initiatives will be essential.

We are proud of our European heritage and longstanding presence across the continent. We support secure cross-border commerce within Europe and globally while continuing to invest in European innovation, infrastructure, partnerships and fintech collaboration. Looking ahead, Europe's greatest opportunity is to create the conditions for trusted and innovative payment solutions to compete, interoperate and scale across an open ecosystem. As commerce becomes increasingly digital, real-time and AI-driven, Europe has an opportunity to lead by creating an environment where new technologies can scale, consumers remain protected and businesses can innovate with confidence. At Mastercard, we are committed to playing our part in building that future.

STEPHANIE CHAMPION
Executive Vice President, Head of Financial Crime Management Technology – Nasdaq Verafin

Protecting Europe's financial system in the age of AI-enabled threats

According to Nasdaq Verafin's Global Financial Crime Report, financial crime continues to reach new highs. The amount of illicit funds flowing through the financial system grew by more than a trillion dollars, rising to $4.4 trillion, while fraud and scam losses reached $579.4 billion globally in 2025, growing at 9.2% annually since 2023. Fraud scams alone — the authorized push payment schemes, romance frauds, and impersonation attacks that devastate consumers — surged to $62 billion, growing at more than double the rate of unauthorized fraud. Across EMEA, total fraud losses reached $132.9 billion, and $154.4 billion in illicit flows crossed EU borders in a single year. A key driver of these figures is the weaponization of AI, used by criminals to scale their operations across every channel through which Europeans live their financial lives. And today we are at a critical inflection point to bolster our defenses and match this new reality.

A Threat Scaled by AI

Bad actors are often early adopters of new technology, which they will experiment with and use freely to gain an advantage over institutional defenses. Our research shows that criminals are already leveraging AI at speed and scale. We surveyed over 500 anti-financial crime professionals, and ninety percent reported an increase in AI-driven attacks at their institution.

AI-enabled hyper scams and deepfakes produce convincing, personalized fraud at industrial volume, making authorized push payment fraud so sophisticated it is often nearly impossible for consumers to detect. At the same time, criminal networks have commoditized fraud infrastructure by selling proven toolkits to other bad actors, enabling high-volume attacks with no technical expertise required.

The rise of authorized fraud and the fact that scams tend to originate outside of the financial system – on social media, in messaging platforms, and through dating apps – means banks are often the last line of defense. By the time a suspicious transaction reaches a bank, the victim has often been manipulated for days, or longer.

AI to Bolster Defenses

Traditional detection systems were not built for the world of AI and faster payments. They generate high false positive volumes while sophisticated fraud passes through. That procedural model is no longer adequate. We need to ensure that our financial institutions are equipped with the tools needed to fight AI-powered threats more efficiently and effectively.

> By bringing together every industry impacted by fraud and scams, we can get ahead – and stay ahead.

The combination of AI and network-level data offers a path forward for the industry. Machine learning analytics trained on consortium data — drawn from activity across hundreds of millions of counterparties — detect fraud patterns invisible to any single bank in insolation, reducing false positives while delivering the context investigators need to act. Agentic AI can execute complex compliance workflows, reducing time spent on information gathering and the initial triage of fraud or AML alerts, freeing investigators for substantive risk assessment. When built on explainable AI frameworks that meet supervisory model risk management standards, these tools give regulators the auditability they require while giving institutions the efficiency they need.

A Collaborative Framework for Systemic Resilience

Effective fraud prevention also requires risk signals from outside the financial system. Scam victims are targeted on dating apps, recruited through social media, or manipulated via messaging platforms long before any payment is initiated. Financial institutions see scams at the point of transaction and law enforcement sees reports only after harm has occurred. Without a mechanism to connect those perspectives in real time, response efforts remain fragmented while criminals exploit every gap.

Responsibility for prevention must extend to all industries impacted by financial crime. There are already examples of what this looks like in practice. Banks, telecoms, and digital platforms can share verified scam indicators in real time so that scammers' phone numbers get blocked, fraudulent ads get removed, and malicious sites get taken down. European consumers and businesses would benefit from this architecture, which looks to disrupt scams before victims are engaged and before funds move. By bringing together every industry impacted by fraud and scams, we can get ahead – and stay ahead – of criminal threats for good.

The Choice Ahead

The technology to defend Europe's financial system exists today. What determines the outcome is whether regulatory frameworks allow institutions and the broader ecosystem of platforms and providers to deploy it at the speed the threat demands. Protecting European consumers cannot be accomplished institution-by-institution or jurisdiction-by-jurisdiction. By combining advanced AI with collective intelligence and shared accountability, we can disrupt criminal networks earlier, prevent harm before it occurs, and safeguard the financial system from both today's risks and the threats of tomorrow.