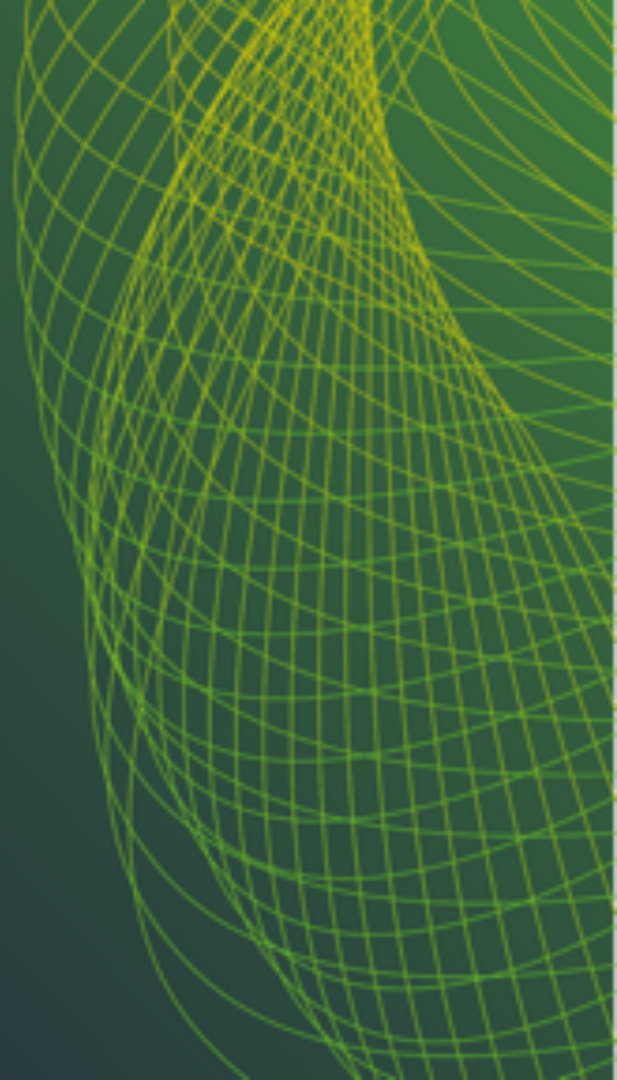


aws

FINANCIAL SERVICES CLOUD SYMPOSIUM

MAY 4, 2021

aws FINANCIAL SERVICES CLOUD SYMPOSIUM

FSI 202

Partnering with AWS to accelerate **Wise** achieving its mission

Harsh Sinha
Chief Technology Officer
Wise

Feidhlim O'Neill
Director, Platform Engineering
Wise

Wise was started to solve a problem.

Moving money internationally is broken.

TRADITIONAL BANKS

Expensive

3-7% avg. fee[1]

Slow

2-5 business days

Inconvenient

Long, unfriendly CX

Opaque

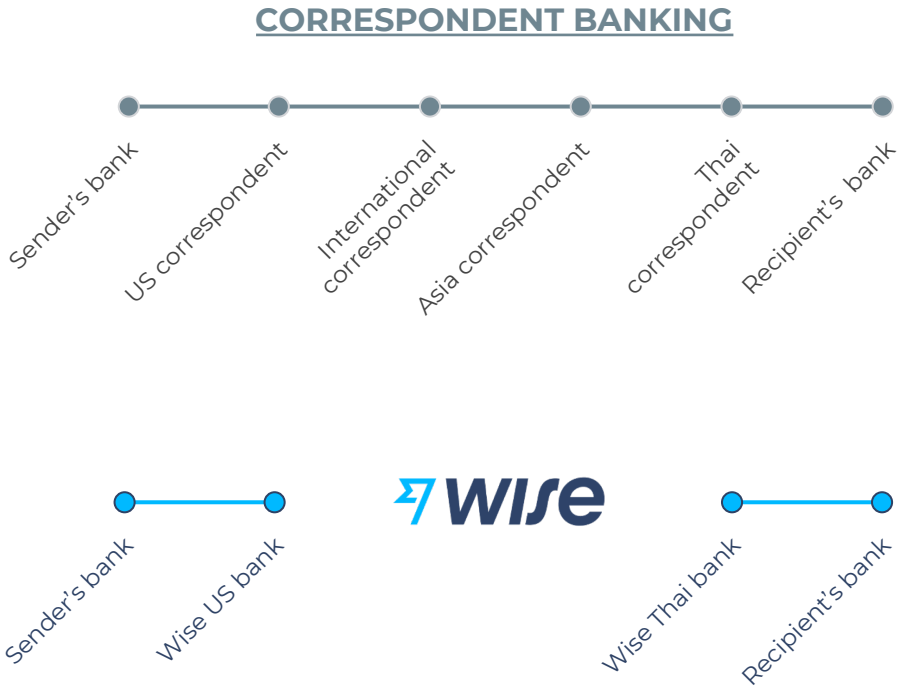
Hidden rate markups

And the problems with cross border are structural.

CORRESPONDENT BANKING

- Intermediary-heavy network
- Unreliable. Hard to monitor
- Manual, or semi-automated processes

We've built a replacement infrastructure for correspondent banking.

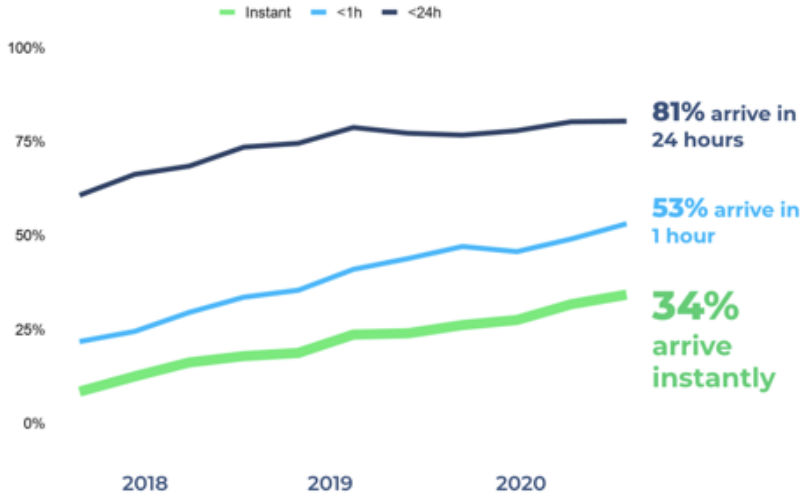


We build connections to local payment systems around the world, which are efficient, fast and low cost

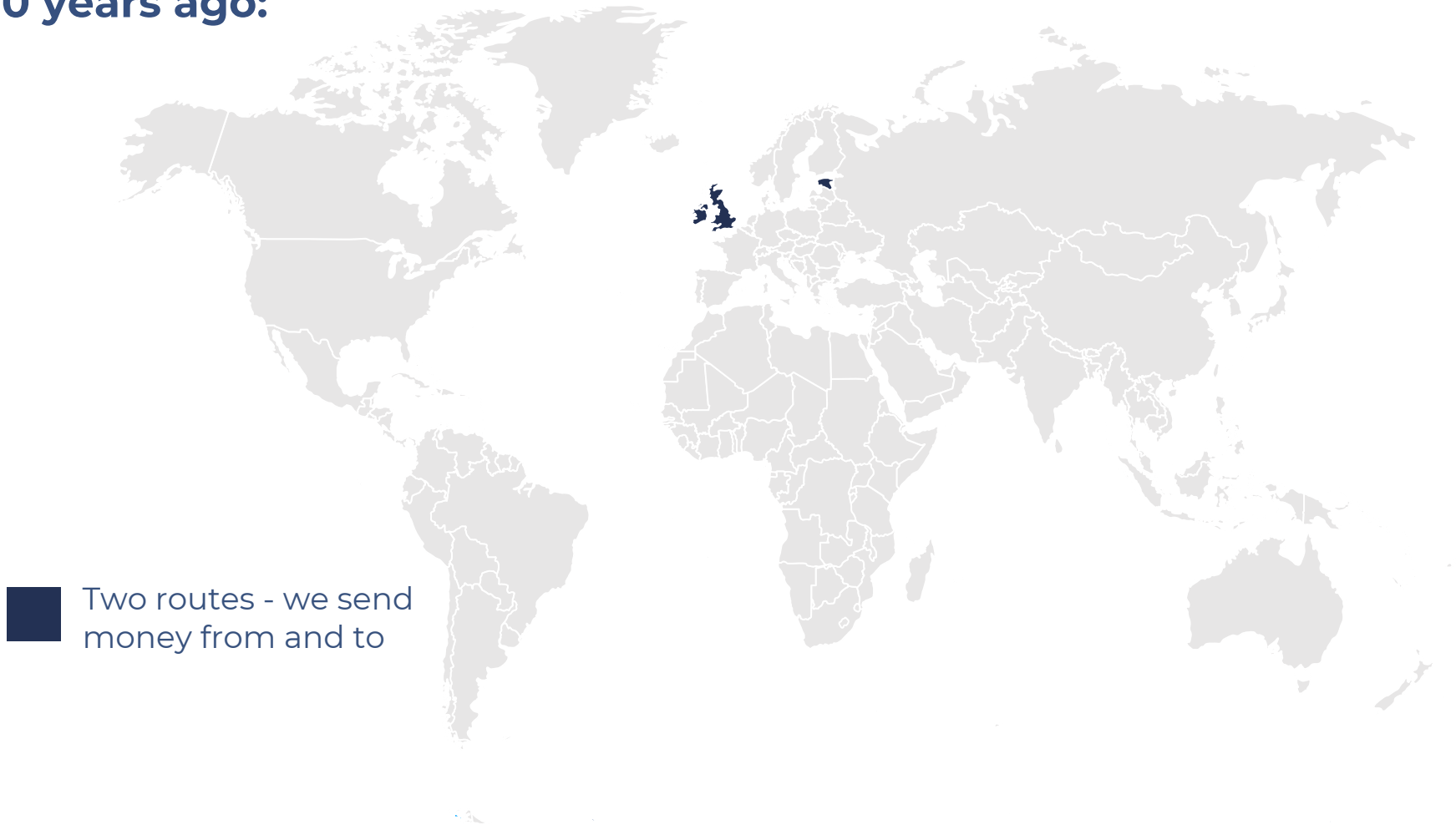
Price

Average Price over Time
1.00%
0.90%
0.80%
0.70%
0.60%
0.50%
Price
0.64%
0.64%
0.63%
0.70%
0.71%
0.70%
0.70%
0.71%
0.69%
2018/Q4
2019/Q1
2019/Q2
2019/Q3
2019/Q4
2020/Q1
2020/Q2
2020/Q3
2020/Q4
Period

Speed

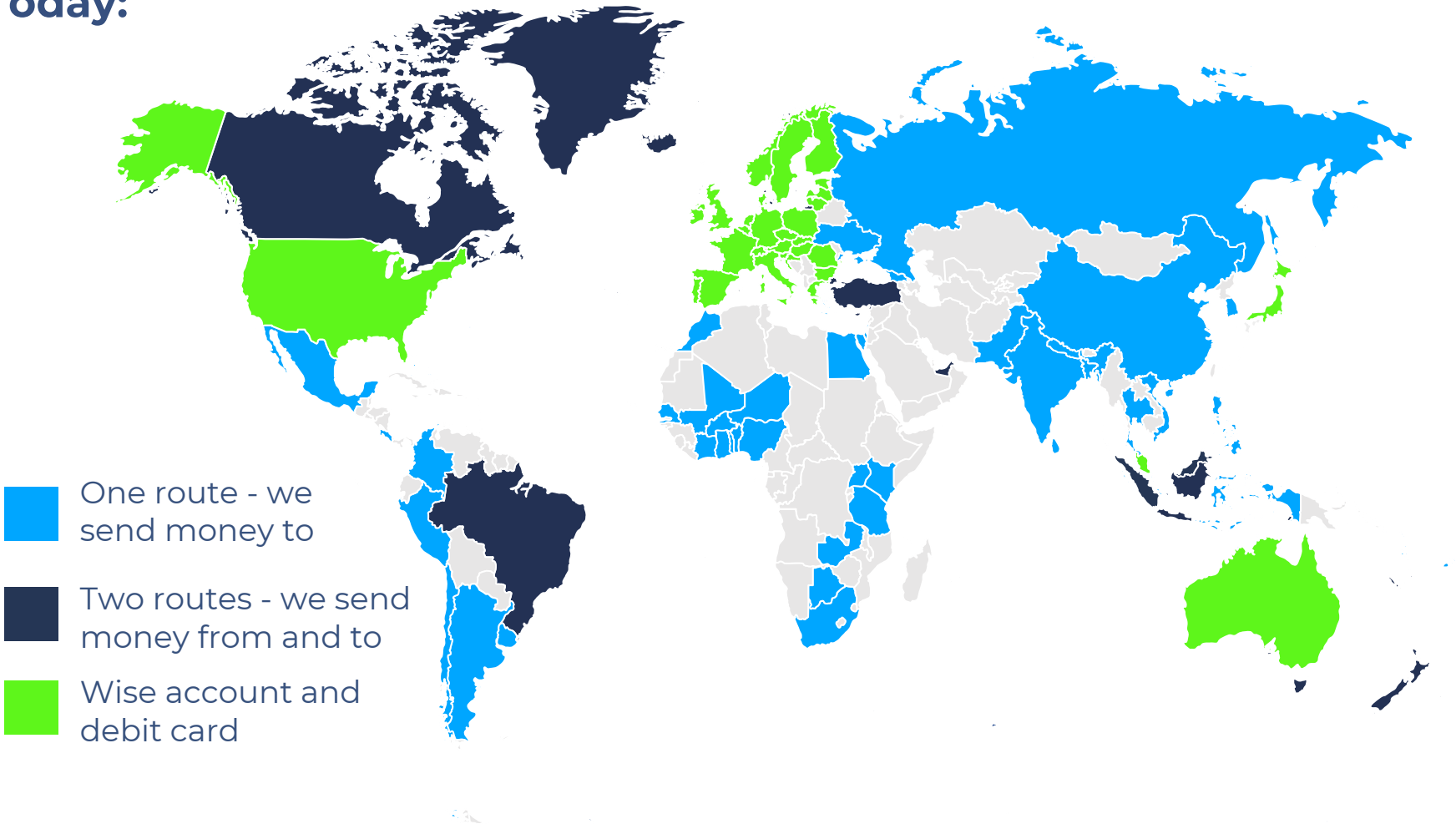

Instant
<1h
<24h
100%
75%
50%
25%
0%
2018
2019
2020
81% arrive in 24 hours
53% arrive in 1 hour
34% arrive instantly

10 years ago:

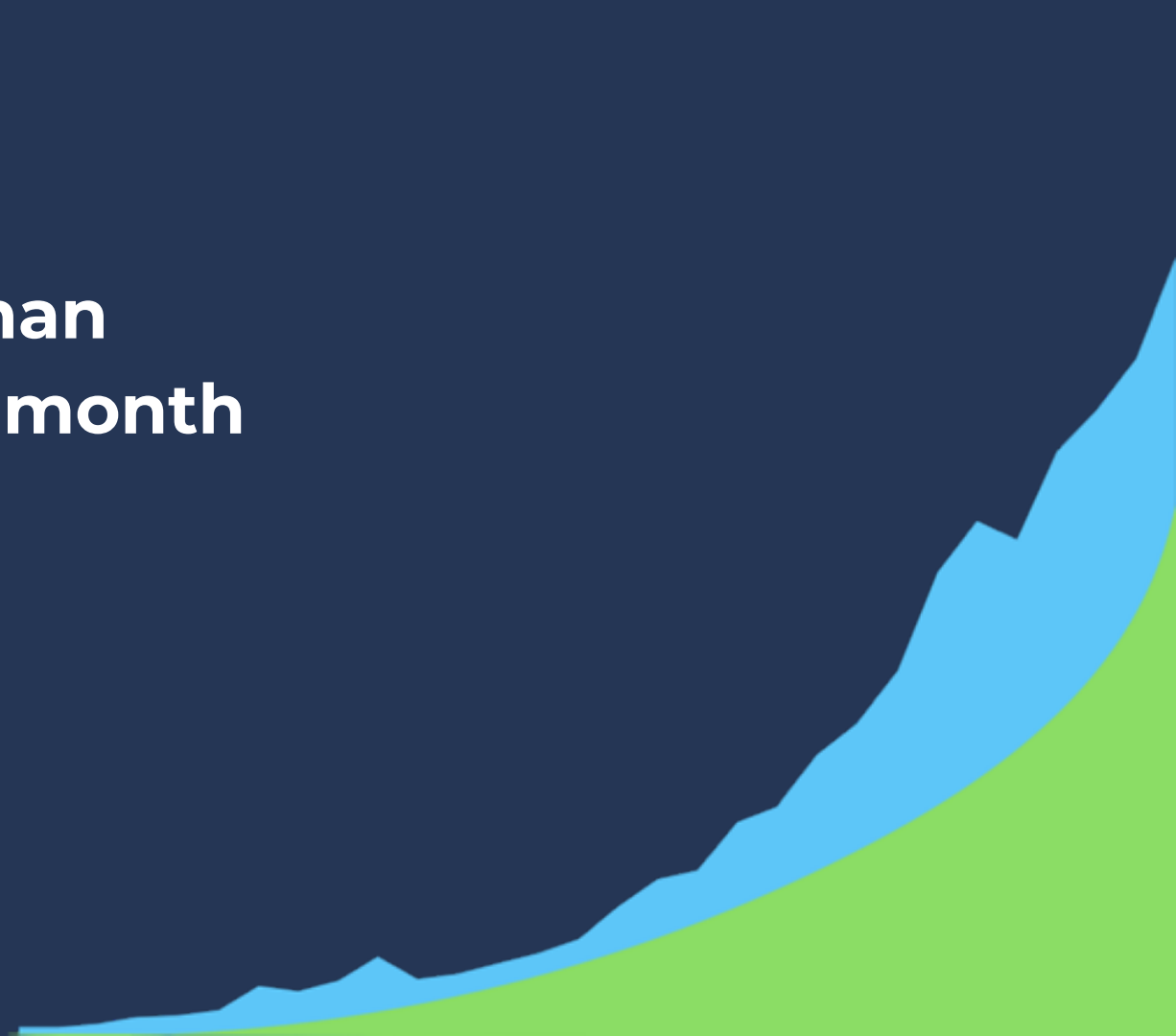


Two routes - we send money from and to

Today:

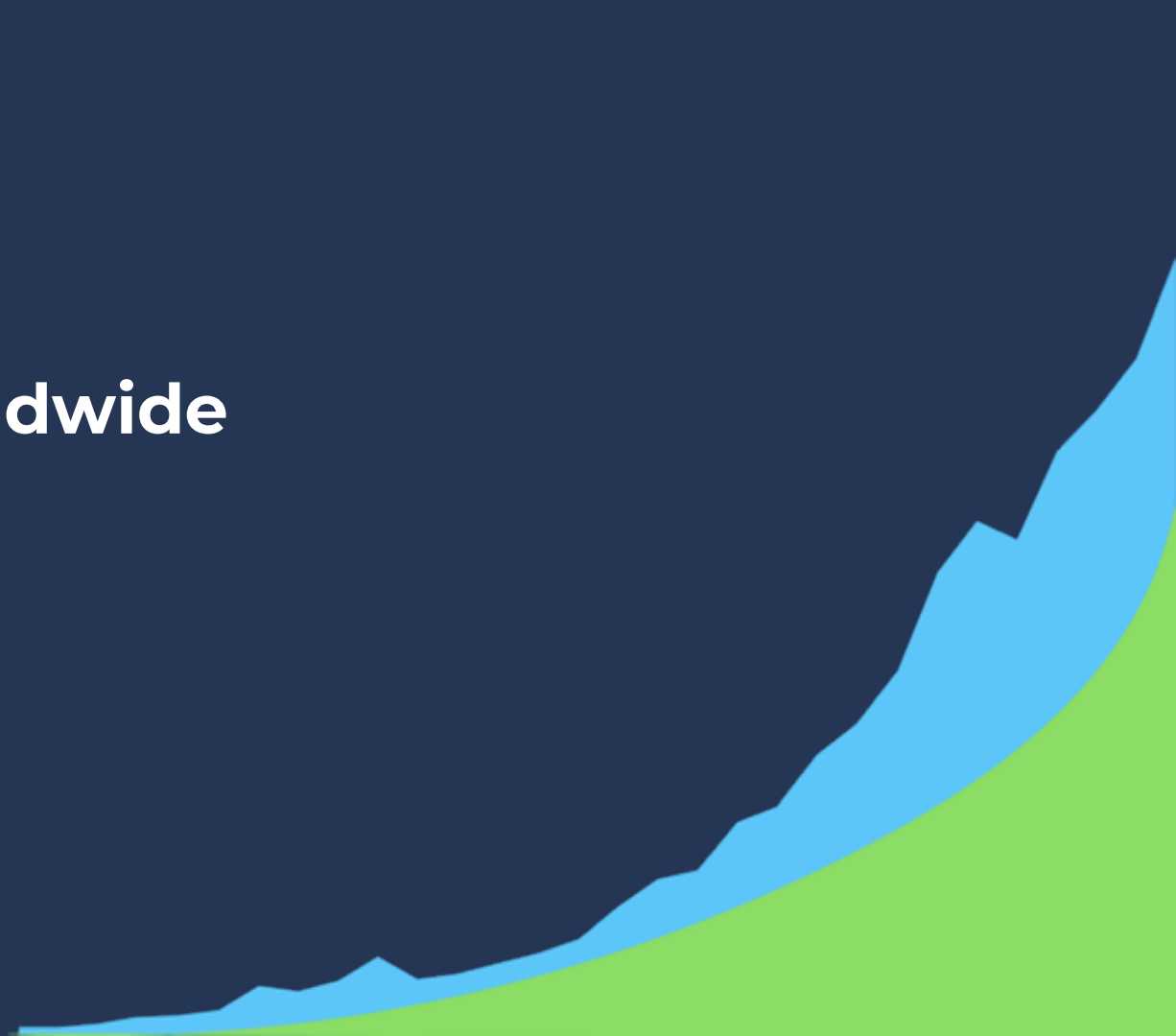

One route - we send money to
Two routes - we send money from and to
Wise account and debit card

Moving more than
£4.5 Billion per month



Saving our customers more than £1bn a year

Over 10 million
customers worldwide



2,200+
People

70+
Nationalities

14
Global offices

Our Mission.

Money without borders -
Instant, convenient, transparent
and eventually **free**.

We're powering money for people and businesses: to pay, to get paid, to spend, in any currency, wherever you are, whatever you're doing.

How our teams work

Our culture prioritises customers and is built for speed.

We execute in **Autonomous** teams focused on solving **customer problems:**

Our autonomous team structure

We have scaled this model.

Autonomous team growth

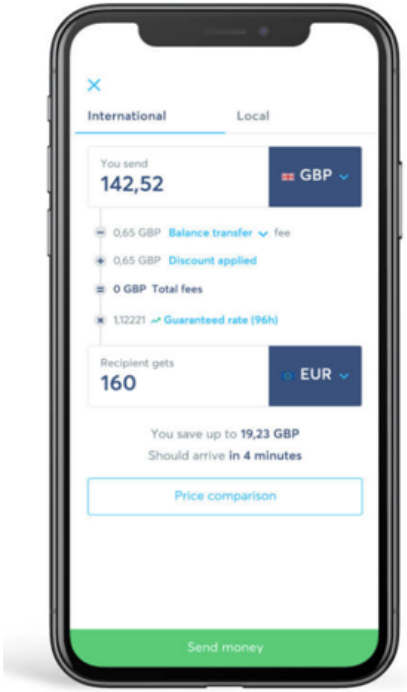
Today at Wise:

500+
Engineers

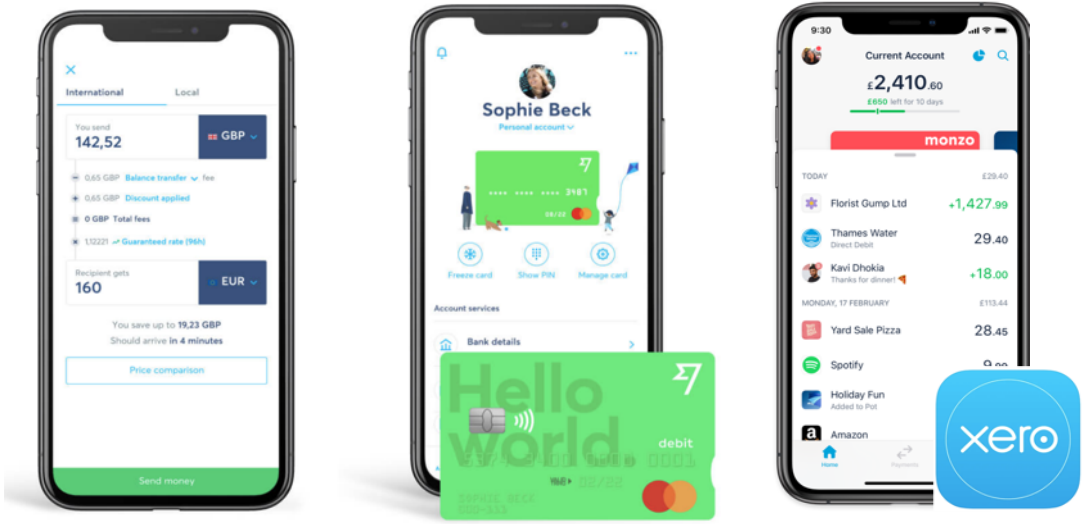
3,000
Releases into production per month

Partnering with

Money transfer consumer proposition mostly served by our own apps



New product verticals and moving to a platform provider



056
057
058
059
072
073
074
075
088
089
090
091

Why Amazon Web Services?

Migration started in **2018**

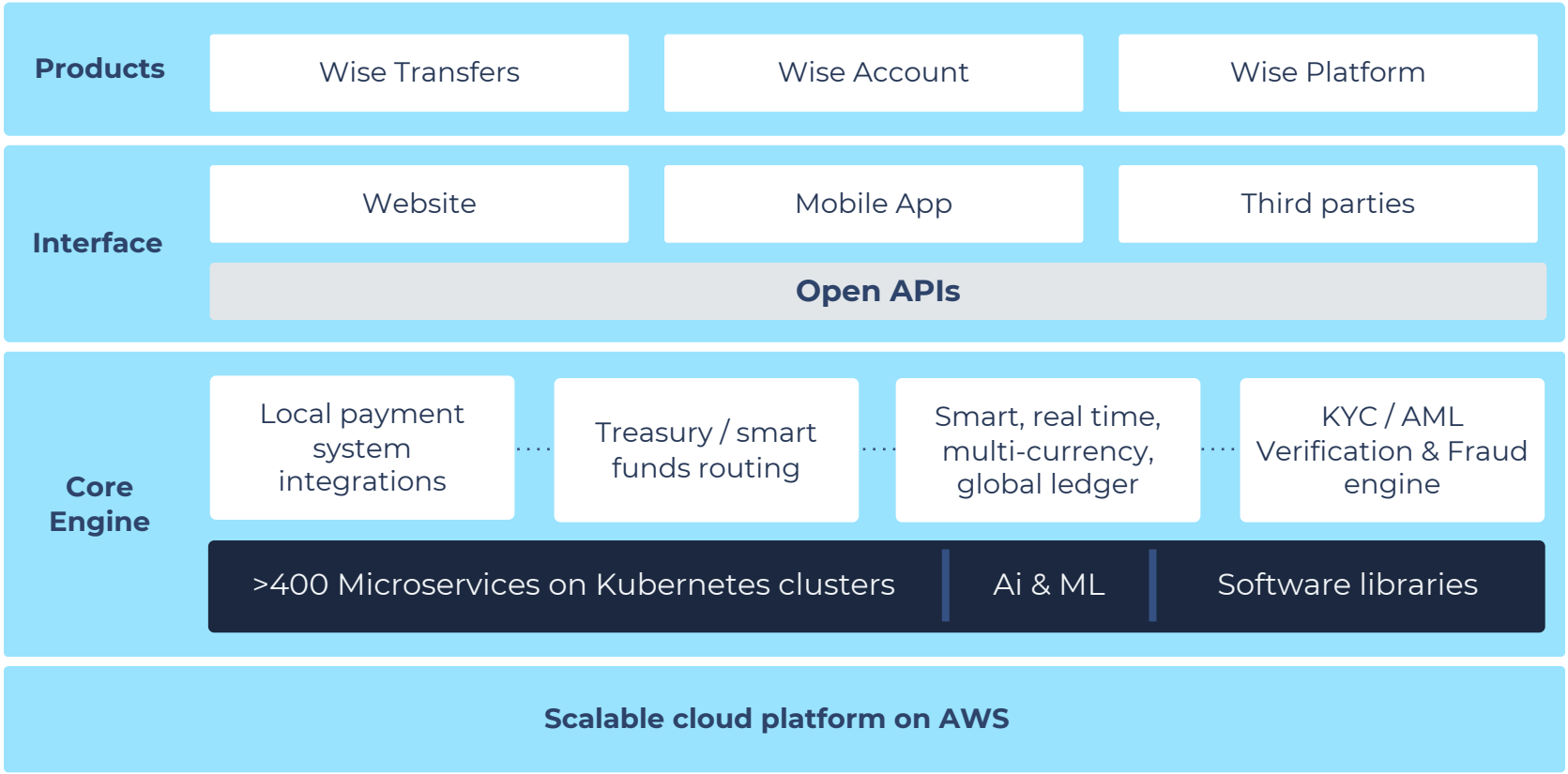
1. Established provider with a track record of providing platform services to other regulated financial technology companies

2. Reference checks with other executives showed AWS relationship management actually worked

3. Large globally deployed presence given our global ambitions and regulatory requirements for direct integrations

As we migrated, we containerised our microservice platform

Wise


Products
Wise Transfers
Wise Account
Wise Platform
Interface
Website
Mobile App
Third parties
Open APIs
Core Engine
Local payment system integrations
Treasury / smart funds routing
Smart, real time, multi-currency, global ledger
KYC / AML Verification & Fraud engine
>400 Microservices on Kubernetes clusters
Ai & ML
Software libraries
Scalable cloud platform on AWS

Mostly built everything ourselves using ‘basic’ AWS services

Amazon EC2

Amazon S3

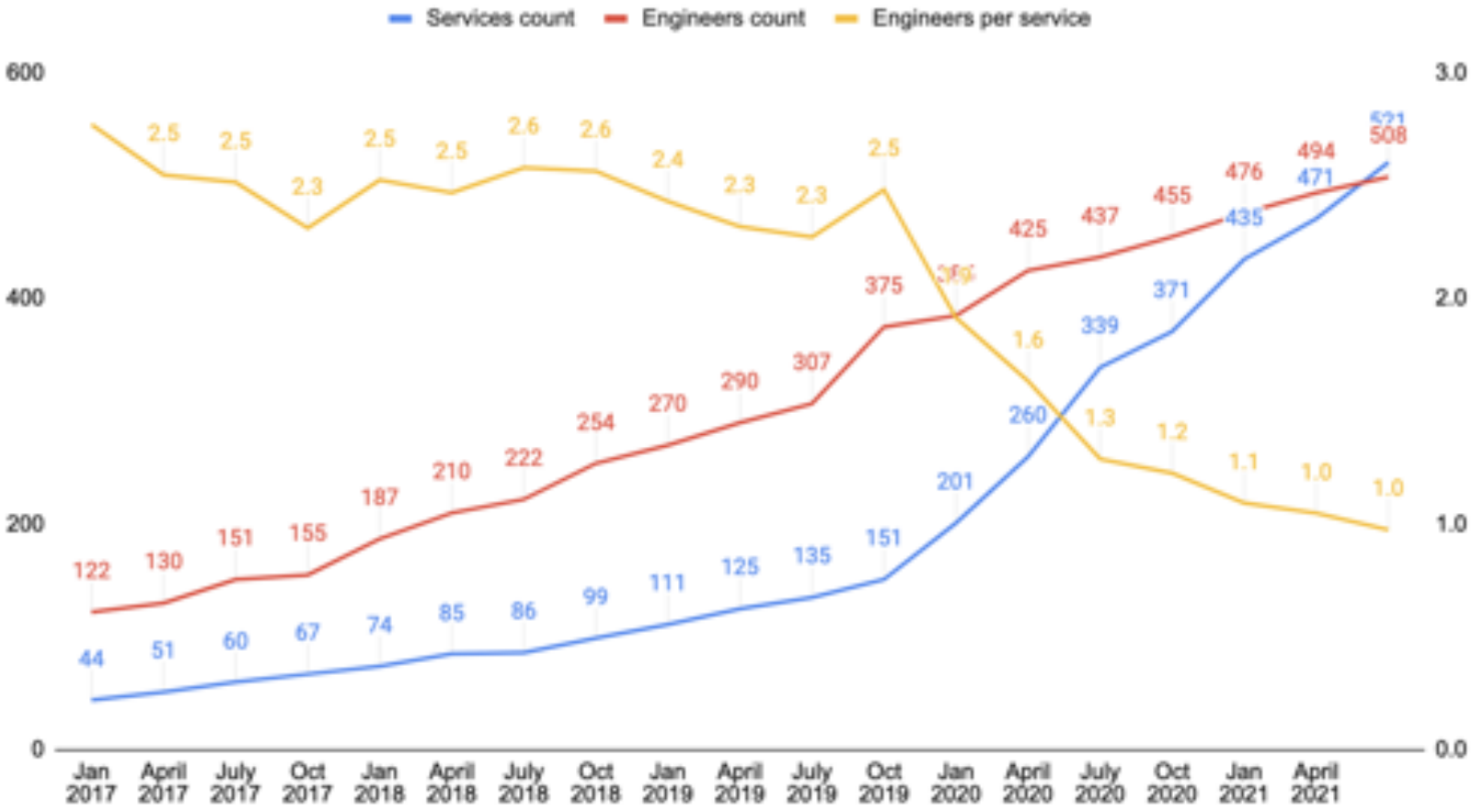
Amazon DynamoDB

Amazon RDS

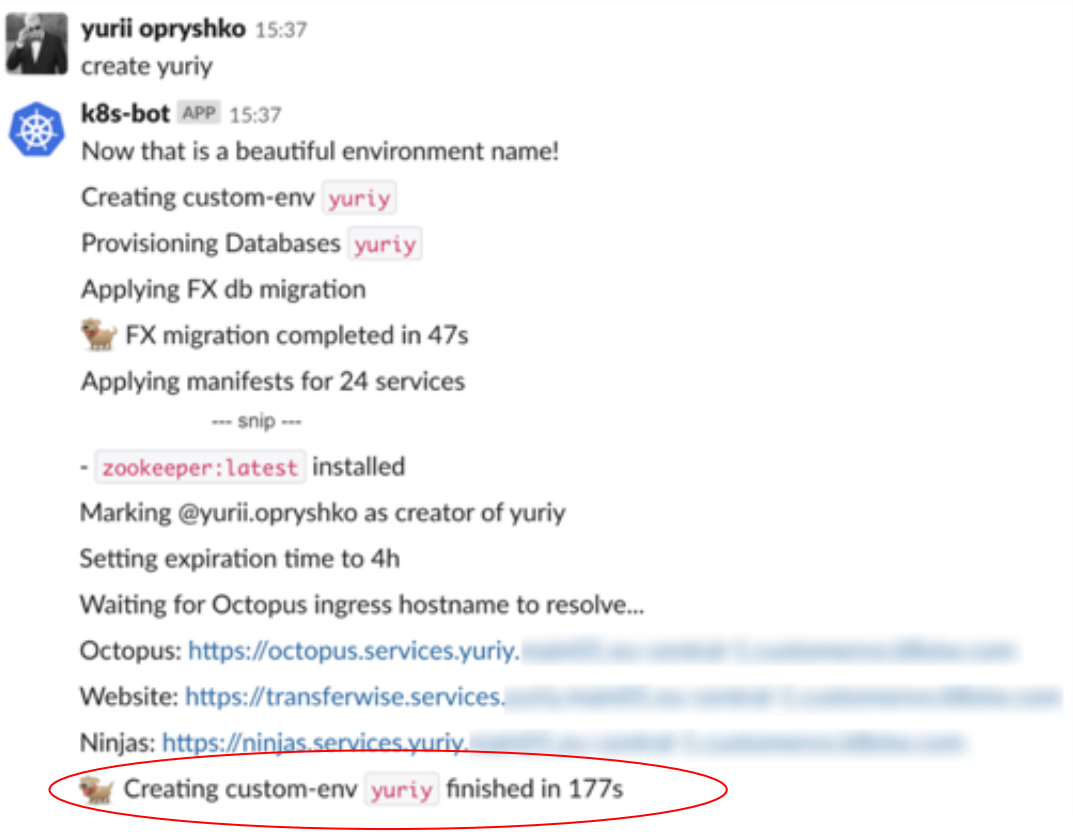
Mostly used open source software deployed on top of basic AWS tech

Prioritised reliability and uptime over cost - within defined architecture

Services growth



On demand provisioning of test environments



Test environments in a distributed architecture

- Short provision time leads to cost efficiencies
- Capacity requirements and limits on AWS region as you scale
- Managing the test estate requires a lot of automation to scale
- **2000+** environments created in Q1 2021

Since migration...

Added a few more specialized services over time

Amazon SageMaker

Amazon Rekognition

AWS Lambda

AWS Simple Notification Service

On going balancing act

Cost

Speed

Reliability

Continue to bring Wise to all corners of the globe - in partnership with AWS

Provide the ‘paved road’ for TransferWise engineers that balances our autonomous culture with feature velocity and business goals, while ensuring our systems are reliable.

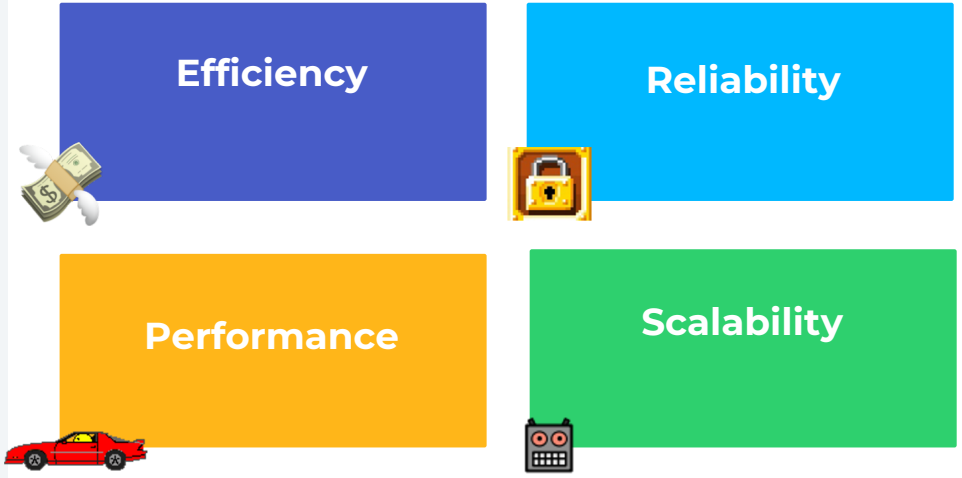
Paved Road

- Release Tooling
- Development Tooling
- Observability Libraries & Tooling
- Data and compute Services
- Cost Management Tooling
- Service Management Tools

Paved Road

- Resilience and Redundancy
- Scalability
- Backup and recovery
- Security
- Backed by operational expertise

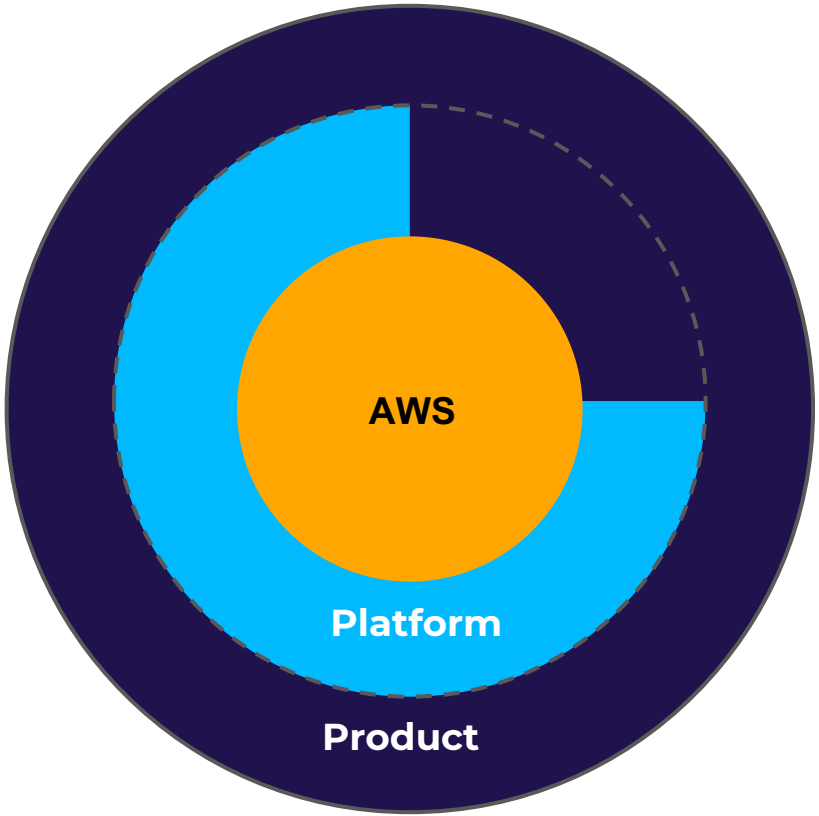
Platform’s Pillars



Requirements are the same if you don't use the Paved Road

Autonomy need to include ground up risk awareness and management

Autonomous teams can solve problems and exploit opportunities quickly



YOU MUST
BE THIS
TALL TO RIDE!

We continue to develop our paved path of platform services to support more requirements

Teams don’t have to use platform services but partner with platform on the design and risk assessments

Our Mission.

Money without borders -
Instant, convenient, transparent
and eventually **free**.

We're powering money for people and businesses: to pay, to get paid, to spend, in any currency, wherever you are, whatever you're doing.

Our Mission.

Money without borders -

Instant, convenient, transparent

and eventually **free**.

We’re powering money for people and businesses: to pay, to get paid, to spend, in any currency, wherever you are, whatever you’re doing.

As volume increases our costs scale

- Playing the long game
- Volume drive down cost
- Integrations drive down cost

Constantly iterate on our architecture to drive down unit costs

CLOSING DOWN
EVERYTHING MUST GO!!!

Price

- AWS costs incorporated into ‘Product Economics’
- Tagging accuracy and discipline
- Track unit cost(s)

Cost Management is everybody's job

That’s infrastructure but is there more?

Collaborative partnership aimed to growing together than just a service

Wise is obsessed with customer satisfaction - an ethos we share with Amazon

Scaling culture, people and organizations

Summary

Summary

1. Partner for today and beyond - all things given equal relationship won for us!

2. Paved road approach helps teams moves fast with flexibility to explore with guard rails

3. Cost is a big factor but visibility of cost is key to help keep costs in control.

4. Partnership can be beyond just infrastructure

aws FINANCIAL SERVICES CLOUD SYMPOSIUM

Thank you!

Harsh Sinha
Chief Technology Officer
Wise

Feidhlim O'Neill
Director, Platform Engineering
Wise

aws FINANCIAL SERVICES
CLOUD SYMPOSIUM

Please complete the session survey