



Techwave established in 2004, is a global end-to-end IT services & solutions company, which develops long-term relationship with clients by leveraging unique delivery models and expert frameworks.

Platform Modernization and Transformation for a Global Digital Payments Leader

About Client

The client is a global digital payments leader. For over six decades, they have facilitated global electronic funds transfers, primarily through credit, debit, and prepaid cards. The client is recognized among the most prominent payment organizations, processing billions of transactions annually with a market capitalization of approximately half a trillion dollars.

Executive Summary

The client faced critical operational challenges due to an inefficient payment processing infrastructure. Their legacy system could not handle real-time transactions, scale to increasing volumes, or support diverse payment use cases on a single platform. This resulted in prolonged onboarding times for clients and partners, extended development cycles for new offerings, and difficulties providing secure access to numerous endpoint payment accounts.

Consequently, the client was at risk of losing market share to more agile competitors and failing to meet evolving customer expectations. They partnered with Techwave to modernize their legacy systems and improve operational efficiency.

Vertical:
FinTech

Region:
Global

Revenue:
~ \$36 Billion

Key Challenges:
Volume and Access Constraints, Technology Gaps, Settlement Delays, Limited Use Case Support

Featured Tech:
Java, Spring Boot, IBM Db2, Apache JMeter, React

Business Challenges

Volume and Access Constraints

The organization was unable to allow direct access to billions of endpoint payment accounts due to the sheer volume of transactions.



Settlement Delays

Transaction settlement times were prolonged due to poor communication mechanisms between the platform and customers.

Technology Gaps

The legacy system lacked modern financial technology capabilities, delaying the product's time-to-market and hindering competitive positioning.



Limited Use Case Support

The platform could not accommodate multiple case portfolios on a unified system, including fund disbursements, peer-to-peer payments, international payments, marketplace payouts, and bill payments.

Techwave's Strategy & Solutions

Techwave executed a **holistic modernization and transformation program** designed to re-architect the client's legacy payment infrastructure into a **real-time, scalable, secure, and compliance-ready financial platform**. The strategy combined deep FinTech domain expertise with advanced engineering practices to ensure zero disruption to ongoing operations while unlocking future-ready capabilities.

System Core Module Optimization

Key transaction and settlement components were redesigned and optimized to improve performance, resilience, and maintainability. This included pre-validation of payment requests, client funds management, data enrichment, intelligent routing, compliance validation, settlement of payments with network partners, treasury management, and analytical reporting.



End-to-End Assessment & Target-State Architecture Blueprinting

Techwave conducted a thorough analysis of the business logic, architecture, and design of the existing legacy platform to identify optimization opportunities.

Accelerated Client and Partner Onboarding

Through streamlined workflows, standardized integration patterns, and API-driven onboarding, Techwave reduced onboarding timelines from weeks to days. This drove **faster revenue realization** and enhanced the partner experience.



Real-Time Transaction Processing Implementation

Manual intervention points were identified and eliminated to ensure real-time payment processing capabilities (T+0), accelerating transaction settlements and improving downstream financial operations.

Payment Data Lake Architecture

A modern architecture for a payment data lake was designed to unify fragmented data assets and enable efficient data processing, analytics, and actionable business insights.



Application Security Remediation

Techwave identified, addressed, and mitigated vulnerabilities within software applications to protect the client's systems against unauthorized access and data breaches.

Regulatory & Compliance Remediation Across Global Markets

Techwave remediated outbound channels and redesigned messaging flows to ensure compliance with evolving regulatory frameworks, including **WTR2**, cross-border standards, and global payment rules. This enabled frictionless operations across the UK, LATAM, the Middle East, and emerging markets.



Robust API Ecosystem for Partner Connectivity

A comprehensive API gateway and developer ecosystem were implemented to support secure, scalable, and low-latency data exchange. This empowered partners and wallets to integrate rapidly and unlocked new revenue-generating payment use cases.

AI-Accelerated Development and SDLC Transformation

The development lifecycle was expedited by leveraging artificial intelligence across all stages of the Software Development Lifecycle (SDLC), improving efficiency and reducing time-to-market.

Business Outcomes

25+ Million Annually/ 2 Million Monthly Transactions Volume Support

The platform now processes approximately 2 million transactions monthly, translating to over 25 million transactions annually.

Expanded Reach into LATAM and the Middle East

The client successfully expanded its market reach into emerging regions, including Latin America and the Middle East.

Successfully Onboarded Multiple Wallet Aggregators

Onboarded multiple wallet aggregators, significantly expanding market reach and enabling broader customer engagement across platforms.

50% Reduction in Transaction and Settlement Times

The organization achieved a 50% reduction in transaction and settlement times by improving customer communication and streamlining processes, resulting in faster, more efficient operations.

94% Regulatory Compliance with UK Data Regulations

Approximately 94% of transactions were successfully remediated to comply with UK data regulations (WTR 2 Wire Transfer Regulations), enabling the client to meet Financial Conduct Authority (FCA) guidelines.

Automated Back-Office Processes for Returns and Rejections

Implemented automation for back-office processes related to returns and rejections, significantly enhancing the reconciliation process and reducing manual effort.

Migration to ISO 20022 Messaging Standards

The migration to ISO 20022 (MT to MX) messaging standards positioned the organization for enhanced operational efficiency and improved interoperability across the global payments ecosystem.

Techwave is your gateway to transformative IT and engineering expertise since 2004. With roots in Houston, Texas, we lead global businesses on digital journeys. Our services include Enterprise Solutions, Product Engineering, RPA, Advanced Analytics, AI/ML, and IoT. With 3,000+ experts across 11 countries, we're committed to innovation.



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