

THE EVOLUTION OF EUROPEAN DIGITAL MARKET REGULATIONS: ADVANCING SECURITY AND SUSTAINABILITY THROUGH EIDAS 2.0 AND BEYOND

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Blockchain technology is revolutionizing the global financial landscape, particularly in the realm of cross-border payments. This paper examines how blockchain enhances efficiency, security, and transparency in international transactions, offering a superior alternative to traditional systems. Beginning with an overview of blockchain's foundational mechanisms, including cryptographic hashing, decentralized verification, and consensus protocols such as Proof of Work (PoW) and Proof of Stake (PoS), the study highlights the transformative potential of this technology.

The inefficiencies of conventional cross-border payment systems—such as high fees, delays, and lack of transparency—are juxtaposed with blockchain-driven solutions that lower costs, ensure faster settlements, and provide tamper-proof transaction records. Case studies, including Ripple's XRP Ledger, demonstrate blockchain's practical applications, showcasing its ability to streamline financial interactions while ensuring robust security.

The research also emphasizes blockchain's critical role in Ukraine, where it supports aid distribution and remittance flows during conflict. Blockchain-based systems ensure secure, traceable, and efficient cross-border payments, enhancing financial inclusion for vulnerable populations and providing a lifeline in challenging circumstances.

Concluding with a future outlook, the study envisions blockchain's integration with central bank digital currencies (CBDCs) and further advancements in scalability and interoperability. This transformative technology offers a pathway to a more accessible, inclusive, and transparent global financial ecosystem.