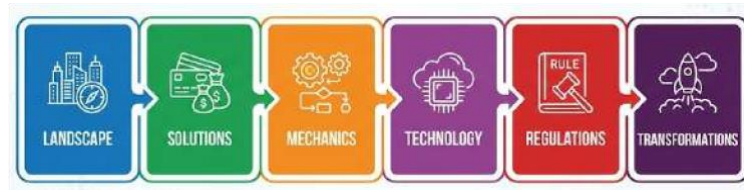


Certificate Course in Global Payment Systems - Advanced



This curriculum follows Stratadigm's design philosophy where every certification covers six (6) knowledge & skill areas most relevant to the domain, in this case the Global Payments area.

The intermediate-level program was primarily focused on the U.S. markets. At this Advanced level, we cross borders and look at the key payment systems in the UK and EU markets, the modalities of cross-border payments, and the role of SWIFT® in facilitating cross-border payments etc. The detailed curriculum of the Advanced-level program is given below.

KA1: Landscape: The Rapidly Changing Scenario - 2 hours

This section analyses the macro-forces and key themes that are reshaping the industry.

1. Global Payment Flows: Size, Structure, and Corridors

- i. Scale of global payments: volumes, values, and growth trends
- ii. Key cross-border corridors: US–Europe, US–Asia, intra-Asia, remittance corridors
- iii. B2B vs. consumer cross-border flows: characteristics and players
- iv. High-value wholesale corridors vs. retail/remittance corridors
- iv. **The focus on Payment Finality**

2. Revenue Landscape

- i. The Past: 5-Year Trend: 2020-2025
 - The Dip (2020),
 - The Surge (2021 to 2023), and
 - The Deceleration (2024 to 2025)
- ii. The Future: 3-Year Future Forecast: 2026 - 2029

3. Payment Sovereignty

- i. What it means?
- ii. Why are countries suddenly embracing it?
 - Geopolitical Risk and Sanctions
 - Data Privacy & Security
 - Cost Considerations
 - Financial Inclusion
- iii. Key Payment Sovereignty Initiatives
 - India's UPI & RuPay and Brazil's PIX
 - EU's EPI and Wero
 - China's CIPS
 - BRICS PAY (will it become a reality?)
 - UK's 'Delivery Co' - the latest to join the bandwagon

- iv. Impact of Payment Sovereignty Initiatives
 - Reduced Market Dominance
 - Erosion of Transaction Volumes
 - Declining Sanction Efficacy
 - Forced Modernisation of Legacy Players

4. Competitive Dynamics

- i. Big Tech as global payment infrastructure: Alipay, WeChat Pay, Google Pay
- ii. Non-bank PSPs as global corridors: Wise, Airwallex, Payoneer
- iii. Impact of geopolitics on payment systems: sanctions, fragmentation, and 'dedollarisation' pressures

Knowledge Check: Quiz + Comparative Analysis Exercise

KA 2: Solutions: EU/UK Payment Systems and Cross-Border Payments – 4 hours

This Knowledge Area covers the foundational mechanics of foreign exchange that underpin every cross-border transaction, examines the SWIFT messaging standards that have dominated global interbank communication for decades, and assesses the cost, speed, and transparency challenges that have made cross-border payments a priority target for disruption.

1. Basics of Foreign Exchange (FX)

- i. What is FX? Currency pairs, exchange rates (spot, forward, cross rates)
- ii. The FX market structure: OTC market, key participants (banks, central banks, corporates, speculators)
- iii. Bid/Ask spread and how banks make money on FX
- iv. FX rate determination: interest rate parity, purchasing power parity – conceptual overview
- v. Major, minor, and exotic currency pairs
- vi. Hedging basics: forwards, swaps, and options – relevant to payment flows
- vii. FX settlement risk: the classic 'Herstatt Risk' and how CLS Bank mitigates it
- viii. CHIPS and its integration with FedWire
- ix. **Case study: using platforms like Ripple for Fx transfers**

2. Cross-Border Payment Instruments

- i. Wire transfers (SWIFT-based): the dominant mechanism for institutional crossborder payments
- ii. **SWIFT gpi and newer, faster payments via SWIFT**
- iii. International ACH / Cross-border ACH (IAT format)
- iv. Foreign drafts and bank checks: legacy but still in use
- v. Card-based cross-border payments: how Visa/Mastercard handle cross-border FX
- vi. Remittances: the Western Union/MoneyGram model vs. digital challengers
- vii. Trade finance instruments: Letters of Credit (LC) and Documentary Collections – payment dimension

3. **SWIFT: The Global Messaging Standard**

- i. **MX – ISO 20022 in payments**
- ii. **Current state-of-art**
 - .pacs
 - .pain
 - .remt
 - .camt
 - .trea
- iii. **The SWIFT workplan for 2027**
 - **Costs of non-conformance**
 - **Penalties**
 - **Implications for banks**
- vi. **SWIFT and sanctions: the weaponisation of SWIFT and its implications**

4. **EU/UK Payment Systems**

- i. **Large-Value Payment Systems**
 - **UK-CHAPS: same-day, irrevocable settlement for large-value payments**
 - **EU - T2: for real-time large value Euro payments**
 - **EU-Euro1: pan-European net settlement system for Euro transactions**
- ii. **Small-Value Payment Systems**
 - **UK – FPS: 24/7, near-instant bank transfers**
 - **UK – BACS: for bulk, scheduled payments**
 - **EU – SEPA: instant Euro transfers across 36 SEPA countries**

5. **CLS Bank**

- i. **CLS Bank**
- ii. **The currencies**
- iii. **CLS Bank operations**
- iv. **Pre-funding**
- v. **Impact of reduced Settlement Risk in CLS Bank**

Knowledge Check: Case-study: Tracing a cross-border payment end-to-end

KA 3: Mechanics: Risk Management & Liquidity in Payments – 4 hours

This Knowledge Area addresses the risk architecture underpinning payment systems and the critical discipline of liquidity management. It goes beyond the basic transaction lifecycle covered in the Intermediate course to examine systemic risk, credit and settlement risk, operational resilience, and the sophisticated liquidity tools banks use to manage intraday positions.

2. Risks in Payment Systems: A Taxonomy

- i. **Credit Risk: counterparty default before settlement**
- ii. **Settlement / Principal Risk: the Herstatt Risk revisited – delivery vs. payment**
- iii. **Systemic Risk: payment system as a contagion mechanism**
- iv. **Operational Risk: technology failures, cyber-attacks, third-party dependencies**
- v. **Liquidity Risk: inability to fund payment obligations on time**
- vi. **Fraud Risk: authorised push payment (APP) fraud, card fraud, insider fraud**
- vii. **Legal & Compliance Risk: sanction exposure, AML failures**
- viii. **Concentration Risk: over-reliance on a single correspondent or system**

3. Settlement Risk Mitigation Mechanisms

- i. Deferred Net Settlement (DNS) vs. Real-Time Gross Settlement (RTGS): risk tradeoffs
- ii. Collateral and prefunding requirements in net settlement systems
- iii. Delivery vs. Payment (DvP) in securities settlement iv. Payment vs. Payment (PvP): CLS Bank's FX settlement model
- v. The role of central bank money in final settlement

4. Liquidity Management in Payments

- i. What is intraday liquidity? Why it matters in high-value payment systems
- ii. Sources of intraday liquidity: central bank overdrafts (daylight overdrafts), repo, interbank lending
- iii. Queuing mechanisms in RTGS systems: managing payment queues and gridlock
- iv. SWIFT gpi and real-time liquidity monitoring
- v. Basel III intraday liquidity monitoring requirements (LCR, NSFR – payments dimension)
- vi. Nostro account management and reconciliation: the daily challenge
- vii. Reconciliation breaks: causes, consequences, and resolution workflows
- viii. Vostro management: the correspondent bank's perspective

Knowledge Check: Crossword Puzzle

KA 4: Technology in Payments – 3 hours

The Intermediate course introduced the technology foundations of modern payments. This Advanced Knowledge Area takes a deep-dive into the transformative technologies that are most directly challenging the existing payment architecture: digital assets (cryptos, stablecoins, CBDCs), the ISO 20022 data migration, and the application of AI to both fraud detection and payment operations. Participants

1. Bank of America's World-class User Interface products

- i. Zelle
- ii. Erica
- iii. CashPro: including Erica for corporate users
- iv. Digital B2B
- v. C2B Digital
- vi. e-commerce check-out
- vii. Mobile PoS

2. Cryptos, Stablecoins & CBDCs: A Deep-Dive

- i. Tokenisation
- ii. Working models of tokenised assets
- iii. Bitcoin and Ethereum as payment instruments: technical reality vs. hype
- iv. The blockchain trilemma: security, scalability, decentralisation trade-offs
- v. Why crypto has not replaced traditional payments – and what it has achieved
- iv. Stablecoins: mechanics, types (fiat-backed, algorithmic, commodity-backed)
- v. Stablecoins in payments: USDC, USDT – use cases in cross-border and DeFi
- vi. Regulatory landscape for stablecoins: MiCA (EU), US stablecoin bill, risks

- vii. Central Bank Digital Currencies (CBDCs):
 - Retail CBDC vs. Wholesale CBDC
 - Design choices: account-based vs. token-based, direct vs. intermediated
 - Global CBDC landscape: Digital Yuan (e-CNY), Digital Euro, FedNow vs. US CBDC debate, India's e-Rupee
 - Wholesale CBDC experiments: Project Dunbar, Project mBridge – implications for cross-border payments
- viii. Programmable money and smart contracts in payments

3. AI & Machine Learning in Payments

- i. Real-time transaction monitoring: how ML models detect anomalies
- ii. Behavioural biometrics and device intelligence in fraud prevention
- iii. AI in AML: reducing false positives, network analysis for typologies
- iv. AI in payment routing optimisation and FX pricing
- iv. Explainability requirements: regulatory expectations for AI decision-making

4. Open Banking & API-Driven Payments

- i. PSD2's Open Banking mandate: what actually happened in Europe
- ii. Open Banking in the US: CFPB Section 1033 rule – financial data rights
- iii. Payment Initiation Services (PIS): the Account-to-Account opportunity
- iv. API standardisation: Open Banking UK, FAPI, and the interoperability gap
- v. Embedded payments: when payments disappear into the product experience

Knowledge Check: Quiz

KA5: Regulations & Compliance – 3 hours

This Knowledge Area lifts the lens to the international regulatory landscape, examining the global AML/CFT architecture, cross-border data privacy obligations, sanctions compliance as a payment system challenge, and the regulatory frameworks governing new payment models including Open Banking, digital assets, and BaaS. It also explores the compliance obligations of non-bank PSPs operating across jurisdictions.

1. The Global AML/CFT Architecture

- i. FATF: role, standards (40 Recommendations), mutual evaluation process
- ii. The FATF 'grey list' and 'black list': implications for correspondent banking
- iii. The Wolfsberg Group: private sector AML standards for correspondent banking
- iv. Travel Rule (FATF Recommendation 16): what information must travel with a payment
- v. Travel Rule for virtual assets: VASP compliance, technical solutions (TRISA, OpenVASP)
- vi. Correspondent banking AML obligations: KYC on respondent banks, CDD, EDD

2. Sanctions Compliance in Payments

- i. OFAC: US sanctions programs and SDN list screening requirements
- ii. EU, UK, and UN sanctions frameworks: multi-jurisdictional compliance challenge
- iii. Sanctions screening in payment flows: technical implementation and the false positive problem
- iv. 'Blocking' vs. 'rejecting' payments: regulatory obligations and bank liability
- v. The Iran/Russia/North Korea challenge: secondary sanctions implications for nonUS banks

3. Cross-Border Data Privacy & Localisation

- i. GDPR and its implications for cross-border payment data flows
- ii. Data localisation requirements: India, China, Russia – impact on global payment operations
- iii. PCI DSS in a cross-border context: cardholder data and international storage
- iv. Tension between AML data-sharing requirements and privacy law

4. Regulating New Payment Models

- i. PSD2 and PSD3 (EU): open banking, Strong Customer Authentication (SCA), liability shifts
- ii. MiCA (EU Markets in Crypto-Assets): stablecoin and e-money token regulation
- iii. US state Money Transmitter Licenses (MTLs) in a cross-border context: 50-state challenge
- iv. Bank-as-a-Service (BaaS) regulation: sponsor bank liability, OCC guidance
- v. BNPL regulation: emerging frameworks in the US, UK, Australia, and India
- vi. Regulation of Big Tech in payments: DMA (EU), proposed US frameworks

5. Regulatory Technology (RegTech) in Compliance

- i. Automated transaction monitoring and SAR filing
- ii. KYC utilities and shared infrastructure: cost reduction models
- iii. Regulatory reporting automation: real-time reporting to central banks
- iv. AI governance in compliance: model risk management for ML-based AML tools

Knowledge Check: Case Studies: Multi-Jurisdictional Compliance Scenarios

KA6: Transformations – 2 hours

This section helps participants to get a good understanding of the evolving payments landscape and project the near-term shifts in products, processes, and competition.

1. The G20 Cross-Border Payments Roadmap

- i. The FSB's targets: cost below 3%, speed under 1 hour, universal access, full transparency
- ii. Progress to date: what has worked, what hasn't, and why
- iii. Key workstreams: data harmonisation, legal and regulatory alignment, PSP access
- iv. Interlinking domestic fast payment systems: the Project Nexus model

2. The Evolving Architecture: From Correspondent to Direct

- i. The shift from multi-hop correspondent chains to more direct settlement models
- ii. Multilateral cross-border payment platforms: JPMorgan Onyx, RippleNet, Project mBridge
- iii. The role of central bank money in future cross-border settlement iv. Wholesale CBDC networks as a replacement for the Nostro/Vostro system
- iv. Stablecoins as a cross-border payment rail: the corporate treasury use case

3. Payments-as-a-Service & Embedded Finance

- i. The unbundling of banking: payments as a standalone, monetisable service layer
- ii. Banking-as-a-Service (BaaS): the infrastructure layer for FinTech growth
- iii. Embedded payments: the 'invisible payments' future – super apps, IoT, autonomous commerce
- iv. Request-to-Pay (RtP) as the new payment initiation paradigm
- v. Account-to-Account (A2A): the threat to card network dominance

4. Artificial Intelligence as a Strategic Differentiator

- i. AI in payment product design: personalisation, dynamic pricing, smart routing
- ii. Agentic AI and autonomous payment execution: opportunities and risks
- iii. Generative AI in compliance: automated narrative generation for SARs iv. AI in treasury: cash flow forecasting, automated liquidity optimisation

Knowledge Check: Quiz/Small Case Studies