Lesson 5: Open Banking and APIs
Module 1: FinTech Fundamentals

Digital Finance

Data Sharing Paradigm
- Customer-permissioned access
- Standardized APIs
- Third-party innovation
- Regulatory mandate (EU, UK)

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PSD2 Timeline

Implementation Phases

- 2015: Directive adoption
- 2018: SCA requirements
- 2019: RTS compliance
- 2021: Full enforcement

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Strong Customer Authentication (SCA)

Two-Factor Requirement
- Knowledge (password)
- Possession (mobile device)
- Inherence (biometric)
- Exemptions for low-risk

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Third-Party Providers (TPPs)

Provider Types

- AISP: Account aggregation
- PISP: Payment initiation
- CBPII: Card balance checks
- Regulatory authorization

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Technical Protocols

- RESTful architecture
- OAuth 2.0 authorization
- OpenAPI specification
- JSON data format

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Open Banking Use Cases

Consumer Applications

- Multi-bank aggregation
- Automated budgeting
- Alternative credit scoring
- Instant payments

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Payment Initiation Benefits

vs Card Payments

- Lower fees (0.1% vs 1.5%)
- Faster settlement
- No chargebacks
- Direct bank transfer

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UK Success Rates (2023)

- API uptime: 99.5%
- Response time: 1.2s avg
- 12M monthly API calls
- 8M active users

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Risk Mitigation

- API credential theft
- Man-in-the-middle attacks
- Excessive data access
- Fraud monitoring systems

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Future: Open Finance

Beyond Banking
- Pension data sharing
- Insurance APIs
- Investment platforms
- Mortgage comparison

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Key Takeaways

- **PSD2**: EU regulatory mandate for bank API access
- **Services**: AIS (aggregation) and PIS (payment initiation)
- **SCA**: Two-factor authentication requirement
- **Benefits**: Lower fees, faster payments, innovation
- **Future**: Expanding to open finance ecosystem