

## RETAIL PAYMENT INNOVATION



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## Overcoming fragmentation for a sovereign European retail payments landscape

Despite deep economic integration among the 21 members of the euro area, retail payments remain largely organised along national lines. More than two decades after the introduction of the euro, Europe still lacks a truly European digital retail payment system that meets everyday needs, both at home and across European borders. This fragmentation is not sustainable; it creates a strategic vulnerability that Europe can no longer afford.

Processing retail payments is not a mere luxury; it is an essential element of infrastructure, comparable to electricity and clean water. As our society becomes increasingly digital, the need for reliable and efficient payment systems is paramount. However, the current landscape reveals a concerning reality: non-European providers often dominate digital retail payments. This reliance limits our ability to act swiftly

and independently, particularly in times of uncertainty. It also channels sensitive data and fee revenues outside Europe, with implications for competition and innovation. Moreover, recent months have underscored that geopolitical risks are not just theoretical but real and pressing challenges that can disrupt our payment ecosystems.

A certain degree of diversity is vital, since it reflects different consumer preferences and can spur competition. Fragmentation becomes harmful, however, when it prevents solutions from scaling across borders to compete with global players and creates parallel rails that do not interoperate. It also affects efficiency. In a single market with a single currency, this structural inconsistency imposes costs on consumers and merchants and weakens the European supply side. Connecting domestic payment solutions through interoperability hubs like the recently announced initiative involving EuroPA and EPI could help to reduce fragmentation in the near term. A central interoperability hub jointly established by the partners in this alliance could act as a technical layer, enabling the exchange of transactions between domestic and pan-European solutions. However, this is currently only a concept. And interoperability entails the coexistence of different solutions, maintaining a certain degree of complexity and cost in the long run.

A credible path towards pan-European solutions requires two main ingredients. First, pan-European reach: people must be able to pay at physical points of sale, at online checkouts, and person-to-person, anywhere in the euro area. That demands wide merchant acceptance, a consistent user experience across countries and strong incentives for service providers to connect. Second, a compelling value proposition: consumers and merchants will only adopt a new solution if it is at least as convenient, secure, and affordable as existing global offerings and if it integrates smoothly into their digital lives while reflecting European values such as privacy.

For a strategically autonomous and resilient European retail payments landscape, the Bundesbank sees two pillars as essential: the digital euro as a public, foundational offering, and innovative private pan-European payment solutions. The digital euro would provide secure and universally

accepted public money in digital form, complementing cash, anchoring confidence in the payment system, and enhancing Europe's sovereignty. Private sector solutions – such as EPI's Wero wallet – can build on that foundation to deliver a seamless payment experience across the euro area, fostering competition and innovation in the retail sector. The use of common, European standards across different private offerings, as well as between public and private offerings, will maximise network effects while avoiding crowding out.

The European payments landscape has demonstrated its ability to overcome fragmentation when it sets common rules and acts together. The Single Euro Payments Area (SEPA) harmonised credit transfers and direct debits, open banking frameworks have enabled new services by third-party providers, and instant payments are making funds available in seconds around the clock. Building on this acquis, the combination of a digital euro and competitive private sector solutions could deliver a truly integrated retail payments ecosystem.

Europe has the ingredients for a payment ecosystem that supports its strategic autonomy.

Europe has the ingredients for an innovative, competitive and secure payment ecosystem that reflects its values and supports its strategic autonomy. Our dependence on non-European providers is by no means set in stone; we have the necessary ingredients to shape the future of Europe's payments market ourselves. Turning this potential into reality will require a shared vision, coherent policies, and sustained cooperation among central banks, legislators, and market participants. Fragmentation need not be Europe's destiny – but overcoming it will demand deliberate choices and a collective effort.



## ANA PUENTE PÉREZ

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### Challenges and opportunities for EU-wide instant payments projects

In 2015, Spanish financial institutions (credit institutions, savings banks, and credit cooperatives) and infrastructure providers (payment processors Redsys and Cecabank, and the payment system Iberpay) reached a sectoral agreement to develop instant credit transfers (ICT). The idea of adding a technological layer to the processing of ICT that would allow a phone number to be linked to an IBAN was truly innovative, offering a completely new user experience based on the depth and breadth of mobile phone connection capabilities throughout Spain.

In October 2016, Bizum was established and the first person-to-person payment service was launched by twenty Spanish entities. At this point, it was still an experimental project. In 2017, the service for donations was added. In 2018, Bizum exceeded one million users and 10 million transactions.

Back in 2019, Bizum launched its e-commerce payment functionality and COVID-19 pandemic in 2020 undoubtedly accelerated the adoption of Bizum, which reached 10 million users

and more than 5 million e-commerce purchases in 2021 and the integration of more than 25,000 merchants. The experimentation phase was left behind to address the expansion of this payment solution in three areas: reaching more citizens, offering more use cases, and expanding geographically.

In November 2024, Bizum (Spain, including Andorra since 2022), BANCOMAT (Italy), and MB WAY/SIBS (Portugal) conducted a joint proof of concept for enabling payments between their markets, going live in production in March 2025 aiming to promote pan-European and cross-border payments through the interoperability of solutions.

The alliance demonstrate that interoperability is a useful and effective way to advance the integration of payments in Europe, and that it contributes to increasing the strategic autonomy of the EU in a fundamental area such as payments. Interoperability allows to leverage the competitive advantages of each domestic solution, which already enjoy the trust of their users, and connects them to applications or technology platforms based on ICT European standards.

The announcement of the signing of the Memorandum of Understanding between EuroPA and EPI to make person-to-person payments available in 2026 and e-commerce and point-of-sale payments available in 2027 is good news for strategic autonomy.

A new company will be created to operate the interoperability platform (hub). The user experience will remain the same as each user currently has with their national payment solution. The project reaches 130 million users in 13 countries, 72% of the EU population (Andorra, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, and Sweden). The project is open to all countries, including Switzerland and non-euro countries. They can adopt one of the existing ones or create their own and interoperate with EuroPA-EPI.

We can point out two main challenges for this cooperation to be a success. First, to include all EU countries to achieve market integration. The cooperation project is open, but the level of adoption and development of ICT in each country is notably different. The project needs to overcome the challenge of including and accommodating these differences.

The second challenge is to broaden the scope of the use cases covered by ICT to address all payment scenarios across consumer and merchant environments.

In the case of Bizum, its expansion into e-commerce is remarkable, growing by +74% year-on-year. Payment preferences in Spain show a clear shift from cards to wallets and Bizum.

In the case of point-of-sale payments it seems that technology is not a major issue, moreover if there is mutualised infrastructure to introduce new devices and replace the former ones among merchants. On the other hand, finding a suitable compensation model for merchants and financial institutions is key to the development, consolidation, and expansion of ICT, and to ensuring that citizens have a European payment solution for their everyday needs.

**We need a proper  
legal and institutional  
framework for the  
development of public  
and private initiatives  
to improve European  
strategic autonomy  
in payments.**

Public authorities must ensure that the legal and institutional framework is the most appropriate for the proper development of this entire process. First, by reviewing the regulations applicable to instant transfers and cards, so that obligations, exceptions, and exemptions are equivalent in all cases, allowing cards and instant transfers to compete on equal terms. Secondly, by enabling public initiatives such as the digital euro to complement rather than displace private initiatives such as the cooperation between EuroPA and EPI.



## RAINER OLT

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### Preventing harm before it happens: a new responsibility in digital payments

We call for stability, yet serious reforms are unavoidable in a world shaped by deepening global interdependencies and mounting geopolitical tensions. Despite commitments at both EU and national levels to foster innovation, competitiveness and strategic autonomy in payments, structural risks remain prominent — the fraud pandemic, fragmentation of solutions, and vulnerability to systemic disruptions. The environment has fundamentally changed, and these changes are lasting. They require sustained, forward-looking reform rather than incremental adjustment.

Estonia exemplifies a mature digital society, built on advanced public digital infrastructure, a trusted national eID ecosystem and robust data governance. These foundations enabled rapid growth of digital services and their seamless integration with digital payments. Yet this success demands preparation for the next technological leap as an increasingly organised and industrialised fraud economy exploits the same digital connectivity to target individuals and businesses through sophisticated payment and investment scams, alongside manipulation of digital identities to gain unauthorised access on behalf of customers.

Each incident of stolen funds harms victims and erodes confidence in digital services. If unaddressed, this erosion risks weakening trust in digitalisation itself. This is no longer marginal but a present reality across the EU. While European political determination is clear and new measures are emerging, stronger and more targeted national action remains necessary — last year, reported fraud losses more than doubled in Estonia and coordinated action is being taken.

Important progress has been made through strong customer authentication (SCA) and IBAN-name verification. Additional safeguards in the new EU payment services framework strengthen user protection and system-wide security. These measures expand compensation rights and create stronger incentives for payment service providers to enhance fraud intelligence, monitoring and risk analysis, reinforcing safety across the ecosystem.

“If you can prevent harm, you carry the moral weight to act.” A line often heard in superhero films captures a very real principle for modern payments. For too long, once a customer authorised a transaction, the harm was considered inevitable as funds move instantly, and recovery options are limited in cases of fraud. The updated legal framework shifts emphasis upstream, towards preventing or refusing suspicious transactions before execution. Its success will depend on whether fraudulent IBANs and e-com merchant acquiring arrangements can be rapidly identified and blocked.

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**Innovation, competition and autonomy require combating the fraud pandemic and systemic disruptions.**

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Regulation alone may be insufficient in cases of authorised push payment fraud, where criminals manipulate customers into approving transfers or enrolling a digital identity on a fraudster-controlled device. This challenge will intensify as acceptance of the EU Digital Identity Wallets becomes mandatory SCA tools for banks and other payment service providers to accept from late 2027. New technological solutions will therefore play a growing role. They enable behavioural analytics detecting anomalies in typing patterns, navigation behaviour or device interaction which provide stronger assurance that the

person initiating a transaction is indeed the legitimate customer.

A comprehensive approach — combining regulation, targeted research and structured cooperation with industry, telecom operators and law enforcement — can significantly strengthen prevention. A well-designed framework can enable proportionate data sharing, block illicit access and allow holds on suspicious transactions before execution. Such powers before payment execution are critical.

Furthermore, preventing harm from systemic disruptions, a robust European public payments infrastructure is essential. If we are to stand firmly and independently on our own feet, we must ensure that digital payments—both between banks and at the point of sale—continue to function smoothly even during major disruptions, while strengthening the competitiveness and global reach of European solutions alongside international card schemes. A digital euro, issued as legal tender, would not only reinforce this strategic autonomy in digital payments but also help reduce fragmentation across payment solutions. The public digital euro infrastructure as a complimentary network for European payment solutions, will enhance interoperability among existing European initiatives, expand their reach, customer base, and revenue.

Lastly, Europe needs initiatives to enable seamless settlement of securities and foreign exchange transactions across multiple DLT platforms. In the absence of a common public settlement asset, stablecoin initiatives are used for this, adding fragmentation and potentially shifting liquidity from the banking system. Central bank digital currency would strengthen Europe’s ability to operate integrated capital and liquidity markets on resilient public foundations safely across platforms.



## PETER E. STORGAARD

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### Strengthening the resilience of digital payments

Geopolitical uncertainty and a heightened cyber-threat landscape emphasise the need for secure and resilient digital payment systems. In the euro area, the continued decline in the use of cash for everyday purchases alongside a steady rise in card-based payments has made households increasingly dependent on a resilient and well-functioning digital payment infrastructure. As reliance on digital payments grows, so too does the importance of building redundancy, clear fallback arrangements, and preparedness across society.

As in other European countries, retail payments in Denmark are dominated by card-based solutions, increasingly initiated through mobile wallets such as Apple Pay and Google Pay. This development reflects citizens' preference for payment solutions they find convenient to use. Denmark's high share of digital payments by European standards, combined with a low and declining use of cash, has delivered efficiency gains for both consumers and businesses and raised expectations around availability at the point of sale.

Recognising these dynamics, the Danish Payments Council, a private-

public forum that brings together some of the most important players in the payments area in Denmark, has worked to establish a nationwide contingency measure. The contingency measure is based on offline card payments involving both physical payment cards and card-based wallets. When fully implemented later this year, all adult Danish citizens holding payment cards from one of the major card brands, i.e. the national card scheme, Dankort, and the international cards from Mastercard and Visa, will be able to make offline purchases in pharmacies and nationwide grocery stores for at least one week during connectivity outages or when card-based solutions experience disruptions. The contingency measure will help safeguard access to everyday essentials when digital payment flows are not working as they normally do, and Denmark will be among the first countries to operationalise such a framework.

Beyond this initiative, payment resilience also improves when citizens have access to several different payment solutions, as operational incidents, cyberattacks or broader systemic disturbances may affect payment rails differently. Against this backdrop, Danmarks Nationalbank encourages citizens to have access to payment cards, cash and a mobile payment solution based on credit transfers.

Credit transfer-based payment solutions remain underused in physical commerce across Europe, despite their potential resilience benefits. With wider adoption, they could play a stronger role in maintaining continuity in payments, as they operate on separate infrastructures and may continue working when card-based solutions face disruptions. This is also aligned with the Eurosystem's retail payment strategy, which underscores that resilience is strengthened when point-of-sale payment solutions run on infrastructures other than conventional card rails.

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**More payment options and better preparedness make retail payments more resilient.**

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Hence, enhancing payment resilience is not only about exploring new payment solutions such as central bank digital currencies. It is also about strengthening the operational resilience and use of existing solutions to ensure they operate robustly across a wide range of scenarios and are available for citizens in different payment situations at the point of

sale. Practical steps include fallback processes, regular testing and clear incident communication.

Ultimately, building an effective and resilient payment ecosystem requires coordinated action across public and private stakeholders. Authorities should set clear expectations, and all relevant actors within the digital payment ecosystem must invest in operational robustness and cooperate to enable payment solutions that broaden user choice. Importantly, alternative payment solutions to existing card-based options, such as those based on instant credit transfers, must offer convenient user experience if they are to achieve widespread use at the point of sale.

Merchants and citizens also have an important role to play in strengthening resilience in payments. At the point of sale, merchants should establish clear procedures to guide staff in situations where digital payments cannot be made as usual. They should also consider broadening their acceptance practices, including enabling offline card payments where they normally accept card payments. Citizens can likewise support overall payment resilience by demonstrating flexible payment behaviour. Through collective effort, societies can maintain efficient and resilient digital payments.



## SEVDALINA VASSILEVA

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### The innovations that are helping shape international payments today

Over the past decade, Europe's payments landscape has undergone a profound transformation. Digital payments are now embedded in everyday life, supported by technologies that make paying simpler, safer and more intuitive. Innovations that once sat outside the traditional payments ecosystem, such as tokenisation and artificial intelligence, are now key aspects of modern commerce.

Visa has evolved alongside this transformation. No longer solely a card payments network, Visa has become a trusted technology partner and open network that goes beyond cards—continuously adapting to support innovation and growth across the European payments ecosystem. We work closely with local players to empower innovation, strengthen resilience, and help shape the future of commerce and economic growth.

This journey builds on a long history of progress. Since the first payment cards were introduced in the mid-1950s, new technologies have continuously helped to reshape how people pay. Contactless payments have made shopping faster and more convenient, while

tokenisation has enhanced security by replacing sensitive personal data with encrypted tokens. Building on these foundations, solutions such as Click to Pay are bringing a contactless-like experience to online transactions, reducing friction at checkout while maintaining the same high standards of security and trust consumers expect in face-to-face payments.

These milestones are not just about technology; they reflect a broader commitment to create payment experiences that are secure, seamless, and future-ready. Looking ahead, payments are likely to be increasingly shaped by artificial intelligence, bringing both opportunities and challenges.

At the same time, Europe is seeing growing momentum behind account-to-account (A2A) and instant payments. Their speed and convenience offer clear benefits, but their immediacy and irrevocability also can potentially introduce new risks, particularly around fraud and consumer protection. As instant payments scale, they must be supported by robust security layers to address these challenges.

Drawing on experience safeguarding digital payments, Visa has developed an A2A fraud mitigation solution that combines proven global security capabilities with the specific features of local payment rails. This demonstrates how A2A and card technologies can complement one another to drive innovation without compromising trust in the payments ecosystem.

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**Visa collaborates with Europe's payments ecosystem to advance trust, security, innovation and choice.**

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Looking ahead, artificial intelligence is likely to shape the next chapter of commerce, especially in e-commerce. But no matter how smart the experience becomes, payment remains the moment that makes commerce real. Without the ability to pay, it is not commerce — it is only window shopping.

Consumers increasingly expect personalised, intuitive and automated interactions, including the ability to use AI agents to browse, compare, purchase and manage goods on their behalf. To meet these expectations, we launched Visa Intelligent Commerce, an agentic AI solution that enables people to

shop and pay using an AI assistant. By 2028, Visa projects that 25% of digital storefront interactions will be initiated by AI agents, raising a critical question: how do we ensure these transactions are secure, seamless, and trusted?

While AI is transforming payments, it is also being used by criminals to carry out faster and more sophisticated attacks. From phishing to realistic deepfakes, cybercriminals across Europe are exploiting AI to target vulnerabilities. Yet AI is also one of our most powerful defenses. Visa uses advanced AI models to help detect and prevent fraud before it happens, helping protect consumers, businesses and the wider ecosystem.

Visa conducted the first ever e-commerce transaction, and in the last 25 years, we have processed 3.3 trillion transactions. We are now extending the same secure infrastructure, standards and capabilities from physical and digital commerce to AI commerce - giving consumers new ways to buy with the same trusted way to pay. This global scale underpins Visa's work in markets such as Cyprus, where we collaborate with banks, fintechs and merchants to support secure digital payments, enable cross-border commerce and help local businesses participate in the digital economy.

Central banks globally are exploring CBDCs alongside other technical innovations to respond to increasing digitalisation. Retail CBDCs can coexist with privately managed digital currencies such as card payments, credit transfers and crypto. We remain committed to offering consumers and businesses in Europe access to innovative, easy, reliable and secure digital payments, leveraging our global expertise and data analytics.

Europe has the ambition to remain a world leader in innovation, and success will depend on investment in technology and frameworks that enable competition and choice. The coexistence of global payment solutions alongside regional alternatives enhances stability, while competition drives innovation and improves consumer choice.