

The Nexus of PSD3/PSR and eIDAS: A Vision for Digital Identity-Driven Payments

Executive Summary

The European digital payments landscape, which has been the frontrunner of innovation, is poised for another opportunity, driven by the convergence of **PSD3/PSR** and **eIDAS**. PSD2 has long allowed for secure and sophisticated SCA experiences anchored on redirection and decoupled models. And now, the EUDIW presents a new strategic opportunity to evolve the payment authentication experience, delivering smoothness, elevated security, and economic value. It also aligns with the objectives of the PSD3/PSR, which aims to significantly enhance consumer protection and foster robust competition within the digital financial ecosystem.

Potential of EUDIW in Payments

While initial discussions of the payment use cases of the EUDIW have centered on SCA, EUDI Wallet's potential goes visibly beyond payment authentication. As well as allowing the user to authenticate a fully formed payment instruction, the EUDIW also provides the ability for the user to select their payment means to enable more streamlined digital commerce journeys and enhance user privacy.

Allowing the user to select their payment means within their EUDIW opens the door to innovative payment experiences which would bring innovation and value-added functionalities to users. By leveraging verified identity data stored in the EUDIW can allow creation of streamlined payment and verification experiences. Instead of separate steps, a single user journey could involve a purpose-specific verification—such as age confirmation or proof of identity—that occurs concurrently with the payment initiation. The EUDIW's potential creates a simplified commerce experience that works consistently across online and offline channels, minimising the fragmentation that has historically challenged European payments.

Evolution of SCA

PSD2 paved the way for PSPs to design and deliver sophisticated SCA experiences who predominantly utilized **redirection SCA** and **decoupled SCA**. By requiring recognition of SCA enabled by EUDIW, the EU's regulatory framework makes **embedded SCA** possible. The inherent security of digital identity, backed by the eIDAS trust framework, offers a robust foundation for this evolution. We anticipate this shift will drive substantial economic value by streamlining checkout processes, reducing false declines, and minimizing customer churn for both online and offline transactions. The forthcoming PSD3/PSR, with its focus on modernizing the EU's retail payment framework and strengthening harmonization, will further solidify the regulatory environment for this innovative approach, addressing both the authorization, licensing, and operational rules for payment institutions.

The practical implementation of embedded SCA optimises user experience while maintaining security. Users will be given the optionality to select their preferred payment method from their EUDIW and thereby will have greater control over the payment experience. This approach will also allow to mitigate transaction failures.

eIDAS Enabled Authorisation

At its core, authorizing a payment through the EUDIW is akin to forming a two-way commitment between the user and the merchant with an instruction to the PSP to release the necessary funds to the merchant. The instruction needs to be clear, irrevocable and supported by a robust proof package so that the account servicing PSP (i.e.

the PSP of the EUDIW user) may fully rely on it when releasing the funds. The eIDAS Regulation serves as the overarching trust framework that enables this end-to-end process, ensuring the integrity and non-repudiation of the authorization. Each step in the payment SCA procedure, from the merchant's payment request to the user's approval and the subsequent confirmations, should be cryptographically verifiable by all parties, creating an auditable trail of "who did what when." This legal certainty, mirroring that of a physically signed contract, is paramount for achieving payment finality and fostering widespread trust in digital transactions.

Roles and Responsibilities in the EUDIW Payment Ecosystem

- **The Pivotal Role of PID Issuers:** Providers of Person Identification Data (PID) play a critical role in the integrity and functionality of eIDAS-based SCA by securing the issuance by PSPs of dedicated payment means credentials stored in the EUDIW. Any compromise or impersonation during the PID issuance process poses a fundamental threat that could jeopardize the entire set of eIDAS use cases. The integrity of this initial identity proofing by PID providers represents the critical root of trust for the entire digital identity ecosystem.
- **Certification for Wallets:** EUDI Wallets, whether operated by Member States or authorized third parties, serve as an interface for users to manage their digital identity and to perform SCA. Given their pivotal role in handling sensitive information, EUDIWs need to be subject to strict and robust certification requirements which are essential to guaranteeing the wallet's security, its seamless interoperability across the EU, and its unwavering compliance with the high standards set by the eIDAS framework. For widespread trust, adoption, and to foster a level playing field, these certification requirements must be made transparent and publicly available.
- **PSPs as issuers of dedicated payment means credentials:** Using EUDIWs for payments implies that PSPs recognise the EUDIW user and their selected payment means. This is done by having them issue dedicated payment means credentials that are stored in EUDIWs and attached to payment instructions whenever needed.
- **Merchants' Role:** While they indirectly rely on SCA as it is needed for payments to be implemented, merchants do not assume a legal role in performing SCA, and this principle remains unchanged for embedded SCA. Their primary function is to request the user authorise a payment and act as receiver of the SCA proof directly from the EUDIW, which it forwards to the payer's PSP (potentially via their payment initiation service provider). For merchants, successful implementation also requires careful consideration of backend integration requirements such as payment method selection.

Strategic Implications and Benefits of eIDAS-based Embedded SCA

- **Enhanced Security and Fraud Prevention:** The model inherently benefits from the robust legal and technical framework of eIDAS, particularly through the use of quality eIDAS electronic signatures (Advanced or Qualified Electronic Signatures), combined with robust wallet certification procedures. This strong cryptographic foundation ensures payment authorizations achieve the same levels of security and non-repudiation as a digitally signed, legally binding contract. The EUDIW's design incorporates advanced fraud prevention mechanisms, such as mandatory mutual authentication between the wallet and relying parties, end-to-end encryption of sensitive data, and the ability to include payee e-attested attributes enabling automated verification of payee by providing a demonstrably superior level of assurance, the EUDIW offers a powerful tool in Europe's fight against financial crime, leading to a reduction in fraud-related losses and operational costs for businesses.
- **Friction Reduction:** The integration of payment capabilities within EUDIW represents a transformative step in digital commerce efficiency. By enabling embedded SCA with seamless payment means selection, the EUDIW significantly reduces friction within checkout processes across both online and offline channels. This streamlined experience minimizes steps, context switching, and potential points of abandonment, directly translating to higher conversion rates through reduced false declines and customer churn. For first-time customers, EUDIW enables immediate account creation and payment completion in a single flow - from the merchant preparing a request for payment, to the user selecting their payment means (which optimises user control over personal data sharing) before authorising the payment. The wallet securely stores payment preferences, enabling a streamlined checkout experience while maintaining full SCA compliance. EUDIW is also an opportunity to bring a greater choice of payment options. The framework's comprehensive support for all payment means and methods, including efficient instant payments and account-to-account transfers, combined with the reduced friction, has the potential to accelerate the adoption and growth of these modern payment rails across the EU.
- **Greater Inclusivity and New Use Cases:** The EUDIW has the transformative potential to enable entirely new digital experiences and foster broader digital participation. This includes scenarios where users perform SCA on "e-mandates", allowing merchants to initiate card and account-to-account (variable recurring payments or direct debits) transactions against the user's account, following, for example, a tap of the user's merchant loyalty card at the POS or to facilitate new AI driven automated payment scenarios. Furthermore, embedded SCA uniquely enables the combination of payments with additional identity or eligibility/status requests and document signing within a single, seamless flow. For instance, a user could simultaneously provide proof of age when purchasing heavily regulated goods (like alcohol) or confirm residency eligibility allowing preferential payment terms and/or the ability to sign terms and conditions while completing a payment, opening up net new use cases with proper SCA compliance. Crucially, the EUDIW's inherent support for both online and **offline (proximity) interactions**, including scenarios where both the wallet and POS terminal are offline, ensures payment authorizations can proceed even in environments with limited or no internet connectivity. This robust offline functionality is a key building block for future digital euro offline use cases, replicating the resilience of physical cash and ensuring secure and accessible payments for a wider segment of the population.

Technical and Regulatory Framework for Payment Initiation

The current eIDAS framework provides a foundation for authentication services, but expanding EUDIW's functionality to support Embedded SCA would require additional regulatory considerations. Existing regulatory PSD2 APIs would need to be enhanced to support a signed payment request (with the SCA proof package attached). Enhancements to existing recurring payment APIs may also be required to facilitate the transmission of E-Mandates signed using the EUDI wallet. This approach ensures robust support for Embedded SCA, offering merchants greater choice in payment alternatives while delivering a streamlined customer experience. To enable these capabilities at scale, regulatory frameworks should evolve to explicitly support payment authorisation via EUDIW and ensure consistent implementation across the EU.

Conclusion

The confluence of PSD3/PSR and eIDAS, anchored by the EUDIW, heralds a new era for digital payments that has the potential to increase competition and combat fraud as well as offer new service opportunities to merchants. For successful implementation, attention must be paid to key technical requirements: support for explicit payment means selection, robust recurring payment capabilities, and optimized identity based payment flows that leverage modern technologies. These elements are key to achieving the full potential of EUDIW in real-world payment applications.

Whilst the confluence process is still ongoing and will be further detailed by the forthcoming regulatory technical standards to be issued in relation to the PSD3/PSR, eIDAS enabled Payments provide a pathway to significantly enhance security, drive economic growth through reduced friction, and foster a more inclusive digital economy across the European Union. This framework represents a critical step towards a harmonized, secure, and user-centric future for all digital financial transactions.