

EPI: **A new** **opportunity** for Europe to innovate in payments

By Arnaud Crouzet
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After several months of research, 16 banks representing **5 European countries** (Belgium, France, Germany, the Netherlands and Spain) approved the official launch of a new European payment scheme called the **European Payments Initiative** (EPI) on July 2nd 2020.

In this series, we explore the purpose of the initiative and how it plans to achieve its ambitious goals.



Chapter 1.

The principles behind the plan.

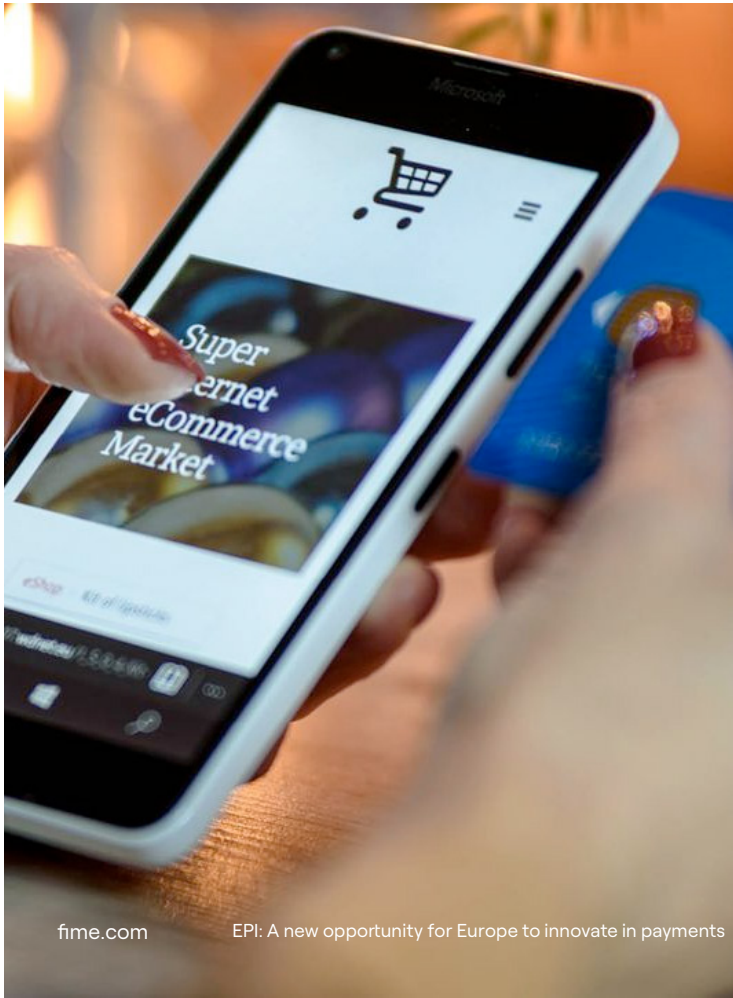


Chapter 1

The principles behind the plan

The aim of EPI is to set up a unified and harmonized pan-European payment solution, offering a digital payment service to the whole of Europe.

Based on Instant Payments (SCTint or IP) and Request-to-Pay (RTP), EPI promises a new vision of payments which supports multiple use cases. This includes card services, digital wallets, cash withdrawal, online payments and person to person (P2P) payment services.



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An ambitious project

EPI marks a real milestone, and finally lays the groundwork for the implementation of a true European payment network. The involvement of the banks at the highest level, the support of the [European Central Bank](#), the first immediate investments – both financially and in terms of human resourcing – all demonstrate a strong desire to move forward and succeed. And that changes everything.

The first phase of the project should begin in October 2020 with the creation of an interim company aiming to define the deliverables (technical specifications, choice of technologies, etc.) and the first implementations of the initiative's interim company. The definitive company, the trade name of which still to be defined, will be created at the end of 2021, after validation of the work objectives by all of its shareholder members. The first transactions are scheduled for early 2022.

What are the benefits for consumers and merchants?

This initiative is a major step forward for consumers and merchants.

While current payments solutions are domestic and limited, EPI will offer a compelling alternative that accelerates innovation and enables European consumers to access new services.

For consumers, the new services promised include immediate “cashless” person-to-person payments via a bank card, without the need to open an account in a specific wallet.

For merchants, EPI will also bring tangible benefits that simplify and harmonize solutions, responding directly to their needs and challenges. It eases the delivery of new innovative customer services and improves the management of omnichannel payments. In parallel, it will simplify and optimize management of electronic payment systems across borders with a competitive and unified payment solution for the whole of Europe.

Based on Instant Payments, merchants will also be able to benefit from immediate payments that take less than 10 seconds to get the funds in their account.





Legacy systems for consideration

Currently, electronic payment solutions must respect the local rules and constraints of the country it is implemented in, as well as the protocols, functionalities and dedicated certifications required. As such, any solution requires unique adaptations before it can be deployed and utilized in a new country. Likewise, for an innovation to be deployed at a European level, there are several other variations and domestic requirements to consider, some of which pose real obstacles to development. To date, no solution has been able to roll out homogeneously across Europe and at best, efforts have only been successful in a few countries.

Fortunately, consumers can continue to use their cards in another country with the payment transaction utilizing international networks. However, offering more streamlined routes and services is becoming an important issue for the control of European transactions.

Taking into account changes in customer relations, new purchasing paths, security compliance with [PCI DSS](#)¹ and new alternative payment methods, merchants find themselves confronted with increasingly complex, costly and difficult to maintain electronic banking environments. For several years, merchants have been calling for the removal of domestic constraints and the true unification of payments across Europe. Implementations towards this mission have already started, based on [nexo standards](#)².

In June 2013, [Auchan announced the first nexo standards pilot in France](#), then in September of the same year in Portugal, demonstrating the feasibility of deploying European solutions. [Carrefour followed in July 2013 in France, and then in October in Spain](#). Likewise, [Total](#)³ also uses these standards for its payment infrastructure. At the end of 2014, Auchan announced the establishment of a nexo-compliant [European platform](#)⁴. Since then, other implementations have been carried out in several countries by merchants ([Subway](#)⁵ etc.), banks ([Crédit Mutuel](#)⁶, [Natixis](#)⁷, [Crédit Agricole](#)⁸, etc.), terminal vendors ([Ingenico](#)⁹, [Verifone](#)¹⁰, [PAX](#)¹¹, etc.) and processors ([Worldline](#)¹², [Fiserv](#)¹³, etc.).

EPI will enable the creation of unified digital payment solutions that can be used in the Eurozone initially and then anywhere in Europe, all under the same conditions. These new offerings will be based on new technologies.

- 1 [Payment Card Industry Data Security Standards](#)
- 2 [Read our blog](#)
- 3 [Interview with Total on nexo](#)
- 4 [Auchan European Platform. Read the \[article\]\(#\) in French](#)
- 5 [Subway deploys nexo across Europe](#)
- 6 [Crédit Mutuel – Euro Information certified with latest nexo Acquirer v6](#)
- 7 [Natixis supports merchants in Europe thanks to nexo standards](#)
- 8 [Crédit Agricole Payment Services achieves latest nexo acquirer protocol certification](#)
- 9 [Ingenico engagement on nexo standards](#)
- 10 [Verifone engagement on nexo standards](#)
- 11 [PAX – Novelpay on nexo standards](#)
- 12 [Worldline on nexo standards](#)
- 13 [Fiserv on nexo standards](#)

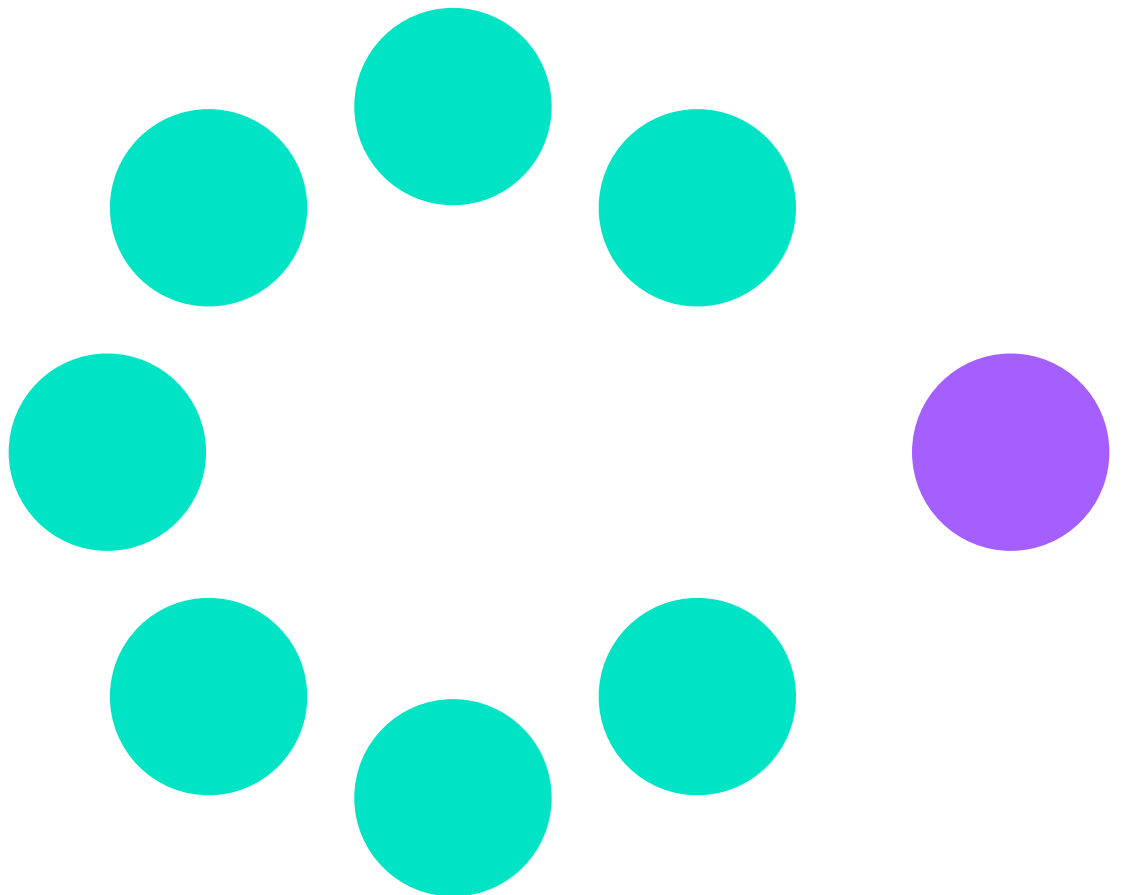


What are the challenges for financial institutions?

In recent years, the emergence of new technologies, standards, and services has often been dictated by private initiatives and Fintechs offering disruptive models. In addition, the fragmentation of the payment systems in Europe favors solutions from major international players, to the detriment of European innovation.

Banks are also suffering from costs and unilateral increases imposed by certain actors, and pressure from the regulator for European sovereignty of payments.

In a context where the payments environment is changing rapidly at the global level, banks have a growing risk of disintermediation with their customers. To combat this, European cooperation is key. It will help maintain a close relationship between banks, merchants, and their end customers, and reposition European payments with strong foundation of Instant Payments.





Chapter 2.

Geopolitical context.



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Geopolitical context.

This is not the first time that Europe has tried to bring about the harmonization of card payment systems.



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EPI makes it possible to respond directly to the challenges presented by European political institutions and national authorities. In a context where geopolitical situations are changing rapidly, controlling financial transactions, strengthening the single market and the European digital strategy, are crucial issues for Europe.

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VP Consulting at Fime



The beginnings of EPI

There have already been several initiatives over the past 15 years. Some examples include:

- The EAPS (Euro Alliance of Payment Schemes) project, which focused on the interconnection of domestic card networks, launched in 2007 and discontinued in 2013 after a limited deployment.
- The non-bank PayFair initiative also launched in 2007 with the aim of implementing a new European payment scheme, based on a new acceptance infrastructure. A few implementations took place in Belgium and the Netherlands in 2008. PayFair was abandoned a few years later, having failed to establish a sufficient ecosystem.
- The Monnet project in 2010 was also very ambitious, with the creation of a new card scheme. But it ultimately did not go much further than preliminary studies, failing to find a viable business model in an uncertain regulatory environment and decrease in interchanges. After a lack of agreement with the European Commission on economic conditions, the 24 member banks decided to stop the project in 2012.

A search for “self-regulation” followed, within the framework of the SCF (Sepa Card Framework), where different actors and networks took it upon themselves to harmonize payments in Europe. However, the harmonization of payments between the different countries is still struggling to materialize, and domestic constraints remain.

There have been some important advances in this area, such as:

There have already been several initiatives over the past 15 years. Some examples include:

- The developments made by the [ECSG](#)¹ (European Cards Stakeholders Group), which has defined functional rules at a European level, and the first publication in 2014 of the “Volume”, initially composed of six collections detailing functional rules at each part of the payment chain. The latest version, [Volume nine](#) – composed of seven collections – was published in [January 2020](#)¹. This integrates all major European regulatory developments and new technologies such as GDPR², the SCA³ of EBA RTS⁴, HCE⁵, EMV^{®*} 3DS⁶ and FIDO⁷.
- Since 2015, nexo standards, which took over the work of EPAS.org, OSCar and CIR WG initiated in 2005, has also specified payment acceptance exchange protocols based on the ISO 20022 standard. Its standards and protocols are becoming increasingly used and deployed in Europe and beyond. nexo standards protocols were validated in accordance with the [ECSG «Volume» in February 2018](#)⁸.
- The creation of a new payment infrastructure, [TIPS](#) (Target Instant Payment Settlement)⁹, in November 2018 by the European Central Bank, allowing payment service providers to offer their customers real-time, 24/7 fund transfers. This represents a significant advancement, meeting the necessary requirements for pan-European interoperability needed to deploy Instant Payments.

1 ECSG announcement of the publication of the Volume 9

2 GDPR - General Data Protection Regulation

3 SCA - Strong Customer Authentication

4 RTS - Regulatory Technical Standards

5 HCE - Host Card Emulation

6 3DS - Three-domain secure

7 FIDO Alliance www.fidoalliance.com

8 Nexo standards becomes first association to be granted ECSG conformance label – [press release](#)

9 TIPS announcement by the European Central Bank



The perfect conditions

The number of electronic transactions continues to increase, with an acceleration following the COVID-19 crisis. Before the crisis, an increase of 7% per year between 2020 and 2025 was forecasted. It was also estimated that 55% of payments would be made by card in 2020, compared with 25% in 2000¹⁰. The crisis has amplified the use of electronic payments over cash. In Germany, for the very first time, the number of card transactions has exceeded [the use of cash](#)¹¹. It is predicted that card transactions will increase by 28% between 2019 and 2025, and that cash use will decrease by 34% - these figures represent a true revolution in consumer behavior for a country that famously favors cash.

EPI makes it possible to respond directly to the challenges presented by European political institutions and national authorities. In a context where geopolitical situations are changing rapidly, controlling financial transactions, strengthening the single market and the European digital strategy, are crucial issues for Europe.

Various European regulations have made it possible to open up the payments market (PSD2) while strengthening consumer protection (SCA¹², GDPR¹³). EPI brings about the unified management of card transactions across Europe, removing the domestic barriers that still exist.

This strategic initiative could be the last chance for Europe to build a unified payment system.

10 Source Kearney – Cashing in on cashless commerce

11 In Germany, card to exceed cash payment

12 SCA – Strong Customer Authentication

13 GDPR – General Data Protection Regulation





Learning from global endeavors

In the international landscape, other projects of this magnitude have been successful. In 2002, China created China UnionPay (CUP) and its international version with Union Pay International (UPI). In 2015 it was Russia's turn, developing its own MIR payment network, managed by the National Payment Card System (NSPK).

In Europe however, it's a bigger challenge. There are strong disparities in domestic payment systems between the different countries, such as:

- National card networks and processing organizations such as Bancomat (Italy), Bancontact-Payconiq (Belgium), Vipps-BankAsept (Norway), Borica-Bcard (Bulgaria), Cartes Bancaires "CB" (France), Nets-Dankort (Denmark), Dutch Payments Association (Netherlands), Pan-Nordic Card Association (Scandinavia), SIBS (Portugal) and STMP (Spain).
- Specific communication protocols such as ABI (Italy), CB2A (France), CTAP (Belgium), ep2 (Luxembourg), Price (Spain) and ZVT (Germany).
- Dedicated applications and certification processes that cater to local constraints.

To make it work, for the next nine months, the support of the various actors and stakeholders will be decisive. This includes the involvement of other European and national banks, the support of public authorities, the consideration of domestic and international networks, and the participation of representatives of consumers and merchants.



Chapter 3.

Technological context.



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Technological context.

The implementation of EPI requires a good understanding of the entire payment ecosystem in Europe. This includes a comprehension of multiple domestic constrictions, as well as the underlying technologies necessary for the operation of such a payment network.



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Having better control of the payment chain, EPI will be able to facilitate omnichannel customer journeys while maintaining a high level of security. This simplifies compliance with PSD2's Strong Customer Authentication (SCA) requirements.

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The technological roadmap

Converging the payment systems of banks, merchants and payment service providers (PSPs) requires wise and sustainable technical choices. These choices will be the subject of evaluation and are already included in EPI's technical and operational roadmap.

The entire payment chain must be considered, from the issuance of the means of payment, to the acquisition of the transaction, including the merchant acceptance network, processing and compensation.

The current domestic cards could be gradually replaced by "EPI" cards, that would no doubt also be co-badged with international networks. A transition phase would have to be taken into account so that any new EPI cards can be accepted by the acceptance networks in place.

EPI-ready technologies

Luckily, the technical solutions that could meet EPI's needs do not necessarily need to be created from scratch. Most of the solutions already exist and are ready to be implemented.

The transactional core of the EPI will be based on **Instant Payments** (SCT Inst), the infrastructure of which is already live and operational.

On the **POS terminal** side, several **open kernels** could be considered:

- **PURE** proposed by Thales BPS.
- **WISE** from the White Label Association (WLA) by Idemia and G+D¹
- **CPACE**, a generic card and mobile kernel created by the [ECPC](#) (European Card Payment Cooperation)

On the acceptance side, nexo standards protocols based on ISO 20022 meet the desired interoperability requirements in Europe. As seen previously, the protocols have been chosen by renowned banks and merchants for the deployment of homogeneous payment solutions to simplify payment acceptance management and reduce costs.

Likewise, for the "acquirer to issuer" component, [ATICA](#)² appears to be the best solution which allows for a complete payment chain based on ISO 20022.

¹ G+D – Giesecke+Devrient

² ATICA – ISO TC 68 / SC 9 / TG 1 more details [here](#)



Boosting innovation with new technologies

EPI should also choose its tokenization solution, especially for the mobile wallet service and integration into XPay, and potentially also in the context of Request-to-Pay and for [PAN](#)³ - IBAN⁴ conversions.

For the management of strong authentication via **EMV®* 3DS**, EPI could set up a dedicated Directory Server. Having better control of the payment chain, EPI will be able to facilitate omnichannel customer journeys while maintaining a high level of security. This simplifies compliance with PSD2's Strong Customer Authentication (SCA) requirements.

Additionally, biometric technologies have evolved significantly in recent years and could become an element increasingly used for authentication to prevent fraud while limiting disruption of the payment experience. Depending on the use case, several types of biometrics are possible, including:

- **Physiological biometrics**, linked to characteristics of the person such as fingerprint, palm, face, iris and voice.
- **Behavioral biometrics**, linked to dynamic behavioral characteristics, such as the way someone moves, gestures and types on the keyboard.

Current advances make it possible to couple biometrics with artificial intelligence to ensure security while keeping the payment experience simple, intuitive and seamless.

EPI will need to maintain a consistent environment across all the solutions deployed for the various participating players and processors. It is therefore necessary to set up a dedicated certification body to outline rules, definitions, test plans, specific test tools and a dedicated organization for obtaining certification.

Benefiting from evolving technologies, EPI could rely on modern, scalable test solutions and "machine-readable" scripts to facilitate the deployment of innovative payment solutions.

3 PAN - Primary Account Number - Number identifying a payment card. For more details, refer to payment training in English, and the innovative full digital "[serious game](#)" EMV training ([introduction video](#))

4 IBAN - International Bank Account Number





Paving the way for digitalization in Europe

Several factors come together to make the ambitious project of EPI a success politically, economically and technologically.

Supported by several national and European organizations, including the [European Commission](#)⁵, EPI is fully aligned with Europe's management roadmap for digital payments.

The next nine months will be fundamental in ensuring that this European initiative succeeds.

*EMV® is a registered trademark in the U.S. and other countries and an unregistered trademark elsewhere. The EMV trademark is owned by EMVCo, LLC.

5 The European Commission welcomes the initiative to launch a European payments initiative (EPI)



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