



A BAAS PLAYBOOK FOR MODERN BANKS

Startup-Led Paths to Banking-as-a-Service (BaaS) Transformation



Executive Summary

Banking has evolved significantly over time, shifting from a product-centric and transaction-focused model to a more holistic and customer-centric approach. Traditional banking, which once revolved around in-branch interactions and standardised services, has transformed through the adoption of digital technologies, data analytics, and platform-based models. Today, banks aim to understand the broader needs of customers—whether individuals or businesses—by offering personalised financial solutions, seamless digital experiences, and integrated services that go beyond banking, such as wealth management, insurance, and even non-financial lifestyle offerings. This evolution reflects a deeper commitment to building long-term relationships, enhancing financial well-being, and becoming trusted partners in customers' lives.

This report builds upon insights from our earlier work, [“The Future of Banking”](#), which highlighted platformisation, superior customer experience, and ecosystem driven strategies. As digital disruption accelerates and competition intensifies, these principles have evolved from strategic options to business imperatives. They are no longer just about maintaining relevance—they are critical levers for unlocking substantial revenue growth, accelerating innovation, and capturing new opportunities in an increasingly fast-paced and dynamic financial landscape.

Transforming Financial Services: The Rise of Banking-as-a-Service

The financial services industry is undergoing a fundamental transformation, driven by the emergence of **Banking-as-a-Service (BaaS)**—a model that enables non-banking entities to offer embedded financial services by leveraging APIs, modular infrastructures, and cloud-based digital platforms.

In this report **OpenI** provides an in-depth analysis of how BaaS is redefining banking, accelerating innovation, and reshaping the customer experience. From neobanks to e-commerce platforms, businesses are leveraging BaaS to build scalable, regulatory-compliant, and customer-first financial offerings without owning a banking license or infrastructure.

Key components of BaaS include flexible API layers, modular core banking systems, seamless customer onboarding, advance data analytics, identity verification, and robust compliance frameworks. These elements empower institutions to accelerate time-to-market, drive agile innovation, and deliver highly personalised user experiences.

The BaaS value chain continues to evolve globally—driven by the **rise of fintech startups**, **customer-centric design**, and **regulatory reforms** such as PSD2 in Europe. As traditional banks transition toward open platforms and cloud-native ecosystems, collaboration with fintechs and third-party developers is becoming the industry standard. This report also highlights key emerging trends - such as the integration of **Generative AI** in banking, advancements in **cybersecurity**, and the growing focus on **sustainable finance**—supported by market insights and success stories from global pioneers.

In an increasingly connected and competitive financial environment, BaaS is more than a technological shift—it is a strategic imperative redefining how value is created, delivered, and scaled across the financial services landscape.



- Tracing the Growth of Banking-as-a-Service
- Components of BaaS

- BaaS Value Chain
- Supporting 3rd parties to integrate banking services

- Mapping BaaS Dynamics
- Headwinds Steering Banks Toward BaaS
- Global Fintech Ecosystem

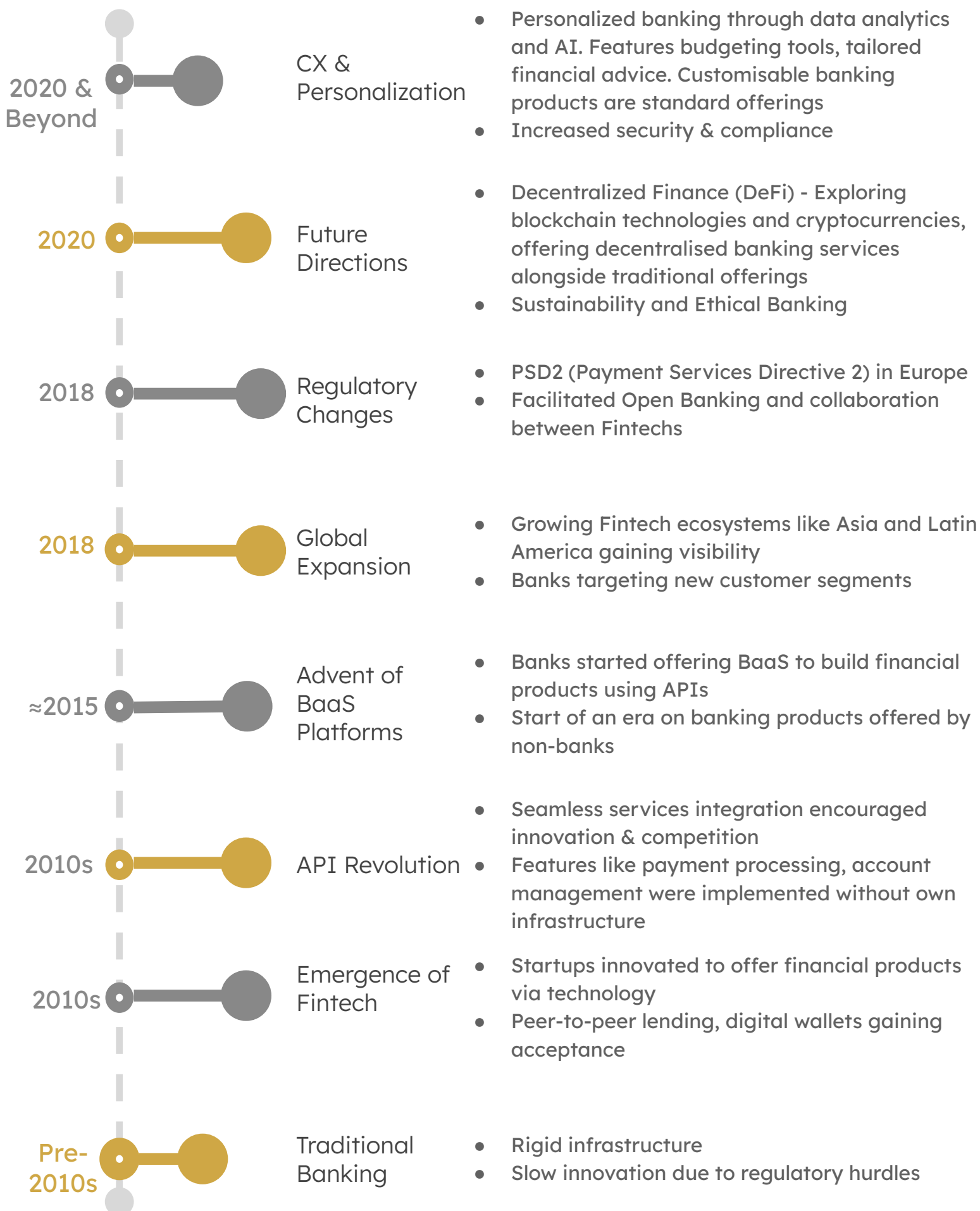
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- Case Studies
- Key Takeaways

Introduction



Tracing the Growth of Banking-as-a-Service



Components of BaaS

As banks strive to expand their digital footprint and remain competitive in a platform-driven economy enabling Banking-as-a-Service (BaaS) is emerging as a strategic imperative. BaaS empowers banks to unlock new revenue streams by embedding their regulated infrastructure into third-party experiences—without compromising compliance or control. However, becoming truly BaaS-ready requires more than just APIs; it demands a well-orchestrated tech stack that spans core banking modularity, secure onboarding, real-time payments, data intelligence, and regulatory automation. Below we map out the key technology building blocks essential for architecting a future-ready BaaS platform:

1. Scalable Cloud Infrastructure

A flexible, cloud-native foundation is essential to support the dynamic demands of BaaS. It enables banks to scale services on demand, reduce operational costs, and improve agility—crucial for onboarding fintech partners and rapidly deploying services.

2. Modular Core Banking Systems

Modern core banking platforms like Tuum allow banks to decouple legacy systems and adopt a modular architecture. This enables faster product rollout, real-time processing, and easier integration with third-party ecosystems.

3. Flexible API Layer

APIs are the lifeline of BaaS. A robust API gateway enables third-party developers to securely plug into a bank's infrastructure, exposing services like payments, lending, and KYC in a controlled and standardised manner.

4. Robust Compliance and Security Framework

Given the increased risk surface in embedded finance, banks must implement end-to-end security protocols—covering data encryption, multi-factor authentication, audit trails, and regulatory compliance across jurisdictions.

5. Comprehensive Payments and Cards Infrastructure

To support use cases like virtual cards, cross-border payments, and embedded wallets, banks require modern payments infrastructure. Key features include real-time processing, tokenisation, and dynamic spend controls.

6. Agile Loan and Credit Services

APIs enabling instant credit decisioning, configurable lending products, and embedded underwriting are key to serving B2B2C models such as retail financing and SME credit.

7. Seamless Onboarding and Identity Management

Integrated digital onboarding solutions reduce drop-offs and ensure compliant KYC/AML processes. Advanced identity orchestration platforms further enhance fraud detection, and enable secure re-verification at key user touchpoints.

8. Intelligent Data Analytics and Insights

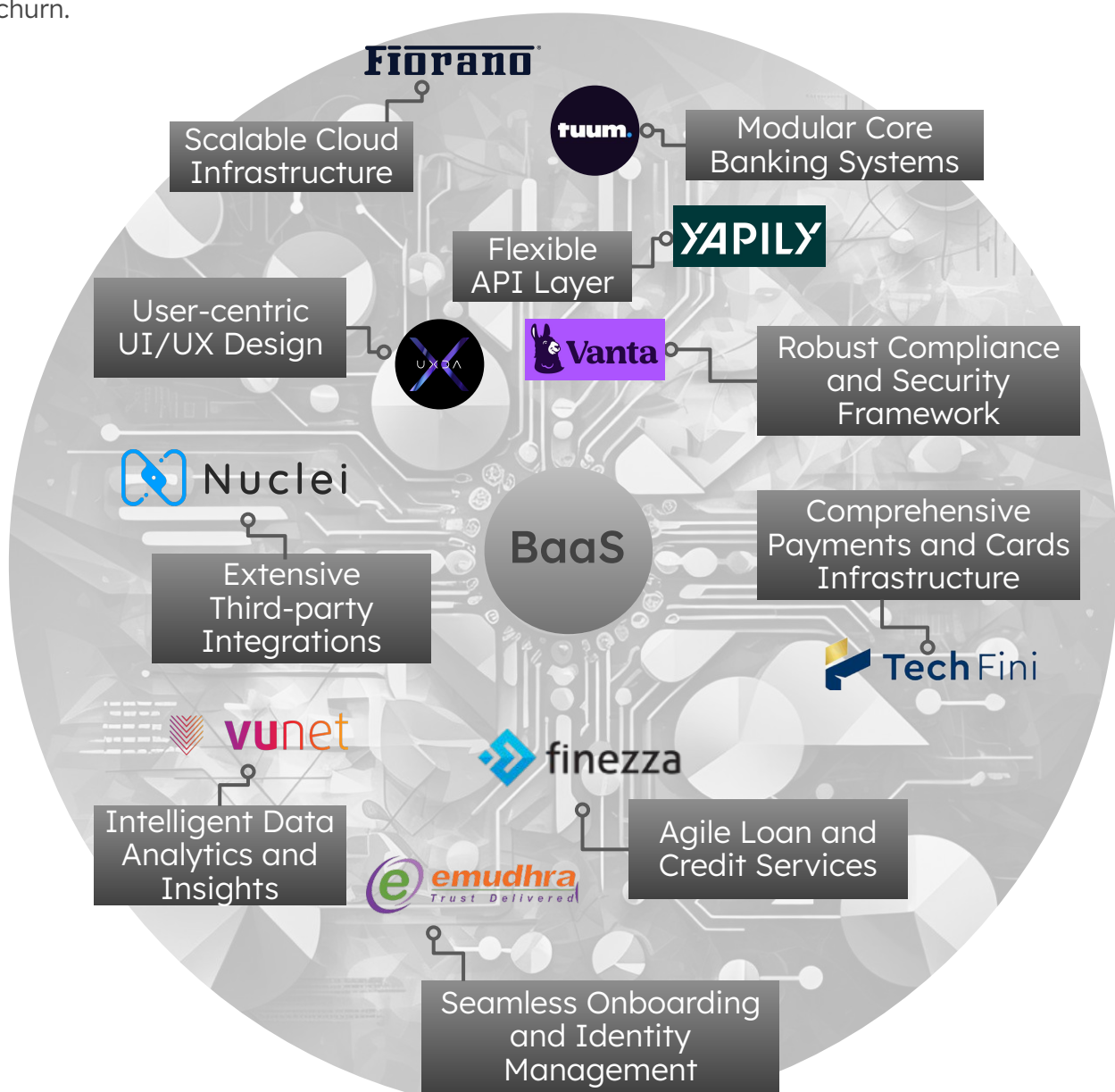
Real-time data platforms help banks unlock insights from user behavior, transaction trends, and risk profiles—supporting personalised offerings, improved underwriting accuracy, and adaptive compliance strategies.

9. Extensive Third-party Integrations

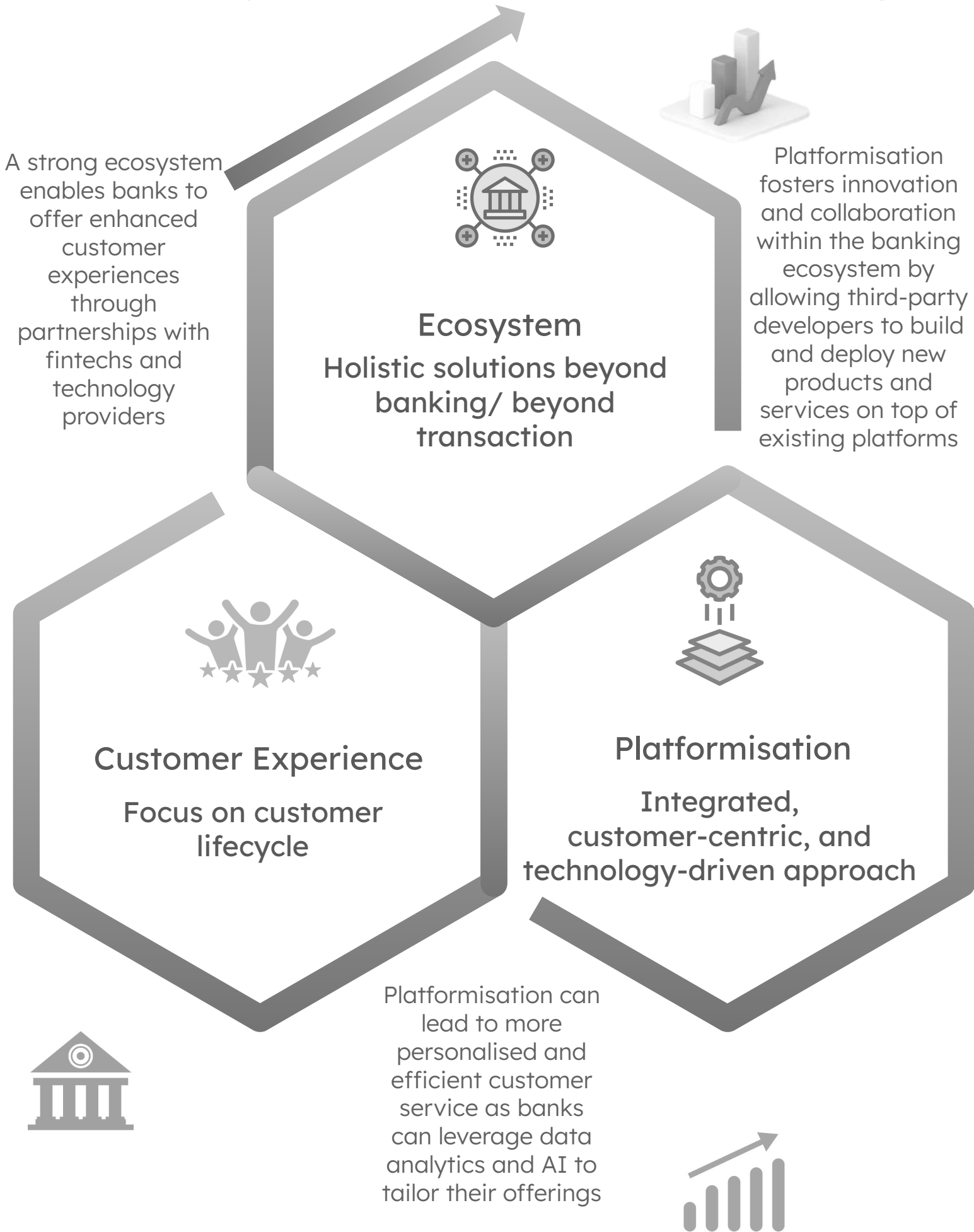
BaaS platforms thrive on ecosystem connectivity. Plug-and-play integrations with fintechs, regtechs, and other digital services enable banks to rapidly co-create value-added solutions for partners and end users.

10. User-centric UI/UX Design

A seamless user experience remains vital—even if services are consumed through third-party interfaces. UI/UX layers that prioritise accessibility, intuitiveness, and speed, help partners retain customers and reduce churn.



Architecting Bank for the Platform Economy



BaaS Value Chain



BaaS Value Chain

BaaS is not just a technology play—it's a business model transformation. It enables banks to tap into new revenue streams, broader customer reach, and cost-efficient distribution without the overhead of acquiring or servicing customers directly. By participating in the BaaS value chain, banks can act as infrastructure enablers for a growing ecosystem of digital businesses, while still maintaining regulatory control and risk management.

1. PROVIDE

Traditional banks and fintechs serve as the foundation by offering core banking products—such as accounts, payments, and lending—through APIs. These APIs are the essential building blocks that power the ecosystem.

💡 *Think of this as the backend infrastructure that unlocks banking capabilities for partners.*

2. AGGREGATE

BaaS platforms bundle and integrate these core banking products—along with compliance, transaction processing, and KYC/AML protocols—into a single offering. This makes it easier for distributors (e.g., non-financial platforms) to onboard and deploy financial services.

💡 *This layer reduces complexity and accelerates go-to-market for non-banks.*

3. DISTRIBUTE

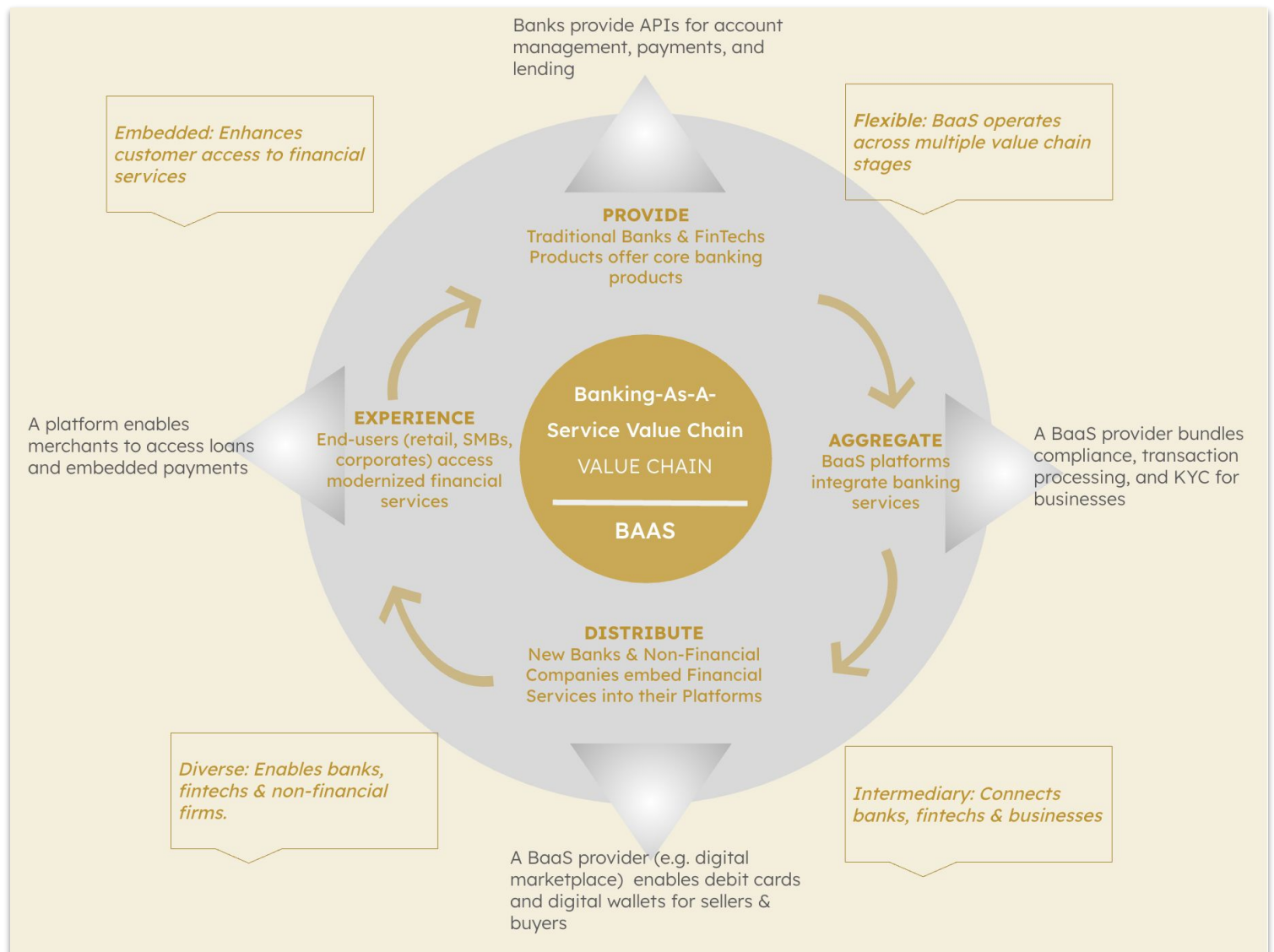
At this stage, non-financial companies (e.g., marketplaces, SaaS firms, gig platforms) embed financial services—like wallets, debit cards, and credit—directly into their user interfaces. This allows them to offer tailored financial services to sellers and buyers without becoming banks themselves.

💡 *Distribution drives access and expands the reach of financial services into new markets.*

4. EXPERIENCE

End-users (consumers or businesses) access seamless, embedded financial services—often unaware of the regulated infrastructure behind them.

💡 *The end goal is seamless, personalised financial experiences.*



BaaS value chain is a **cyclical, four-stage model** that empowers traditional banks to **expand their reach** and enables non-financial companies to **offer embedded financial services**. It highlights the dynamic interplay between banks, fintechs, platforms, and end-users, demonstrating how value is created and transferred at each stage.

This framework creates a win-win: while platforms and fintechs focus on **delivering seamless, user-centric experiences**, banks remain at the core of the **financial transaction layer**—driving utility, scalability, and continued relevance in the evolving digital economy.

Powering BaaS at Scale: Enabling Third-Party Banking Integration

The Technology Layers Banks Must Offer Third Parties: To successfully operate as a BaaS (Banking-as-a-Service) provider, banks must go beyond APIs and offer a robust technology ecosystem that supports seamless third-party integration. This includes a layered stack that spans infrastructure, security, compliance, data management, and middleware—enabling fintechs and non-financial players to embed regulated financial services with minimal friction. Below are the essential technology components that banks must implement to be truly BaaS-ready:

1. **API Layer**

The entry point for third parties—secure, well-documented APIs allow developers to embed banking services directly into their applications, enabling fast and frictionless integration.

2. **Core Banking System**

The transactional engine that powers account management, payment processing, lending, and compliance—typically managed by a licensed bank and exposed via APIs.

3. **Middleware**

The glue between front-end integrations and back-end systems—middleware ensures data orchestration, system interoperability, security enforcement, and performance optimisation.

4. **Security Framework**

Robust encryption, authentication, and access controls are essential to protect customer data and financial transactions, especially when integrating with external platforms.

5. **Regulatory Compliance Layer**

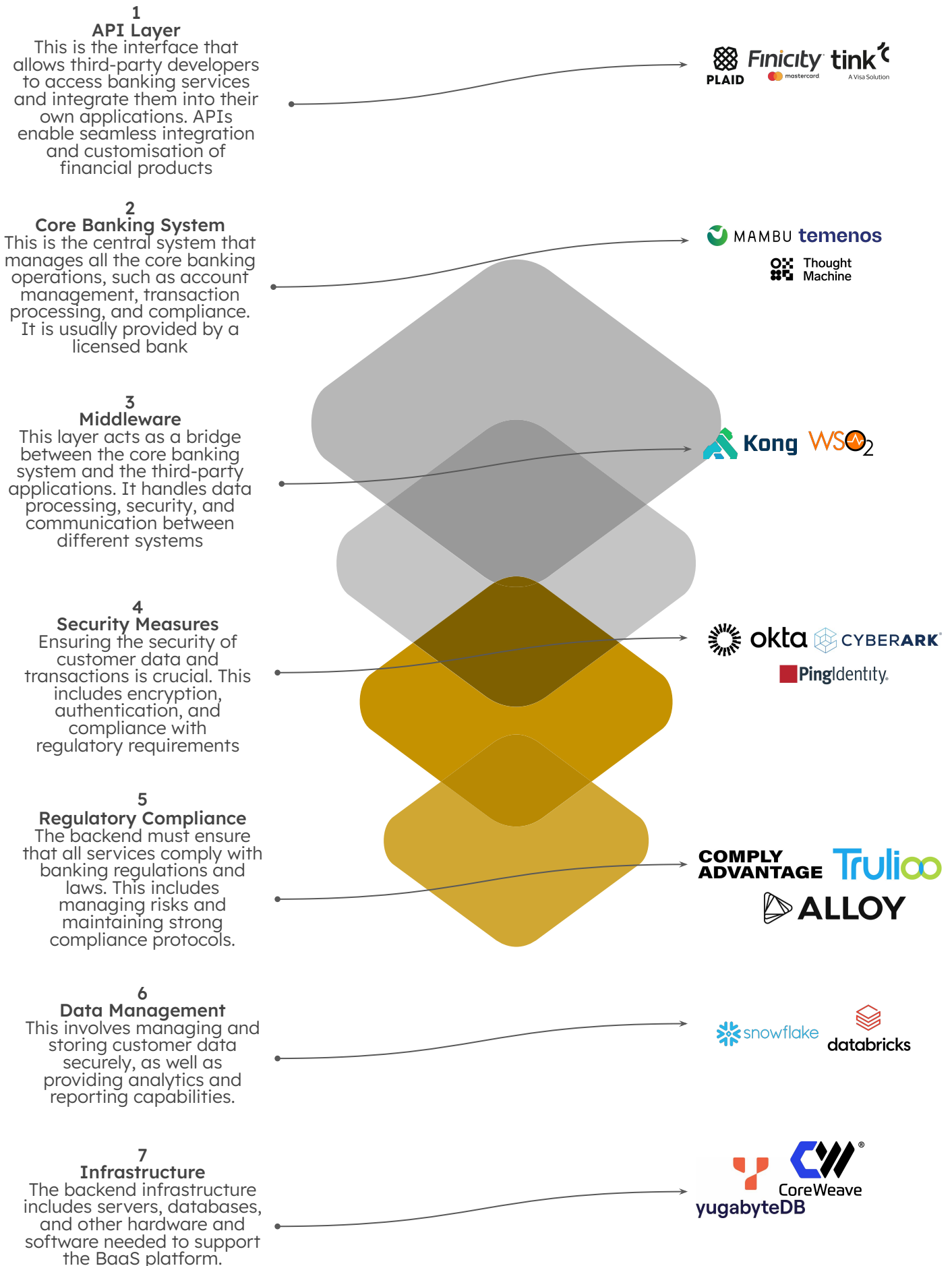
Banks must embed KYC, AML, data privacy, and auditability features to ensure all third-party services meet regulatory and risk standards from day one.

6. **Data Management & Analytics**

Centralised systems to securely store, enrich, and analyze customer data—powering personalised experiences, reporting, and intelligent decision-making.

7. **Infrastructure Backbone**

Cloud-native, scalable infrastructure (servers, databases, DevOps pipelines) is essential to support real-time performance, availability, and modular deployment of banking services.

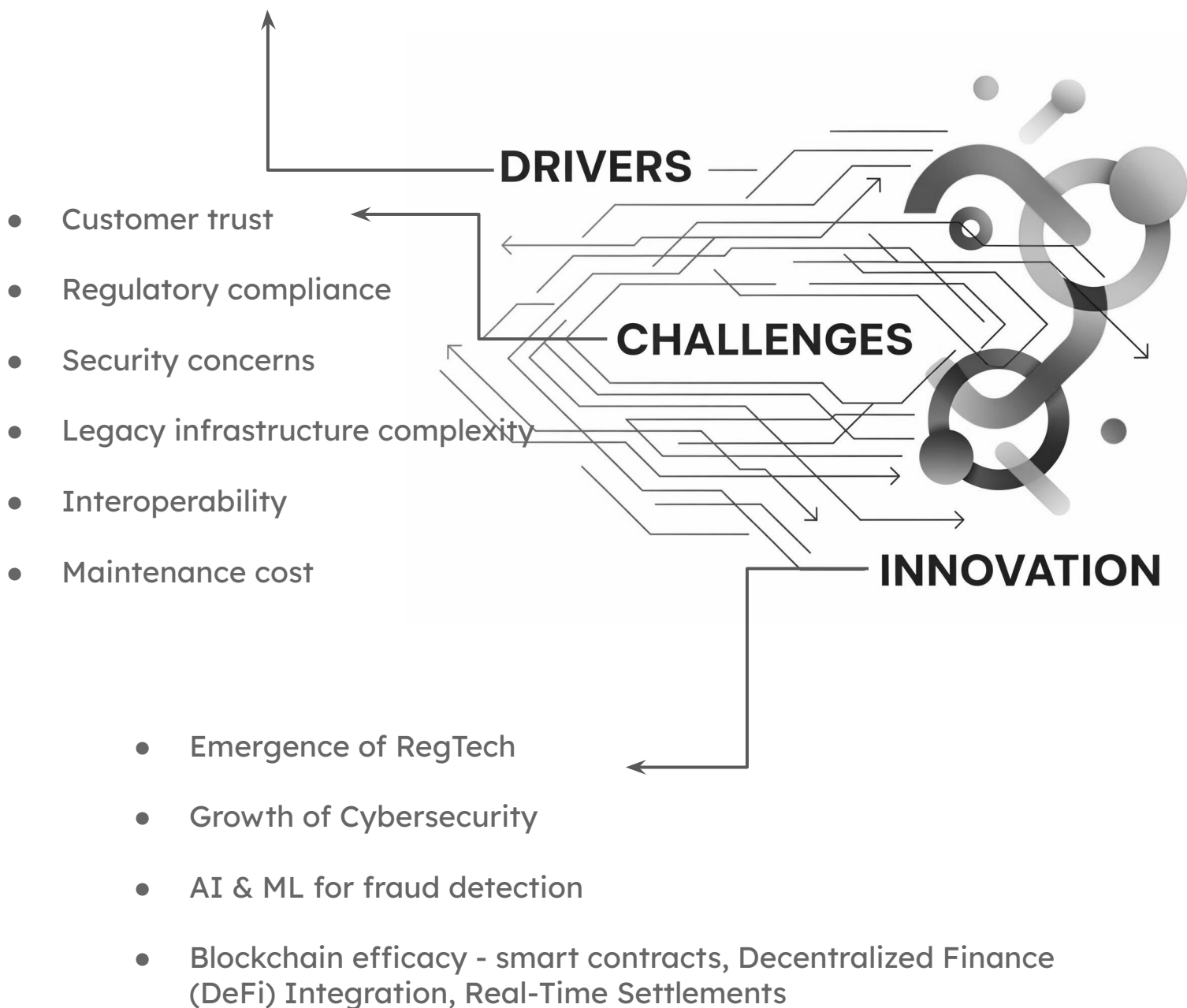


Market Trends



Mapping BaaS Dynamics

- GDPR implementation
- FinTech growth
- Declining trust in traditional banking institutions
- Growth of tech-savvy consumers
- Reduced Time-to-Market (TTM)



Emerging Signals: What's Driving the BaaS?

Personalisation at Scale

Using data analytics to tailor services and boost customer satisfaction.

Example: AI-driven loan offer based on spending patterns

Cybersecurity Upgrade

Strengthening security with encryption, multi-factor authentication, and strict access controls.

Example: AI detecting fraud in real time

Sustainable Financing

Expanding green loans and ESG investments for responsible banking.

Example: Carbon footprint-linked credit cards

Generative AI

Techniques to enhance efficiency, predict risks, and personalise banking experiences.

Example: AI-generated financial advice for customers

Fintech Partnerships

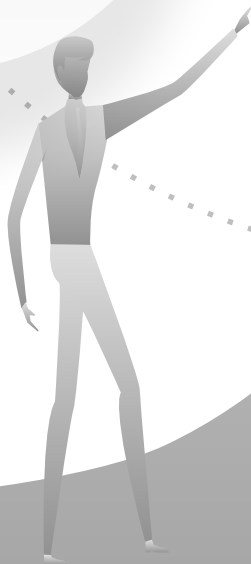
Banks collaborating with fintechs to drive innovation and improve services.

Example: Embedded finance in e-commerce checkouts

Regulatory Focus

Ensuring compliance with evolving financial regulations and risk management.

Example: AI automating KYC and AML checks



Global Fintech Ecosystem

Density vs. Strategic Fit: Finding the Right BaaS Partner

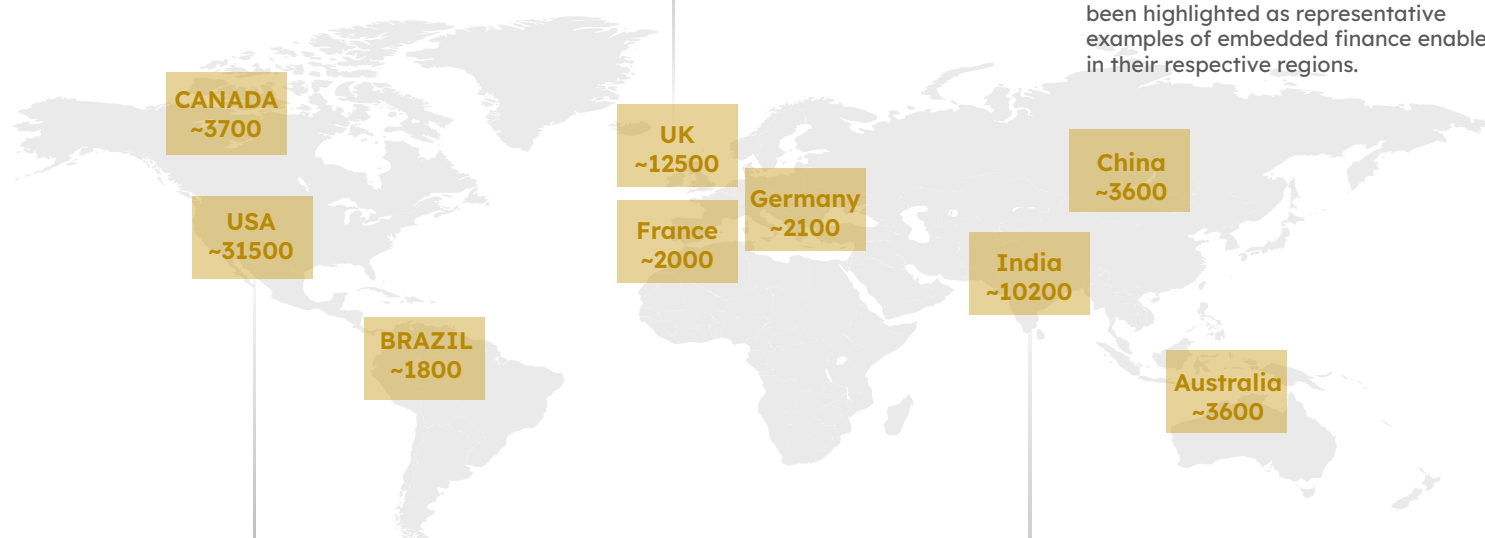
The global fintech ecosystem is brimming with thousands of cutting-edge solution providers, offering modular services across banking, payments, lending, and infrastructure. However, abundance alone does not guarantee success. For banks and enterprises aiming to embed financial services, choosing the right-fit partner—one that aligns with your technical architecture, regulatory obligations, and cultural requirements—is critical to delivering long-term value.

Railsr (Founded - 2016): Banking API enabling financial services integration into any app

ClearBank (Founded - 2015): Enables institutions to offer real-time clearing

BKN301 (Founded - 2021): Platform for businesses to integrate financial services

The numbers in each box represent the number of fintech in key global innovation hubs. 3 BaaS startups have been highlighted as representative examples of embedded finance enablers in their respective regions.



Synctera (Founded - 2020): Tools and infrastructure to launch banking products

Nerdwallet (Founded - 2009): Personal finance management

Unit (Founded - 2020): Enables technology companies to integrate financial services

Rupifi (Founded - 2020): Instant credit decisions and flexible payment options for small businesses

GetVantage (Founded - 2019): Cash flow-based financing facilitator

Snapmint (Founded - 2017): No-cost EMI for online shopping in India

While the global fintech landscape is teeming with innovative solutions, the abundance of options necessitates a highly selective approach when identifying the right partner. It is imperative that banks look beyond technical capabilities to assess a solution's alignment with institutional governance structures, regulatory compliance frameworks, and organisational culture. Equally important is the consideration of user adaptability—ensuring that internal teams and end-users can seamlessly adopt and derive value from the solution. A truly effective BaaS implementation hinges on this multidimensional fit, where technology, governance, and usability converge to deliver sustainable impact.

Selecting the right partner for a BaaS implementation requires a multidimensional evaluation:

Strategic Fit: Ensure the fintech solution aligns with the bank's long-term vision, service delivery goals, and ecosystem strategy.

Governance & Compliance: Assess compatibility with the bank's internal governance frameworks, risk management protocols, and regulatory obligations.

Cultural Alignment: Evaluate whether the fintech partner's operating model and organisational culture complement that of the bank.

User Adaptability: Consider ease of adoption for internal teams and end-users, including onboarding, training requirements, and day-to-day usability.

Sustainability & Scalability: Prioritise solutions that can scale with business growth while maintaining resilience and operational efficiency.

Implementation Readiness: Review integration complexity, technical support structures, and timeline to ensure smooth deployment.

Charting the Path Forward

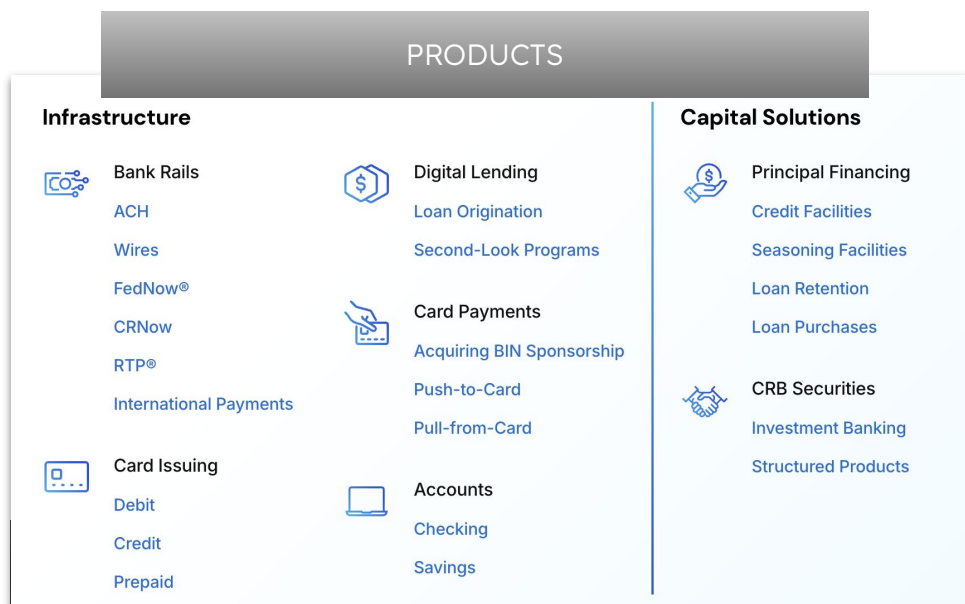


Cross River Bank – Scaling Success Through a BaaS-First Banking Model



Cross River Bank, US-based Bank and Tech company, has adopted a Banking-as-a-Service (BaaS)-first model, positioning itself as the infrastructure backbone for fintechs and digital platforms.

Armed with a national banking license and full-stack capabilities spanning compliance, payments, credit, and core banking, Cross River enables tech companies to launch embedded financial products without becoming banks themselves. In doing so, it acts as a regulatory and operational enabler, rather than a competitor.



FINTECH & TECH PARTNERS: 200+

PPP LOANS DURING PANDEMIC: \$11 Billion

LOANS ORIGINATED: \$100+ Billion

PPP LOANS DURING PANDEMIC: 200k+ businesses

Tech-Driven Banking Model: Cross River Bank operates as a technology-native institution, providing Banking-as-a-Service (BaaS) to fintech companies, enabling them to offer financial services without building their own banking infrastructure.

Client-Centric Innovation: The bank emphasises listening to client needs, developing solutions such as ACH, push-to-card payments, and other services based on client demand, showcasing agility in product development.

Agility and Compliance: Cross River maintains a balance between technological agility and regulatory compliance, enabling it to adapt quickly to market demands while adhering to financial regulations.

Collaborative Approach: The bank collaborates closely with clients, co-developing technology solutions tailored to specific pain points, differentiating itself from traditional banks with legacy systems.

Strategic Positioning: By focusing on BaaS and partnering with fintechs, Cross River has carved out a unique position in the financial ecosystem, facilitating the growth of digital financial services.

Digitising Rural Finance Through Embedded Banking

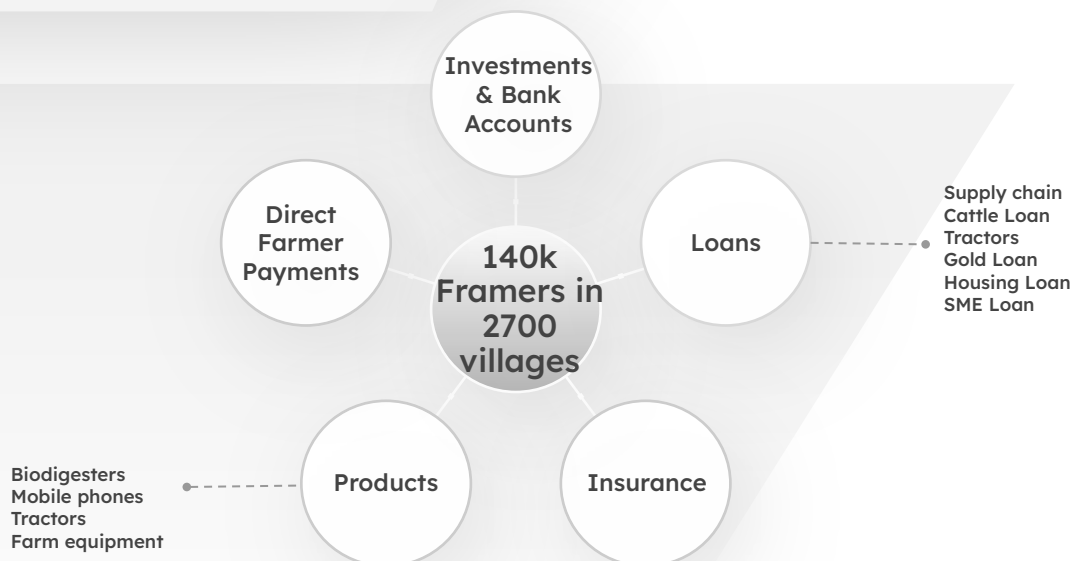


Stellapps: An IoT-enabled agritech company. It digitises & optimises milk production by a platform that acquires data via sensors embedded in milking systems, animal wearables, milk chilling equipment, and milk procurement peripherals. The data is analysed for actionable insights and is shared with various stakeholders

mooPay: Subsidiary of Stellapps, mooPay is an automated digital payment solution that facilitates direct milk payment transfers to farmers' bank accounts.

Digital Lending Platform

- AI/ML driven credit risk underwriting
- Fully digital lending lifecycle
- Digital collections and smart risk monitoring



Direct Farmer Payments



Banking Services



Lending



Insurance



Key Takeaways



Strategic Execution Framework for BaaS Success

Achieving success with BaaS requires a well-defined strategy that aligns with fintech and brand partnership goals, supported by a modular, API-first tech stack that decouples from legacy systems. A scalable execution model—whether built in-house or enabled through external BaaS providers—is crucial. Cloud-native infrastructure, combined with proactive marketing of BaaS capabilities, is essential to drive adoption and co-innovation.



Unlocking BaaS Innovation through Strategic Startup Partnerships

Banks can accelerate BaaS innovation by partnering with agile startups—blending regulatory strength with cutting-edge tech. Success hinges on structured onboarding, co-creation of products, secure integration, and governance, with strategic investment or incubation accelerating long-term value creation.



Driving Trust and Compliance through RegTech and Privacy-Preserving Innovation

BaaS is accelerating the rise of RegTech, especially as enterprises adopt sovereign cloud strategies—bringing regulatory clarity and compliance automation to the forefront. With AI/ML becoming pervasive and cyber threats more sophisticated, BaaS providers must champion privacy-preserving technologies, enabling banks to protect customer data while maintaining trust and transparency.

Recommended Read:

To fully appreciate the strategic importance of BaaS, we recommend our earlier report, [“The Future of Banking.”](#) It provides essential insights into why platformisation, enhanced customer experience, and ecosystem-driven models are not mere trends but critical drivers of sustainable revenue growth. This playbook builds upon those foundations, translating theory into actionable execution strategies



We can enable your journey in this rapidly changing disruptive economy. OpenI Platform highlights:

- Next disruptor you must know about
- How your competitors are engaging with these disruptors/innovators
- Startup ecosystem to drive your growth

Navigate with Confidence

BUSINESS GROWTH

Identify high potential startup investment opportunities

STRATEGY & INNOVATION

Source new business models, spot future competitors

BUSINESS OPERATIONS

Optimize business operations

MARKETING

Drive sales and customer engagement (D2C)

PARTNER MANAGEMENT

Procure and manage next-gen disruptors

ASK OUR ANALYSTS

White Space Analysis
(Spidermap)

Ecosystem as a
Strategy

Managed
Sourcing

Corporate
Venture

Competitive
Analysis

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