Thede Consulting
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Payments are in change: Where is the journey heading?

A whitepaper from
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Executive Summary

The Payments industry is undergoing profound change. While cash is slowly but surely losing its dominant role, innovations such as the digital Euro and embedded finance offerings, and European initiatives like Wero, have the potential to fundamentally reshape the market. This challenges the established business models of Payments providers but also offers opportunities to those who proactively engage in these developments.

As if that isn't exciting enough, a comprehensive regulatory package will roll out across the financial system in the coming two years. PSD3/PSR and DORA will significantly reshape operations within the Payments and banking sectors. Additionally, FIDA is under discussion, though whether this regulation will be implemented, and in what form, remains unclear.

Adapting to the new requirements and reporting obligations may be exhausting - but even here lie tremendous opportunities. Data will become significantly more accessible to all actors. And combined with the broader adoption of Artificial Intelligence (AI), customers will soon be able to expect more personalised and precise offerings than before.

Of course, it is far from certain that all of this will unfold as anticipated and that every hope will be realised. But now is exactly the right time to prepare for a wide range of possible future scenarios. This whitepaper explores five such scenarios and provides detailed strategic recommendations for the industry.

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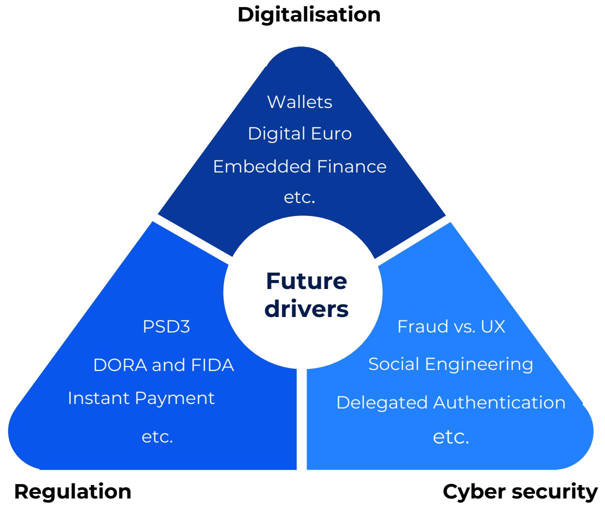
We live in a complex world shaped by ambiguity and uncertainty. To boil down this multitude of challenges into a concise formula, business thought leaders have coined the term VUCA: „Volatility, Uncertainty, Complexity, Ambiguity." This four-part concept was meant to describe the chaotic nature of the modern era, but it also perfectly applies to the reality in many business sectors.

Due to rapid technological progress, the world is **volatile**. Swift developments are difficult to predict—hence, **uncertain**. The global interconnection of countries, companies, and other actors adds increased **complexity**. All of this is overlaid by an **ambiguity** about whether a decision or trend is good or bad. This is often difficult to judge at first glance - especially given the global information overload and the uncertainty about which of these sources are trustworthy.

Anyone professionally involved in Payments will recognise their own working reality in this description. Technological disruption is currently „the name of the game"- even though no one really knows where it's all heading. Complexity is inherent to the industry, as anyone who has ever seen an infographic illustrating the path of a simple credit card transaction through the Payments jungle can confirm. The drivers—digitalisation, regulation, and cyber security—further increase the complexity of the Payments landscape and amplify the uncertainty surrounding its near future.



Regulation
New laws and guidelines are intended to help ensure the security, innovation, transparency, and fairness of the industry

Digitalisation
Technological progress increases customer demands and enables efficiency gains

Cyber security
Attacks increasingly target complex vulnerabilities such as API gaps, malware, and man-in-the-middle attacks, as well as human weaknesses through phishing and social engineering

Current developments in Payments: Digitalization, regulation & cyber security as dynamic drivers of the payment industry

This whitepaper is intended to provide more clarity on the direction in which Payments will develop, and how companies can best prepare for events and developments.

Which trends will prevail? Is there even a single driver that will ultimately gain the upper hand? We will answer this question at the end with a series of conceivable scenarios for the Payments world of tomorrow and beyond.

If you want to master the VUCA world, you have to understand it. This is exactly what this whitepaper intends to help with.

What Influences the Payments Industry?

An incredible 1,411.3 billion transactions were conducted worldwide in the area of cashless payments in 2023 alone[1]. And the trend is rising. Equally impressive is the number of debit cards issued in Germany alone, which stood at around 155 million in the first half of 2024[2].

Payments are the backbone of commerce and thus a key economic factor—an industry that has undergone massive change over the past two decades. The following are currently the most relevant developments.

The Digitalisation Continues

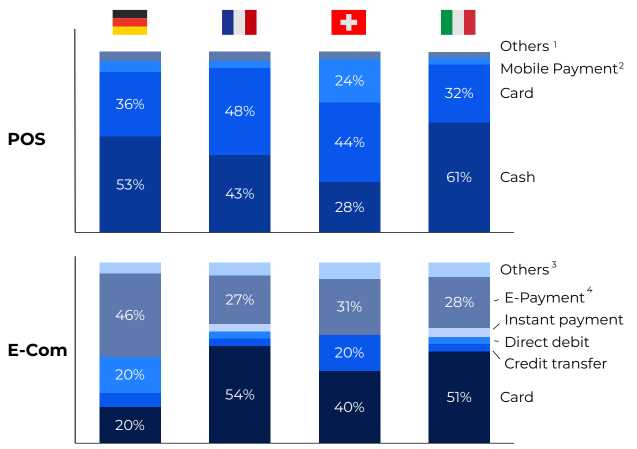
Ongoing digitalisation continues to shape our lives and society. It is profoundly influencing the world of banking and is changing customer expectations. In a recent study, nearly a quarter of respondents stated that they prefer to use online or mobile banking instead of visiting a physical branch[3].

This naturally also affects the way we pay. The scale of this development becomes clear when comparing the different payment methods at the point of sale and in e-commerce. The use of cash—bills and coins—is steadily declining. According to a study by the Bundesbank[4], the share of cash payments in all transactions fell to just 51 percent. While that is still a high proportion in a European comparison, it was 58 percent in 2021. Looking at total turnover, debit cards have already overtaken cash.

Digitalisation not only makes payments more convenient, faster, and more comfortable, it also opens up opportunities to offer more customer-centric payments solutions through the use of AI. Thanks to digitalisation and AI, banks benefit from increased efficiency as well as new options for engaging with customers. AI can analyse transaction data in real time, detect suspicious patterns, and prevent fraud.

[1] https://de.statista.com/statistik/daten/studie/71256/umfrage/anzahl-bargeldloser-transaktionen-weltweit/
[2] Deutsche Bundesbank

[3] https://www.e-commerce-magazin.de/digitales-banking-ein-viertel-der-kunden-will-auf-bankfilialen-verzichten-a-84f3a2dc08a4763e5ae2c7f973627be7/
[4] Zahlungsverhalten in Deutschland 2023; Deutsche Bundesbank



Source: ECB 2024, Swiss Payment Monitor
1. Payment via loyalty programs, vouchers, crypto and other
2. Contactless payment with cell phone via wallet, mobile payment app
3. Payment by cheque, loyalty programs, vouchers and more
4. Payment via PayPal, Klarna, iDeal and other

Comparison of payment methods: Payment behaviour in Europe

AI can also relieve Payment service providers from reporting obligations by automating them. Finally, the clever use of algorithms can enhance the customer experience, for example by analysing customer preferences and suggesting the preferred payment method during checkout.

Digitalisation doesn't only change customer behavior and accelerate processes, it also paves the way for new business models and payment innovations, many of which would have been unthinkable just ten years ago. Only through ongoing digitalisation, the creation of APIs, the development of cloud computing, and the success of mobile devices in everyday life have the necessary foundations been established.

The EPI initiative, for example, aims to establish a new payment method for everyday use and strengthen Europe's sovereignty in the Payments space. Another example of a development driven by digitalisation is "embedded finance." The impact of this business model is still only faintly visible. However, innovative service providers could use it to shake up the Payments market and wrestle market share from established players through smartly structured partnerships.

The Digital Euro Becomes Reality

In 2019, Meta - the parent company of Facebook - announced its intention to launch its own digital currency under the name "Libra." Due to the sheer size of the network, this announcement caused a major stir.

The reactions from central banks in the U.S. and Europe were harsh. From their perspective, "Libra" (which was later renamed "Diem") posed a threat to the stability of the monetary system. The central banks' response came in two parts:

1. **The definition of a regulatory framework**

2. **Plans and projects to create CBDCs (Central Bank Digital Currencies)**

The success of the cryptocurrency Bitcoin further fueled the discussion around CBDCs. Monetary authorities also saw their influence waning with the rise of crypto assets.

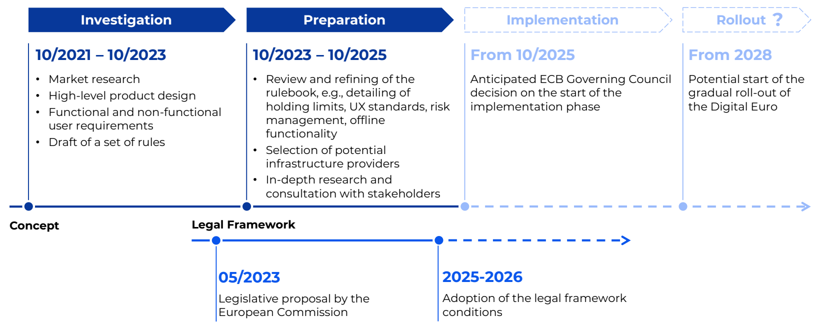
In 2023, the European Central Bank (ECB) began preparing the introduction of the digital Euro. A two-year investigation phase has now been completed, and work is beginning on the infrastructure and platforms needed. In the current phase, the ECB wants to test whether the digital Euro is actually feasible and useful. The Governing Council of the central banks will decide on the issue of the digital Euro once the legislative framework has been adopted.

The ECB positions the digital Euro as legal tender. It is not intended to replace cash, but rather to complement it. In principle, all citizens of Europe should be able to use the digital Euro.

However, as legal tender, merchants will be required to accept the digital Euro. This is a key distinction from other payment methods such as credit cards. For payment service providers, the designation as legal tender will likewise result in an obligation to offer the digital Euro.

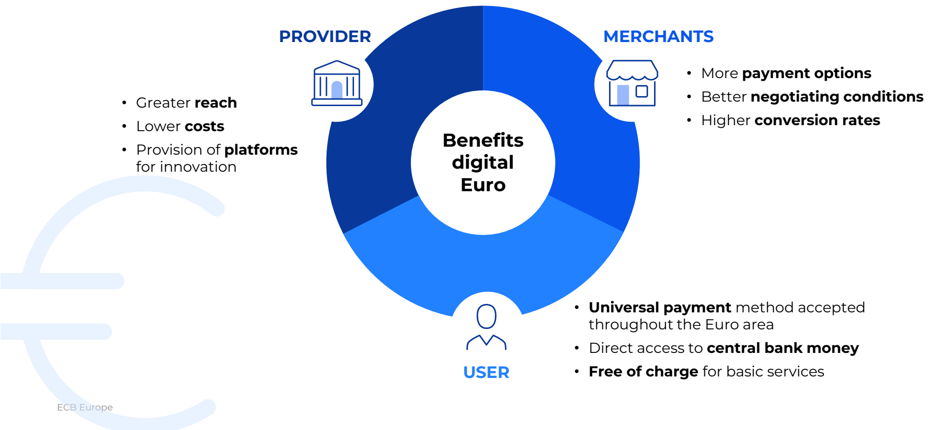
But, as always with new payment methods, they must offer users a clear benefit in order to be adopted—acceptance alone is not enough. The key to success will therefore lie in the user experience that the ECB and its partners will develop.

However, the interplay of all involved still harbours considerable conflict potential before the actual launch. Payments with the digital Euro require more stakeholders than the traditional four-party credit card model. The digital Euro is more of a six-party model—or even up to eight parties, depending on how they are counted. New players will enter the scene, such as wallet providers (e.g., PayPal, Apple, Google), who will manage the customer interface. Issuer banks, meanwhile, will take on a new role: providing customers with the digital currency—essentially acting as digital ATMs. The ECB will step in as the central system provider (scheme).



Digital Euro: Implementation could begin as early as 2025/2026 – banks must act now!

This fundamentally alters the business models of banks and acquirers. Unlike Visa and Mastercard, the ECB does not plan to charge scheme fees to either banks or acquirers. For providing acceptance infrastructure, acquirers will receive a so-called Merchant Service Charge per transaction from merchants. The biggest difference to Visa and Mastercard: the Merchant Service Charge will be capped by regulation.

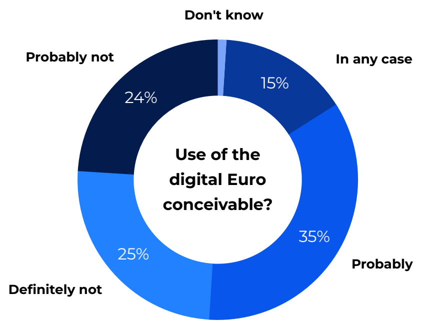


Digital Euro: Advantages of the digital Euro compared to existing payment methods (According to the ECB)

Similar to the interchange fee, banks will receive a so-called Inter-PSP Fee per transaction as compensation for providing services related to the digital Euro—this fee, too, will be regulated by the ECB and paid by the acquirer. The ECB has already published initial approaches for determining the level of both fees, though no specific figures have been disclosed yet.

There is still much to clarify before the digital Euro can be introduced. According to a study by the Bundesbank, however, customers already appear ready to accept the digital Euro today.

In contrast, German banks are more sceptical toward the digital Euro. They question its usefulness and level of acceptance, likely because they see a well-established business model potentially slipping away.



According to the Bundesbank, half of respondents in Germany can imagine using the digital Euro as an additional payment option

2024, Bundesbank survey: https://www.bundesbank.de/de/presse/pressenotizen/bundesbank-umfrage-digitaler-euro-findet-als-bezahl-option-breite-akzeptanz-in-der-bevoelkerung-933320

Digital Euro: The digital Euro is meeting with growing acceptance among the population as a payment option

"We need a broad public debate on the benefits and design of a digital Euro"	"Widespread use of the digital Euro for payment is unlikely as it does not offer any new services (...)"	"In its plans to introduce a digital Euro, the ECB - without question - assumes that citizens actually want it"	"We are committed to a digital Euro that offers consumers and companies recognizable added value"
Karolin Schriever – Executive member of the Management Board	**Heike Mai** – Deutsche Bank Research	**Dr. Jörg Krämer** – Commerzbank Economic Research	**Tanja Müller-Ziegler** – Board member of the BVR

Digital Euro - opinion of the banks: German banks are still skeptical about the digital Euro - benefits and acceptance are being questioned

Wero / EPI – A Private Sector Initiative

Wero is another project that is causing waves both within and beyond the industry, similar to the digital Euro. Behind it stands the European Payments Initiative (EPI), which includes 14 banks and 2 payment service providers from across Europe. In Germany, participants include the savings banks (Sparkassen), cooperative banks (Volks- und Raiffeisenbanken), Deutsche Bank, and Postbank.

The general press was quick to label Wero as merely a European alternative to PayPal. In other European countries, similar projects have already proven successful. The prime example is Swish in Sweden, which is used by three-quarters of the population and accepted in most stores. Other successful examples include Twint in Switzerland and MobilePay in Denmark.

However, when the first usable version of the Wero app was presented in 2024, it faced considerable criticism due to its limited functionality[5]. As with the digital Euro, convenience will be critical to success. Only if the user experience is seamless will people use Wero at scale. Broad acceptance in the retail sector will also be essential.

But that will not be easy. A key difference from the digital Euro is that Wero is a purely private sector project. The ECB is not involved and therefore cannot enforce Wero as legal tender. Thus, it will be entirely up to merchants whether they want to accept it.

Customers, too, are not yet convinced on a broad scale. In an October 2024 survey by Verivox[6], 88% of participants stated they had never heard of Wero, and 61% did not believe Wero or any similar system could compete with established U.S. providers like PayPal.

Because Wero is being developed by actors other than public institutions, it lacks the direct protection and regulatory endorsement of the ECB. Wero is not legal tender, so merchants are under no obligation to accept it. However, it does have one major advantage over the digital Euro: it already exists and is available to consumers today.

Wero shares one key hope with the digital Euro: the idea of strengthening Europe's independence from U.S. corporations. A payment/acceptance function for retailers is planned for 2025.

[5] e.g.: https://retail-news.de/kommentar-wero-bezahlen-kritik/
[6] "Wero: Only One in Eight Know Europe's New Payment Service"

Embedded Finance Is Gaining Traction Across Sectors

Embedded Finance is a development that has been unfolding for some time now. The core idea: Payments, banking, and insurance become "invisible." The corresponding functions are seamlessly integrated into the products and platforms of non-financial service providers.

This means customers no longer need to leave those platforms to complete a transaction.

Real-world examples that are already working include:

- **A loan for furniture offered directly by the retailer**
- **Car insurance purchased at the car dealership**
- **Instalment payments or credit cards offered by technology and retail companies**
- **Merchant financing offered via online marketplaces**

These offerings are often backed by fintechs that partner with the platform providers. The appearance of an invisible financial service is made possible by fully digitised application and process workflows. The PSD2 directive played a key role in enabling access to customer accounts at traditional banks. And regulation is entering the next stage—with the PSD3 directive expected to follow no later than 2027.

Also in discussion is the Financial Data Access (FIDA) Regulation, which would require financial service providers to make customer data available via standardised APIs. For embedded finance providers, such data sets could be a goldmine. Of course, any bank could also position itself as an embedded finance provider—if it were to allow access to its services and offerings via APIs.

FIDA is currently on the EU Commission's agenda, though only with conditional status. Whether and when the regulation will actually be implemented remains unclear for now.

Cyber Security Caught Between Protection and User Experience

On the dark side of digitalisation lie the risks of cybercrime and money laundering – for banks, payment service providers, and customers alike.

The European Union is paying increased attention to cyber security. Its focus is on building a resilient structure for the financial system. The current drafts of the Payment Services Directive 3 (PSD3) aim to hold banks and payment service providers more accountable in the event of cyberattacks. (More on this in the next section on regulation.)

In the future, merchants, banks, and payment providers must not only ensure the security of their own infrastructures but also protect their customers from all forms of fraud risk.

Customers remain the biggest vulnerability in the system. Techniques like social engineering and spoofing are used to manipulate users into revealing sensitive credit card or account information. This problem is further exacerbated by the growing use of Artificial Intelligence (AI). With AI, cyberattacks can be industrialised and scaled. Constant AI advancements lead to increasingly convincing phishing attempts—for example, through fake emails or text messages.

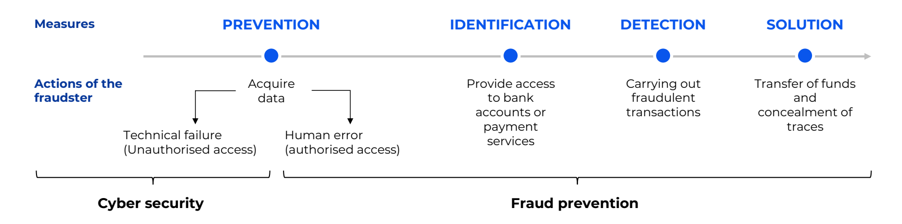
Beyond the standard cyber security and fraud prevention measures—such as security awareness training for staff, regular updates and penetration testing of all hardware and software components—banks and payment providers should implement an holistic approach to cyber security and fraud defense, consisting of four phases:

1. **Prevention:** Use of advanced security infrastructure such as firewalls, encryption protocols, and intrusion detection systems, to minimise technical failures.

2. **Identification:** Detecting potential vulnerabilities and areas where fraud may occur. This includes regular audits, anomaly detection, and flagging risky transactions or users.

3. **Detection:** Rapid identification of fraud when it occurs or is in progress, using monitoring tools, behavioural analytics, fraud detection systems, or real-time alerts.

4. **Resolution:** Once a fraud attempt is identified, immediate action must be taken to reverse it and contain any damage.



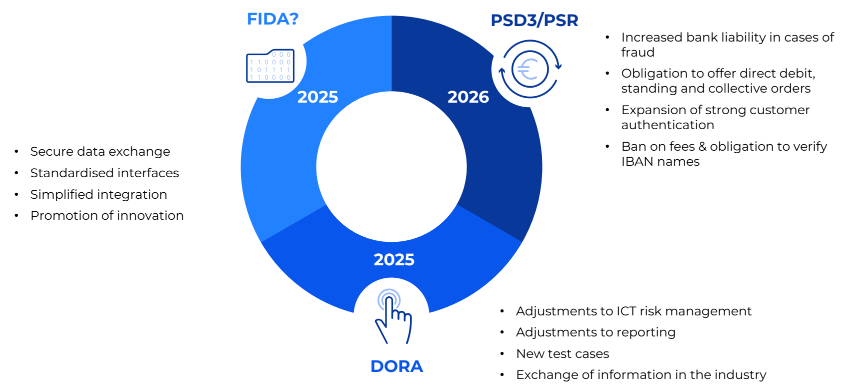
A holistic approach to cyber security and fraud prevention is necessary

Implementing cyber security and fraud prevention in payments is complex and requires addressing both technical and regulatory aspects. Detailed gap analyses for technical and compliance requirements are essential steps toward an effective cyber security strategy.

Innovative solutions such as risk-based authentication and fraud scoring engines are vital to minimising fraud risk and managing it effectively. Choosing the right partners and product solutions is an important step in this process. Banks and payment providers must assess their current cyber security posture and determine how they want to position themselves, both strategically and operationally, to remain competitive in the future.

Regulation remains a Long-term Construction Site

Consumers rarely come into contact with dynamic regulations. Changes to legal provisions only become apparent when familiar payment processes change (keyword “strong authentication”). Banks, fintechs and



Regulation: Due to stricter requirements, financial institutions in Europe have to adapt processes and make higher investments

payment service providers will have to implement a number of regulatory requirements in the coming years, which will inevitably have an impact on the entire industry and its processes.

PSD3 and PSR

With the current discussions surrounding the Payment Services Directive 3 (PSD3) and the Payment Services Regulation (PSR), the European Commission is presenting a concrete vision for harmonised and secure payment transactions, as well as fair competition within the European Economic Area.

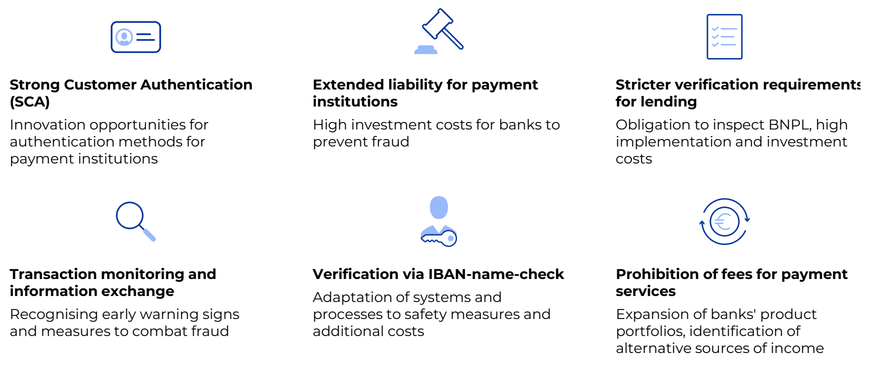
The upcoming PSD3 builds on its predecessor, PSD2. The focus is on strong customer authentication and the transparent organisation of payment transactions. The PSR complements PSD3 and will become directly applicable law in all EU member states. Initial drafts for PSD3 and PSR were published in 2023. Since then, the proposals have been undergoing revisions. The directives and regulations are expected to come into effect in the second half of 2025 or in 2026. Industry stakeholders, such as the German banking association Deutsche Kreditwirtschaft, have criticised this ambitious timeline, calling for a more realistic plan and suggesting 24 to 36 months would be needed for implementation[7]. The division of PSD2 into two parts has also drawn criticism from observers who fear regulatory duplication.

Key topics include:

- **Strong Customer Authentification (SCA):** Requirements will become stricter. Banks and payment service providers must invest in the development and implementation of stronger and more innovative security mechanisms.
- **Expanded liability for payment institutions:** In the future, banks and payment providers will have to prove that a fraudulent transaction was clearly caused by customer error. The burden of proof will shift—bringing new urgency to fraud prevention.
- **Transaction monitoring and fraud data sharing:** A better exchange of fraud-related data between banks and payment providers is intended to support more effective fraud detection and prevention.
- **Ban on surcharges for certain payment services:** PSD2 already introduced a surcharge ban for specific payment methods. PSR expands this ban to include transfers, direct debits, and e-money payments.

[7] DK position paper on PSD3 proposals | Verlagsgruppe Knapp - Richardi - Verlag für Absatzwirtschaft

- **Verification of Payee (VoP / IBAN-name check):** The IBAN and the name of the account holder must be verified in order to reduce fraud and increase transaction security.

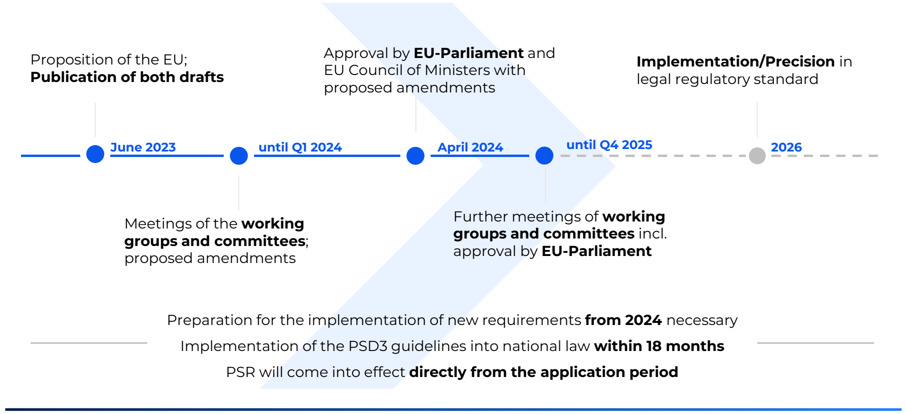


PSD3 / PSR: Key impacts at a glance

The integration of new technologies and collaboration with fintechs opens up new opportunities for banks to offer innovative services. Additionally, improved security measures and innovative offerings can help build customer trust and loyalty.

PSD3 and PSR promote competition and facilitate market entry for new payment service providers. These providers gain the opportunity to develop new technologies and services while strengthening their relationships with partners and customers.

For e-money institutions, PSD3 and PSR mean they will need a license under the Payment Services Supervision Act (ZAG) and will be subject to stricter regulatory requirements.



PSD3 / PSR: PSD3 implementation schedule (2023 - 2026)

At the same time, the burden of fraud-related losses will increasingly shift from customers to banks, posing a serious challenge for fraud management systems.

For end users, PSD3 and PSR offer:

- Enhanced security through improved authentication processes
- Increased transparency around fees and costs
- Better decision-making when choosing banks and payment providers

PSD2 already banned surcharges for specific payment methods. PSR extends this ban to further services such as transfers, direct debits, and e-money payments.

DORA:

Digital Operational Resilience Act

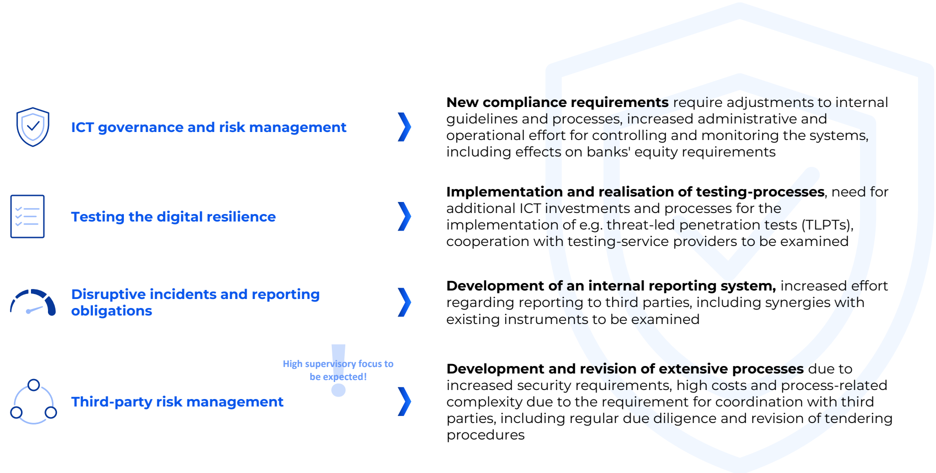
With the Digital Operational Resilience Act (DORA), the European Union has created a regulation for the financial sector addressing cyber security, ICT risks, and digital operational resilience. DORA has been in use since January 17, 2025.

The regulation's goal is to strengthen IT security in the areas of crisis management, business continuity, and ICT protection. The consequences for payment service providers include:

- **Establishing an appropriate governance framework to ensure compliance**
- **Setting up an early warning system to trigger timely action in the event of IT attacks**
- **Critical review of contracts related to IT outsourcing**
- **Optimisation of communication and control processes with service providers—especially in situations requiring rapid response**

It also entails investments—such as adjustments to regulatory reporting, the implementation of new systems, and the establishment of required penetration testing processes. Changes in risk management may also affect capital requirements. Furthermore, ICT third-party providers will need to be monitored more closely and comprehensively in the future.

Despite its challenges, DORA also offers advantages, especially for financial service providers operating across borders. National regulatory inconsistencies will be eliminated, and the described cyber security standards will apply EU-wide.



DORA: The impact of DORA at a glance

FIDA:

Financial Data Access Regulation

The Financial Data Access (FIDA) Regulation aims to create a unified Open Finance framework across Europe. However, whether this initiative will be implemented in the near future remains uncertain. In February, rumors circulated that the European Commission might drop the regulation. In the end, FIDA was added to the agenda - though only as "pending," meaning its future remains in question.

This regulation intends to give consumers transparent oversight and control over their financial data. By granting authorised third parties access to this data, FIDA aims to increase the supply of innovative and tailored financial products and services while promoting competition.

FIDA presents significant opportunities for banks, payment service providers, and insurers to strengthen customer relationships by developing personalised services and products. Increased transparency can also help improve fraud management and claims processing.

FIDA may also encourage cooperation between traditional financial institutions and fintechs, enabling strategic partnerships to reach new customer segments.

End users would benefit from:

- Greater transparency
- Simplified financial management
- Personalised financial products, including embedded finance solutions

However, implementing FIDA will be an immense challenge - especially for banks, payment service providers, and insurers. Although the regulation builds on PSD2, it broadens the scope significantly: no longer just delivering access to current accounts, but also to investment portfolios, savings accounts, and other financial data.

Preparation for FIDA includes:

- **Developing scalable and robust APIs for data transmission**
- **Creating a dashboard for consent management, which must be provided to users free of charge**
- **Upgrading legacy IT systems to meet these requirements**
- **Participating in the design of so-called Financial Data Sharing Schemes, through which data exchange will take place**

A key component of these schemes will be the definition of compensation payments, in case third-party providers want to access data.

Despite the complexity, FIDA also presents opportunities: for example, banks could use the insights from the shared data themselves. With the user's consent, they would gain access to data held by other financial institutions, fintechs, or insurers. With these broader datasets, companies could provide even more individualised products.

It would also give a major boost to embedded and open finance models, since companies could integrate payment solutions into their platforms without needing to build the infrastructure themselves.

FIDA could also enhance fraud prevention. If data is available across companies, suspicious transactions could be identified more effectively - especially if paired with the right AI-powered algorithms.

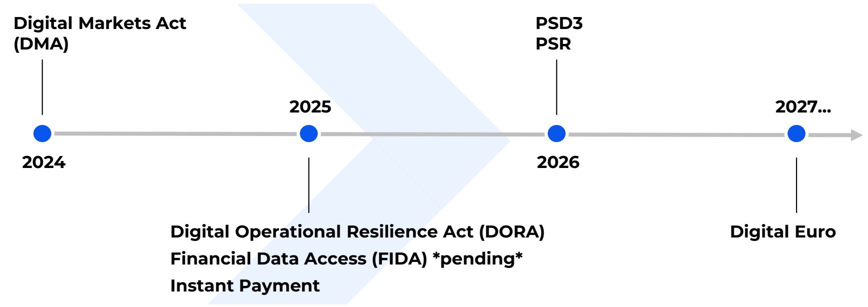
Convergence of Developments

The EU's regulatory initiatives, as well as the efforts around the digital Euro and EPI, are being developed and will need to be implemented in parallel.

DORA has already come into force. PSD3 and PSR are expected to become legally binding around 2026. The digital Euro could (conservatively estimated) appear at scale starting around 2028/2029.

If the EU continues pursuing the matter, FIDA could also be launched sometime in the coming years. All of this will require careful planning and early project initiation, especially by banks and payment service providers, who often have limited resources.

It will also be interesting to see whether supervisory authorities themselves can actually meet the tight regulatory deadlines - particularly for audits and reporting under DORA.



Regulations require timely planning and preparation for implementation

Who Needs to Act Now?

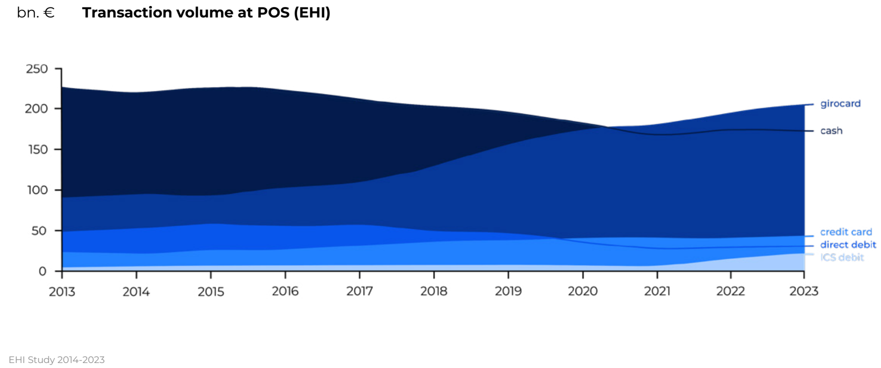
Due to regulatory changes, banks and financial service providers are facing a wide range of areas where action is needed:

- **Forming partnerships with fintechs:** Establish partnerships to expand the range of services offered.
- **Creating alternative revenue streams:** Introduce new services and payment solutions; diversify business models by exploring new markets or forming alliances.
- **Third-party risk management:** Review and update outsourcing policies and contracts; conduct regular due diligence.
- **Advanced authentication:** Implement secure, user-friendly login technologies that meet customer expectations.
- **Fraud detection:** Integrate fraud detection and risk management systems; train staff to identify suspicious transactions.
- **ICT governance:** Analyse and adapt internal policies and processes for continuous risk assessment and management.
- **Technology investments:** Modernise IT infrastructure and develop secure real-time data exchange APIs.
- **Scalable IT infrastructure:** Invest in cloud-based solutions and advanced systems to handle large transaction volumes, e.g., for instant payments.
- **Digital resilience testing:** Conduct annual baseline tests and threat-led penetration tests (TLPTs).
- **Incident management:** Develop internal reporting systems for ICT incidents and synchronize all systems with a reliable reference time.

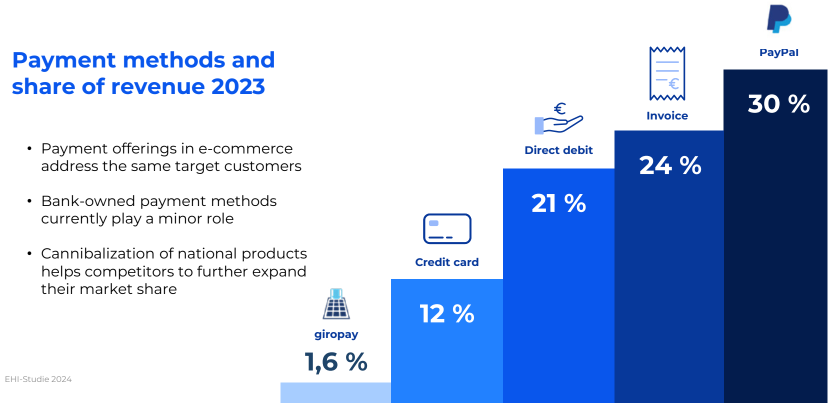
Banks and payment service providers must act now in order to respond in time and remain competitive. This includes analysing current business processes, identifying gaps related to regulatory requirements and evolving customer expectations, and developing new business models—because simply continuing as before will not be enough.

The State of the Payments Industry in Germany

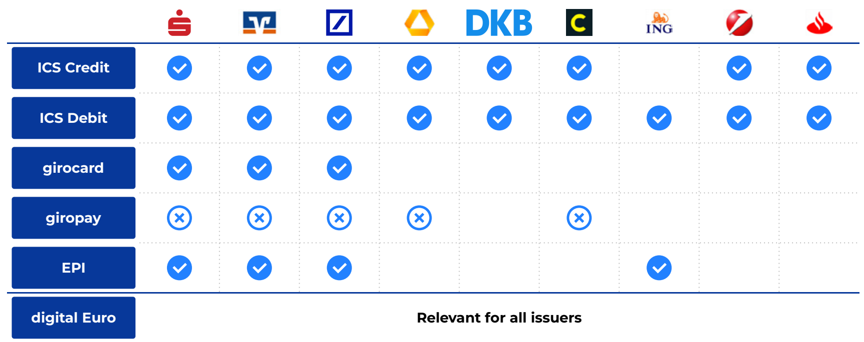
In the previous sections, we outlined the driving factors that we believe are transforming the Payments market. But what is the current state of play?



Current German payment market: Strong growth momentum for cashless payment methods and further decline in cash



Current German payment market: E/M-Commerce payment methods in Germany



Current German payment market: Issuers are currently pursuing heterogeneous, essential product strategies in Payments

Various studies and our own surveys reveal clear trends.

At the point of sale, cash still holds significant value, but it has come under increasing pressure in recent years. This trend is expected to continue. However, an end to cash is not yet in sight.

Card payments are on the rise. This includes debit and credit cards from international card schemes (ICS), as well as the girocard. The girocard, in particular, has shown strong growth in recent years.

In contrast to the media attention they receive, mobile and other digital payment methods still account for a single-digit percentage of payment volume. These include merchant apps and loyalty programs.

In online commerce, e-payment methods dominate the German market.

Notably, PayPal holds a leading position, with 32 million users in Germany.

Other major players in e-commerce revenue include card payments, which—together with e-payment—account for over 70% of total online sales. Bank transfers also remain strong.

These developments are also influenced by the behavior of issuers in the market. Large institutions and banking groups are increasingly relying on debit cards from international schemes. Issuers currently pursue heterogeneous and distinct product strategies in the Payments space.

Scenarios for the Payments world of the future

On the previous pages, we have outlined what we consider to be the key influencing factors for a change in the Payments landscape in Germany. This almost inevitably raises the question what the outcome of this change might be. In our opinion, the following scenarios are conceivable:

Scenario 1: A2A Payments Replace Card Schemes

For any party receiving money, a system like EPI / Wero could seem highly attractive. Just seconds after a transaction is initiated, the amount is securely available. Especially in retail, there may be considerable interest in such a solution.

However, discussions and publications about A2A (account-to-account) payments often leave one key question unanswered: What will convince payers to switch?

As the section on the current Payments market in Germany has shown, people in stationary retail (at the PoS) are used to paying either by card or cash. A2A payments, as of today, require the use of an app. To encourage a shift in consumer behavior, there would likely need to be a clear added value and convenience benefit. Only when operators can articulate such benefits will the real competition begin.

Payment service providers (PSPs) would still be needed in this scenario. Technical implementation and orchestration of the payment processes would remain essential. The banking sector would likely welcome this development, as the bank account would remain the central hub of payments—potentially becoming even more important than it is today. Even the girocard could benefit from such a shift.

However, regulation remains a significant question mark. If a politically imposed ban on monetising such transactions were to be introduced, it would create major challenges. Building the infrastructure for A2A payments requires substantial investment—without a way to recoup those costs, it would be difficult to sustain.

Today's dominant players would likely respond quickly to any shift toward A2A by adjusting their pricing models and launching additional services.

Scenario 2: The Digital Euro Prevails – Who Needs Other Payment Methods?

As previously discussed in the context of the digital Euro, German consumers are open-minded when it comes to a central bank digital currency (CBDC). It is therefore conceivable that a future Payments landscape could revolve around CBDCs. Whether this scenario is realistic or likely depends on two key factors:

1. Technical feasibility: A reliable infrastructure in line with DORA must be developed for the digital Euro. In practice, this means that banks will likely need to establish new treasury management systems. Since the digital Euro must be compatible with other (digital) currencies, standardised APIs will be necessary.

The ECB—and potentially the banks—will accumulate vast amounts of sensitive data, which will also need to be protected. Ultimately, these new systems must be able to process high volumes of transactions in real time and potentially guarantee offline capability for the digital Euro. It's a massive undertaking—both time- and resource-intensive.

2. Customer adoption: The bigger challenge may be convincing users to actually adopt the digital Euro. Although surveys show people are open to the idea, turning that openness into real usage will require much more effort.

Institutions backing the digital Euro must clearly communicate its added value. This includes real-time transactions combined with the anonymity consumers expect from cash. Another important aspect is financial inclusion—digital currencies can enable participation in digital payments even for those without a bank account or smartphone.

Widespread acceptance will also be critical to success. In this regard, the digital Euro is already at an advantage: it is intended to become legal tender, which means acceptance by merchants will be mandatory.

Still, while merchants can be required to accept the digital Euro, consumers cannot be forced to use it. To break habits and move people away from familiar payment methods, the digital Euro must offer a tangible benefit. It also needs to be as seamless as possible—otherwise, people simply won't switch.

This scenario would pose a challenge to international card schemes and PSPs. Their role in processing and managing digital Euro transactions remains unclear. What tasks will the ECB take on? What will remain for PSPs? How are they expected to recoup IT investments?

After all, consumers likely won't pay fees for using basic digital Euro services. Banks will receive a regulated Inter-PSP fee from acquirers, as compensation for offering digital Euro services, but like interchange fees today, the amount will be capped.

And while merchants will be obliged to accept the digital Euro, it's unlikely that lawmakers will impose additional burdens beyond implementation.

Scenario 3: International Card Schemes Push Out Local Initiatives

One possible outcome is that neither of the new initiatives—whether the digital Euro or EPI—achieves significant traction or broad acceptance, and instead the international card schemes (ICS) continue expanding their dominance and push local solutions out of the market.

This would mean that the EU's efforts to establish a meaningful European payment alternative had failed.

For merchants and payment service providers, this scenario would result in a less complex technological environment.

The overall market would be shaped by the innovation power and speed of a few global players. That said, it is unlikely that the ICS would remain the only survivors in such a future. Policymakers, regulators, and merchants all have a vested interest in maintaining diversity in the Payments ecosystem.

Scenario 4: Breakthrough of a Transnational Super App

Whenever the term "super app" appears in media coverage or panel discussions—such as recently, when Elon Musk announced plans to enable payments via X in cooperation with Visa—attention often turns immediately to Asia.

The success of WeChat, which combines messaging, payments, shopping, and even public services in one platform, would not have been possible without strong political backing.

In Europe, several apps have already achieved notable market penetration. Examples include Twint in Switzerland, Swish in Sweden, and Vipps in Norway. Each story is unique, but they all share one key factor: exceptional timing at market launch.

In Twint's case, there were already plans to replicate this success abroad—but so far, these plans have not materialised[8].

Meanwhile, Alipay reportedly paid €200 million to sponsor the European Football Championship (Euro 2024)[9].

So, the real question is not whether such super apps will enter the German market, but when.

A conceivable future for the German payments landscape could see a transnational app gain traction and come to dominate the market.

However, this path would be a long one. Twint's core features, for example, are already covered by existing e-payment solutions like PayPal.

Achieving broad merchant acceptance would require enormous investment.

Moreover, any new app would face massive competition right from the start—namely the wallets from Google and Apple, PayPal, Klarna, and others. This market fragmentation would be a major hurdle for any would-be super app.

Such a breakthrough would only be possible through partnerships with established providers or, at the very least, interoperability with existing services. Only then could a super app achieve the critical mass of users needed to become an all-in-one platform on par with WeChat.

All in all, this scenariowthe breakthrough of a still-unknown transnational app—appears relatively unlikely.

Scenario 5: Business as Usual – Parallel Systems Persist

What if nothing really changes? What if the Payments landscape remains just as diverse as it is today?

The only difference: new players (such as the digital Euro, EPI, and app-based payment methods) enter the market, but only manage to secure niche positions?

This "business as usual" scenario is actually not so far-fetched—especially when we look at the history of Payments. On average, new payment

[8] https://www.nzz.ch/finanzen/twint-im-inland-ein-erfolg-im-ausland-ein-flop-ld.1838239

[9] https://www.watson.de/leben/geld-shopping/298895723-em-2024-china-sponsor-alipay-zahlt-uefa-millionen-was-dahinter-steckt

systems have only lasted about ten years before disappearing again.

The reasons for their failure are often complex: too expensive, too little acceptance from one or more market participants, and/or a lack of marketing resources. And frequently, users don't understand what added value a new system offers compared to existing ones.

Many attempts have also failed because providers started from the wrong end—focusing on the product before ensuring widespread acceptance. But if a product isn't accepted, users simply won't adopt it.

Acceptance often fails at a technical level, for example, because retailers and service providers can't easily integrate the new solution into their existing IT infrastructure. Or they can, but only poorly.

Finally, regulatory hurdles—from GDPR to PSD1 through PSD3—make it hard for new players to succeed. And there seems to be little political will to change that.

So, What Should You Do Now?

Let's return to the starting point of this whitepaper.

The linear presentation of the forces driving change in the world of Payments should not lead to the false assumption that market players can simply follow a step-by-step playbook.

The future—especially in the Payments space—remains unpredictable. All the scenarios we have outlined are entirely plausible. That is precisely the challenge facing all actors—because they will all be affected.

The key for every player - whether bank, payment service provider, or retailer—will be to strategically position themselves so that they can respond adequately to any of the possible developments.

Banks should critically examine the potential impact of each scenario on their business model. Where are the levers to future-proof their current offerings—or even to develop entirely new ones?

If the diversity of the Payments landscape remains intact, these changes will result in numerous projects and developments that must be observed and managed in parallel. Open Finance-capable interfaces will need to be built. Institutions must address the role of AI and continue investing in IT and data security.

Payment service providers, in turn, will need to adapt their business models so they continue to generate revenue, regardless of whether the digital Euro prevails, EPI/Wero gain traction, or things remain as they are. As simple as it sounds, PSPs earn money from transactions but only if they are involved in those transactions and do not offer a fully interchangeable service.

Creating real added value to build customer loyalty will require creativity. Political lobbying will also play a role—especially since frameworks for the digital Euro are being defined now. Those who want to ensure that PSPs maintain a relevant role in the future must act now.

Merchants, too, must take a close look at their Payments strategy. It must be flexible enough to accommodate EPI/Wero and the digital Euro. Those who prepare wisely will gain a competitive advantage. The challenge lies in participating in the value creation of Payments. Regulatory changes may provide opportunities to develop proprietary services and business models.

Do you want to be optimally prepared for every scenario?

Then talk to us! Our experts will work with you to find your ideal path into the future of Payments.

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Thede Consulting

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We are experts in strategy, regulation, and Payments.

As part of the Projective Group, we offer independent consulting and tailor-made services with a focus on Payments, banking, and digital transformation.

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