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# Building the Optimal Architecture for Open Banking

Presented @ Open Banking Townhall 2024
Mexico City, Mexico – 05/16/24

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# Open banking is about APIs.

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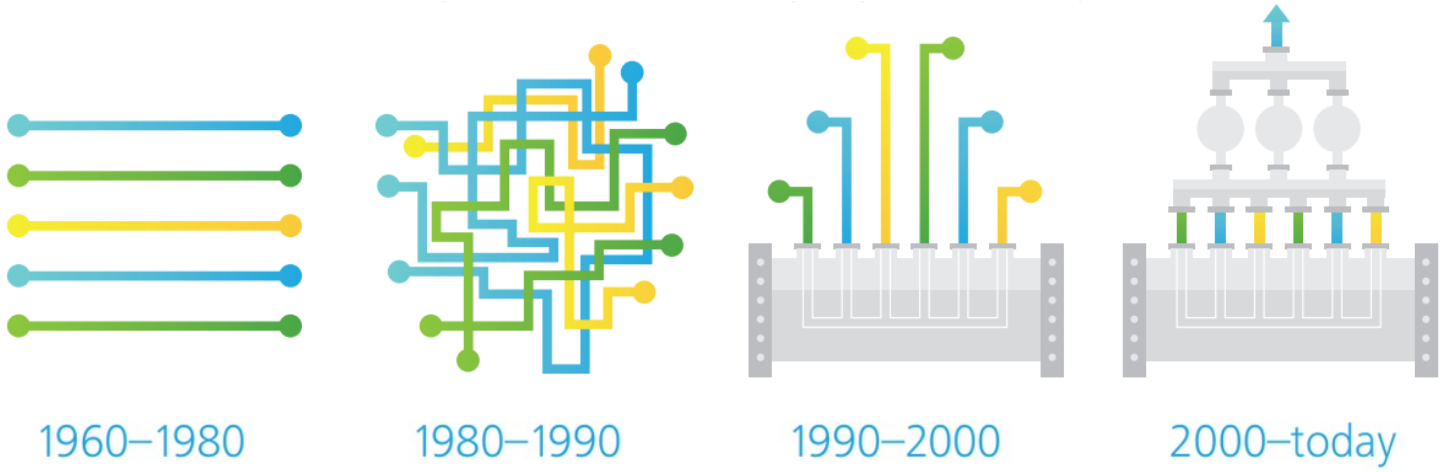
# What is an API?

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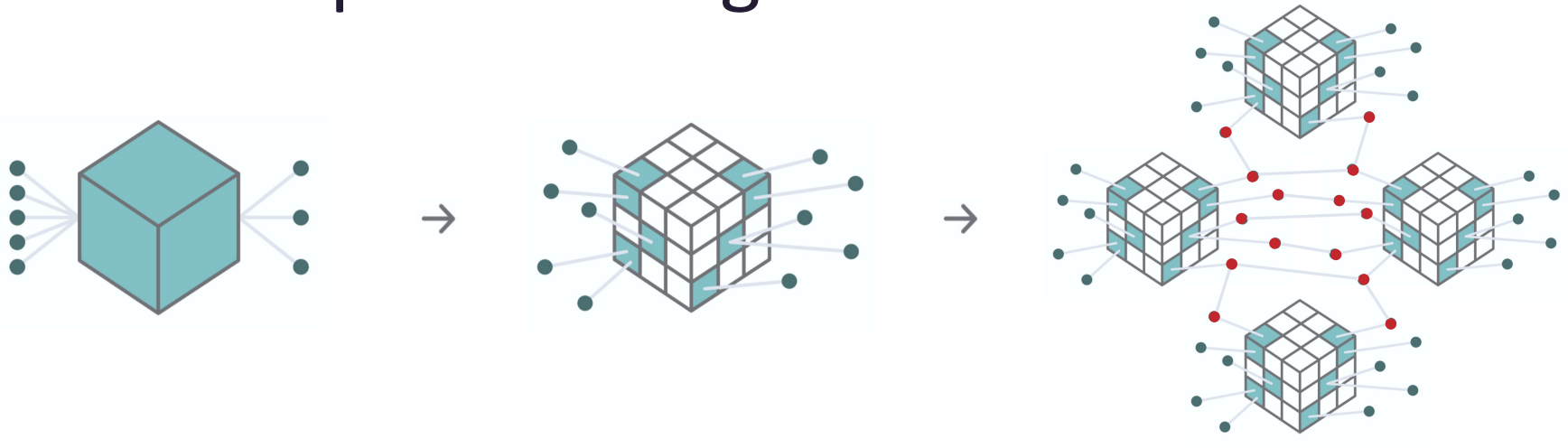
# What is open banking?



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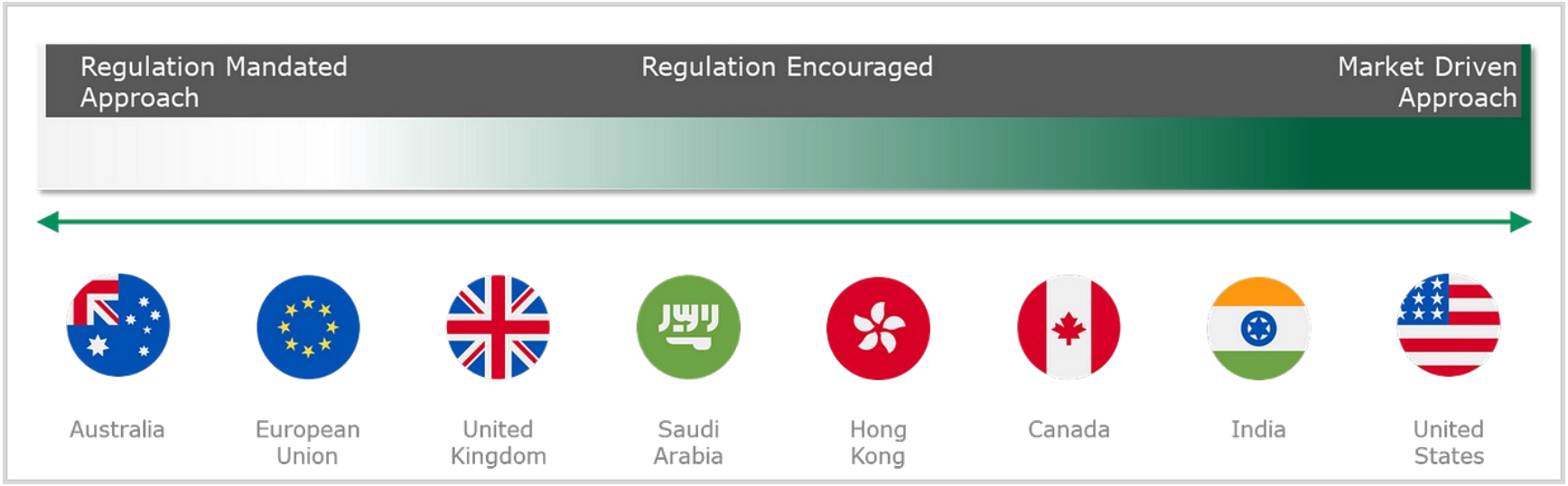
# Regulation vs. Market | Some regions regulate while some are market-driven




These two approaches end up greatly affecting the solution architecture.

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# Architecture Focus | Regulations drive APIs, but markets drive ongoing innovation

**Standardized Interoperable APIs**
(API Management)

**Continuous Innovation & Continuous Delivery**
(Digital Transformation)

**Architectural Concerns**
(Full Stack)

- Open APIs & Open Data
- Developer Experience
- Common Standards

- Agile Requirements Definition
- Consumer-Driven Contracts
- Precise scaling and enhancement
- Distributed Data using Events
- Unstructured “Big” Data Lakes
- Automated DevOps deployment
- Public cloud native (containers)
- Continuous Improvement (CI/CD)

To succeed at open banking, banks must deliver *both* APIs & innovation.

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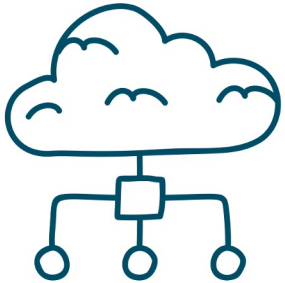
# Banking Platforms | Banks are becoming platforms in order to extend their reach

**The Banking Platform Strategy**

(An extension of the Digital Transformation Strategy)

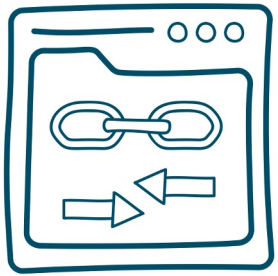
open banking → open finance → bank-as-a-platform → bank-as-a-service → embedded finance

**Publish Open Banking APIs**



**Grow a Strong Developer Ecosystem**

**Embed Capabilities into Digital Contexts**



For embedded finance, API portals are the channel and APIs are the

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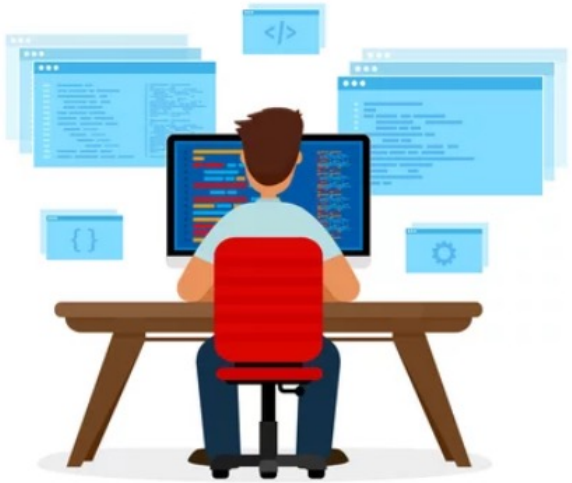
# What is the real challenge?

**What is the single most important customer segment for a twenty-first century platform-driven bank?**



## Developers

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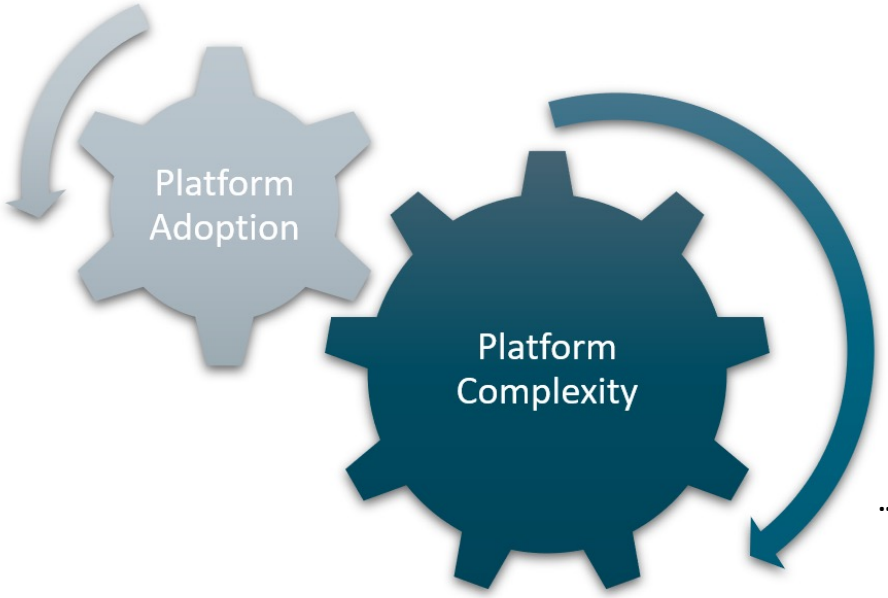
# Platform Adoption | Driving developer adoption demands continuous innovation

**The more a platform is adopted by developers…**




**…the faster it will need to innovate, leading to increased complexity.**

Developer demands will drive faster release cycles and more complex

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# Do my APIs support innovation?

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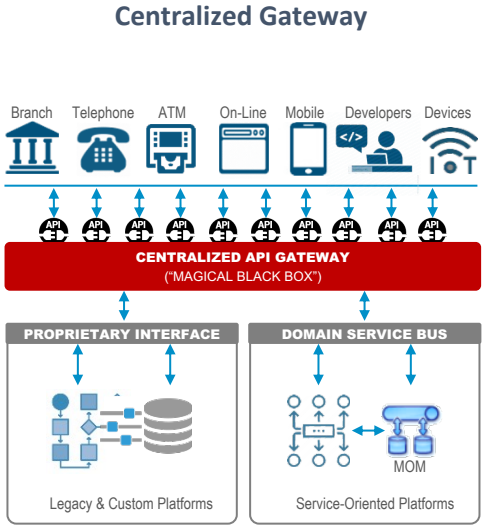
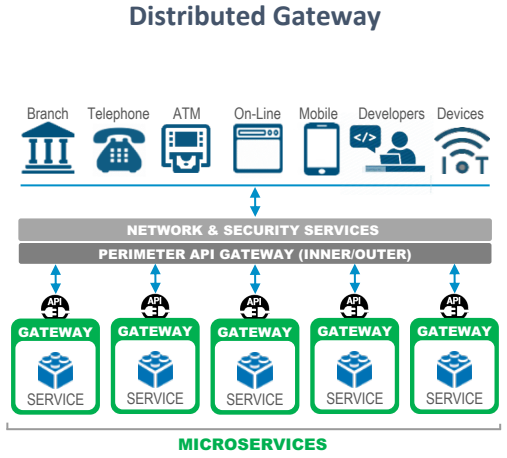
# The Role of API Gateways | Beware the “Magical Black Box” approach




A distributed approach pushes gateway functions to individual

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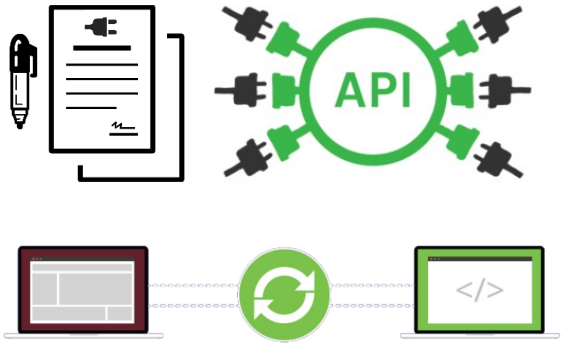
# Microservices Explained | APIs and microservices are *not* the same thing

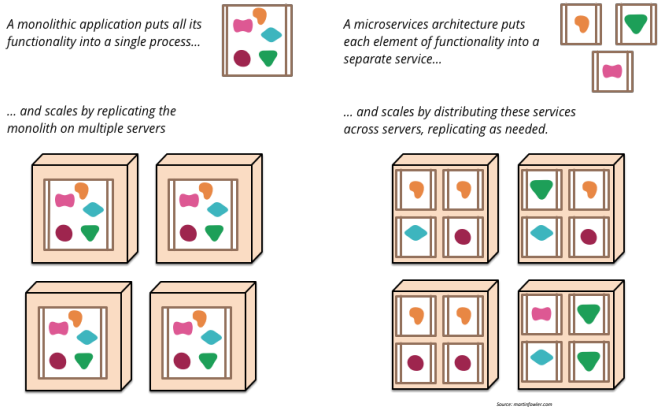
### APIs are the contract

APIs only define what data you send in and what data will be sent back.




### Microservices are the implementation

Microservices allow each piece to be independently upgraded, managed & scaled.




APIs make integration easier, but *only* microservices lead to high-speed

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# Architecture Roadmap | Enterprise Architecture is evolving very rapidly

Interoperable APIs

**Microservice Architecture Evolution**

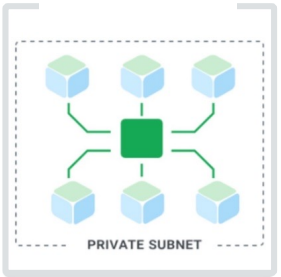
Continuous Innovation

**Monolith**



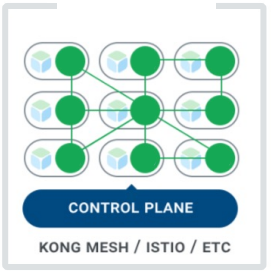
MuleSoft
apigee
WSO2
ca Computer Associates

**Microservices**




spring boot
finagle
Dropwizard
3scale by Red Hat

**Service Mesh**




Kong
Red Hat
Istio
OPENCONTRAIL
LINKERD

**Serverless**

APACHE OpenWhisk
AWS Lambda
Google Cloud Functions

An accelerating trend towards *batch size reduction* creates more moving

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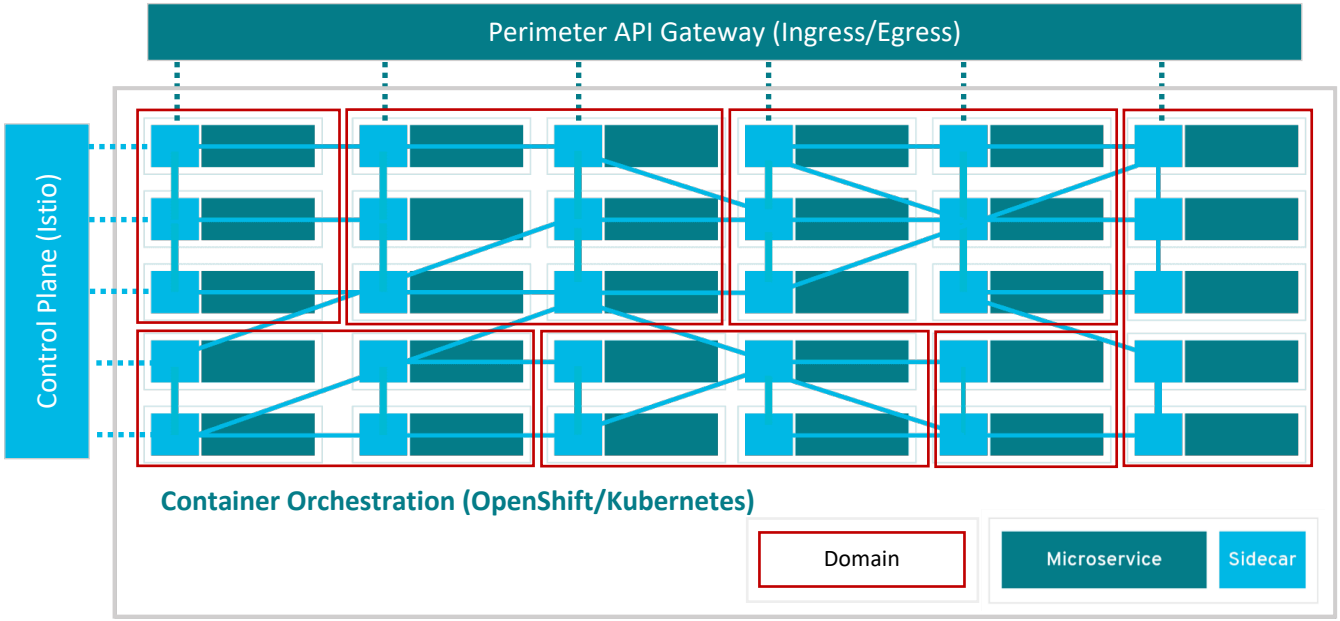
# Optimal Architecture | A service mesh architecture is a great fit for open banking




The mesh offers precise control & visibility, while supporting speed &

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# Is the right architecture enough?

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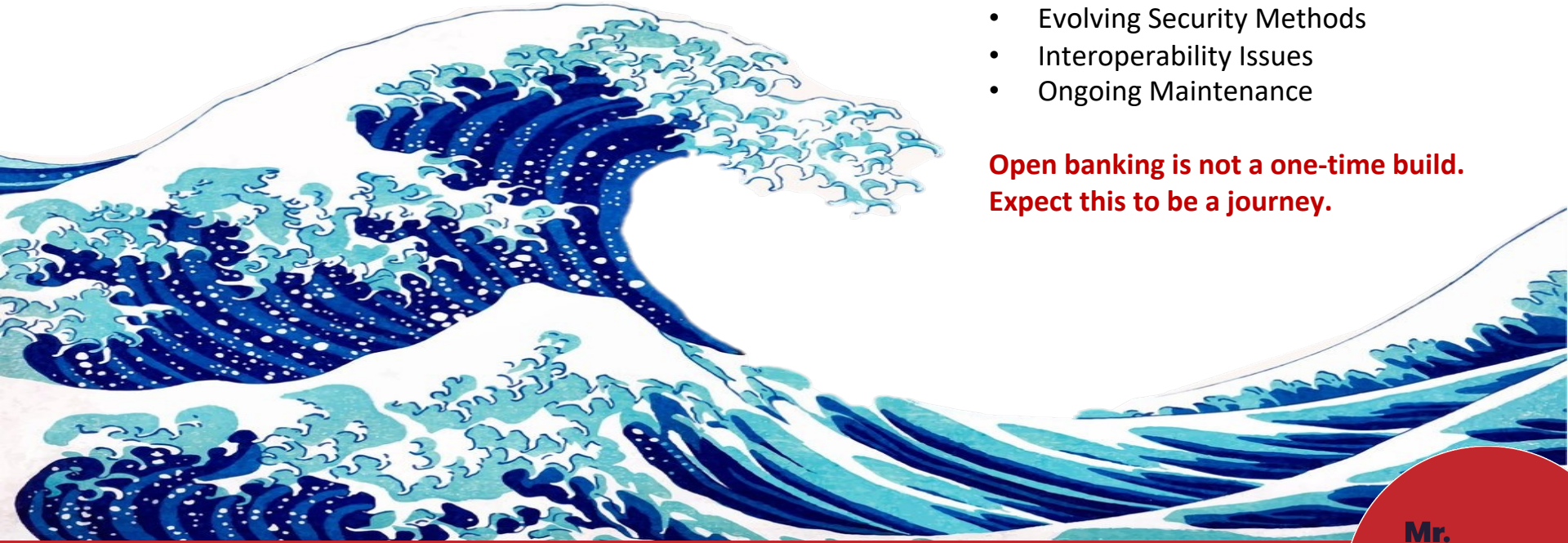
# The Wave is Coming | Open banking will likely be difficult and unpredictable



- Developer Demands
- Standards Volatility
- Evolving Security Methods
- Interoperability Issues
- Ongoing Maintenance

**Open banking is not a one-time build. Expect this to be a journey.**

Although it will be a challenge, open banking prepares you for the digital

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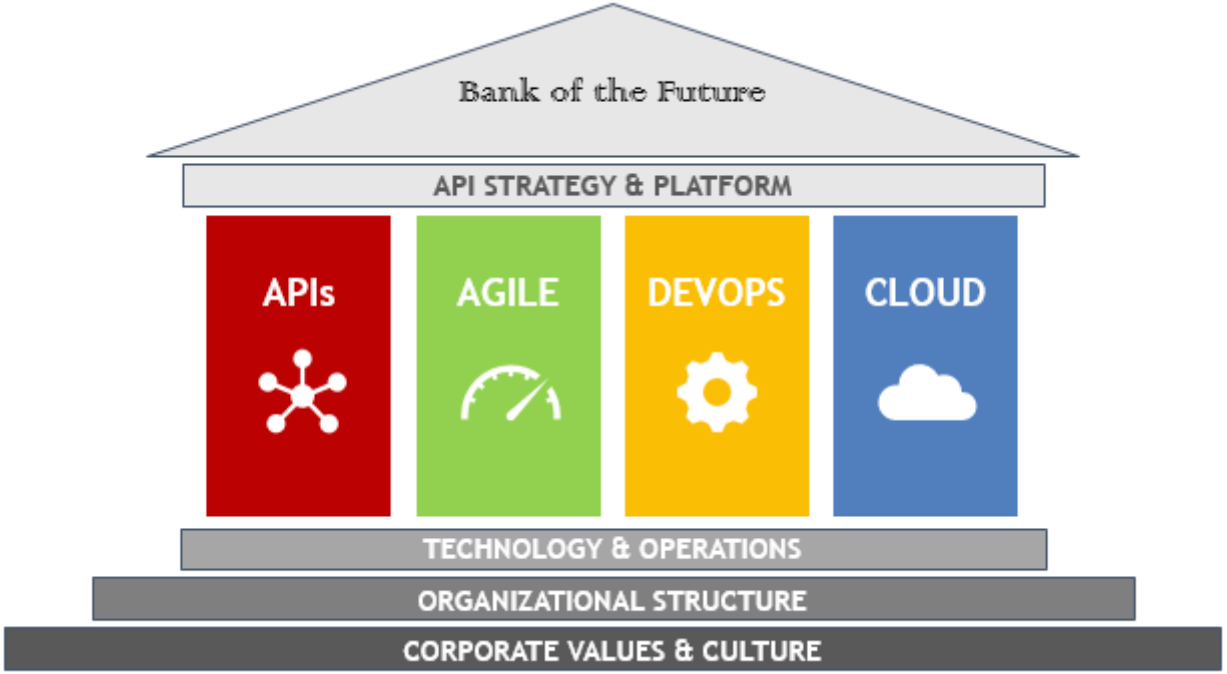
# Bank of the Future | Success is a technological and cultural balancing act




The pillars give you speed, but only embracing change drives true

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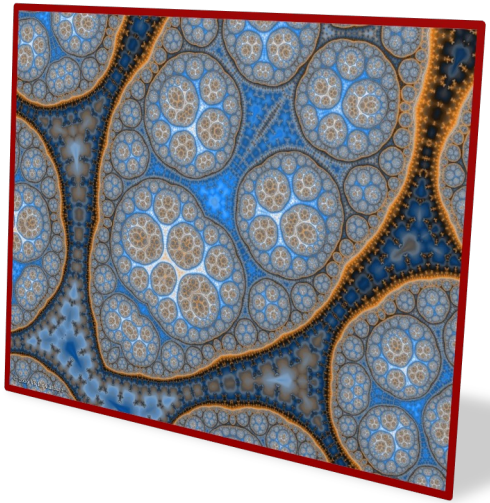
# Build for Change | Open banking demands systems that can *evolve*



*"There is no design at the beginning. You begin by coding a small amount of functionality, adding more functionality, and letting the design shift & shape."*

Martin Fowler, Software Design Guru, Thoughtworks

Systems that can evolve and adapt are critical to the success of open

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To be open, build for change.

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