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https://www.abe-eba.eu/media/azure/production/1352/eba_antitrust_policy_20170602_final_clean.pdf

The forum is an open group, where interested stakeholders can discuss and exchange information on industry-wide topics.

The content of the slides presented and the views expressed in the context of the activities of the forum are those of the respective participants in the forum, and do not represent the views of the Euro Banking Association (EBA).

Open Forum on Digital Transformation

The Future of payments is a kaleidoscope of opportunity... What's next and is the velocity changing?

17 October 2023
Digital meeting

Closed user group

Agenda (1/3)

The Future of payments is a kaleidoscope of opportunity... What's next and is the velocity changing?

Welcome and opening remarks

Thomas Egnér, Euro Banking Association

Setting the scene and housekeeping

Kate Pohl

Where is the cash? – Capgemini World Payments Report 2023

Elias Ghanem, Capgemini

Nils Jung, Capgemini Invent

Alexandre Louisy, Upflow

Christophe Vergne, Capgemini

Request to pay – a merchant's view!

Mirko Krauel, OTTO Payments GmbH

Coffee Break

Agenda (2/3)

The Future of payments is a kaleidoscope of opportunity... What's next and is the velocity changing?

Open Banking, embedded payments & finance, how is this changing the world of payments?

Mounaim Cortet, Innopay

Brooke DiNatale, Mastercard

Hakan Eroglu, Bank for International Settlements (BIS) Innovation Hub

Nick Holt, Marqeta

Simon Jones, Payments and Corporate Treasury Consulting, Fintech Exec

Stable Coins, tokenized deposits, CBDC and more – an update on digitized money part II

Manuel Klein, Deutsche Bank

Lunch Break

How is fraud affecting the future of payments... what can and is being done? Implementing the EBA Fraud Taxonomy – an example!

Johan Anlert, SEB

Annick Moes, Euro Banking Association

Agenda (3/3)

The Future of payments is a kaleidoscope of opportunity... What's next and is the velocity changing?

Are banks actually creating a unique API strategy and offering? What do corporates really want and does this include connectivity to multi-bank and third-party platforms?

Ortwin Scheja, SRC Security Research & Consulting GmbH

Björn Zaksek, Raiffeisen Bank International

Is Regulation driving Real Time Payments? Where are we going and when?

Olivier Denecker, McKinsey

Gerald Hechl, Raiffeisen Bank International

Marta Stensheim Haugen, Nordea

Wrap-up

Thomas Egner

**Secretary General
Euro Banking Association**

Kate Pohl

**Facilitator
Euro Banking Association**

Panel Discussion



WORLD PAYMENTS REPORT 2023

WHERE IS THE CASH?

*ACCELERATE
CORPORATE CASH MANAGEMENT
TRANSFORMATION TO
BUILD VALUE*





360-DEGREE MARKET VIEW

Corporate survey
+350

CFO and
Head corp. treasurers

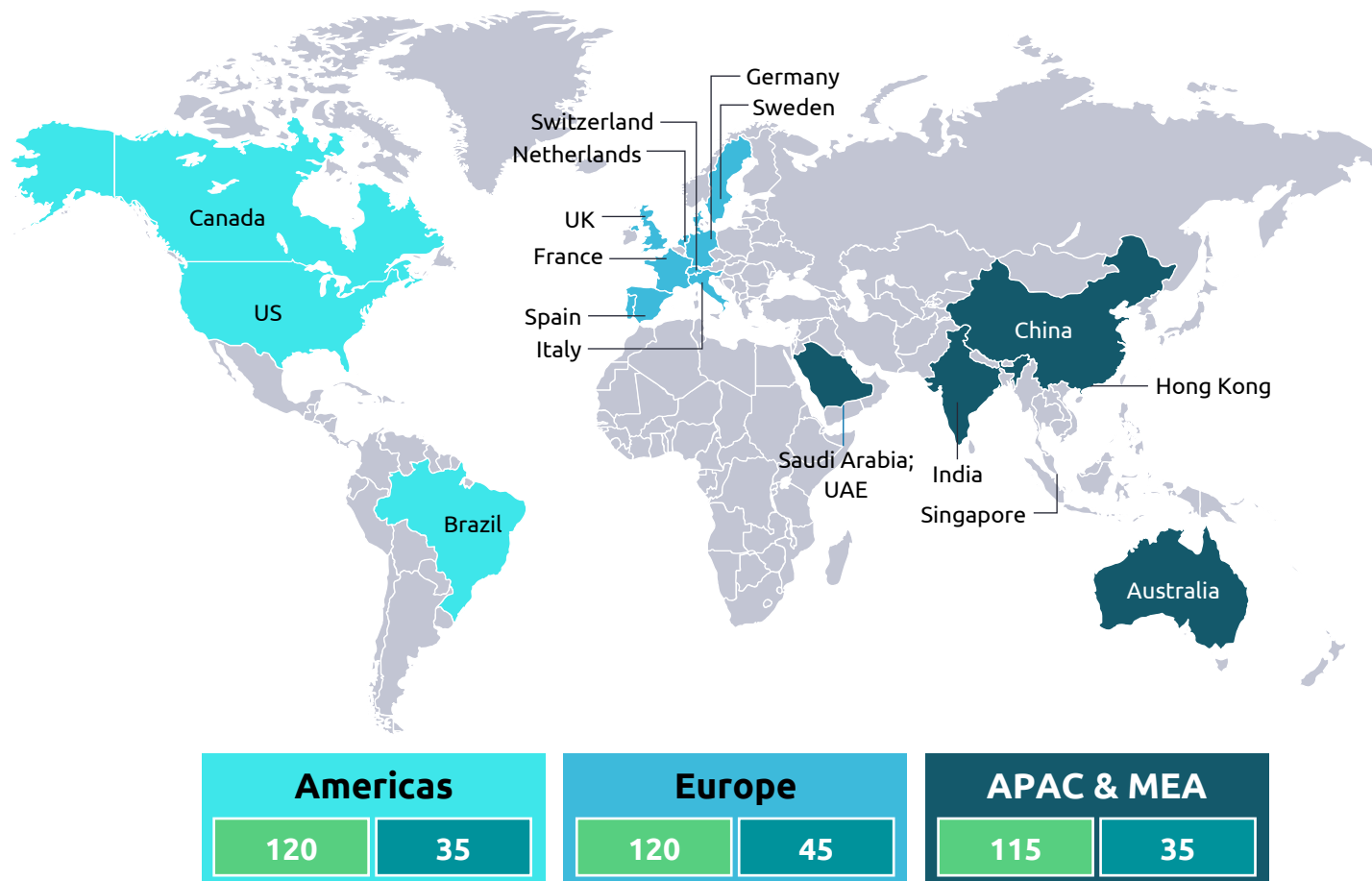


Key Industries

Retail/e-commerce (incl. consumer products)	105
Life sciences/Pharma/ OEMs* of medical devices	90
Quick service Restaurant (QSR)	60
Manufacturing (Auto, air plane makers)	60
Energy & Utilities	40

Note: *OEM – Original equipment manufacturer

Key Markets for surveys



Executive surveys
+115

Payment executives of
leading banks, and
payment firms



Executive interviews

Banks, payment firms & corporate clients:

- Commercial payments,
- Transaction banking,
- Cash management
- Corp treasurers





KEY DEFINITIONS

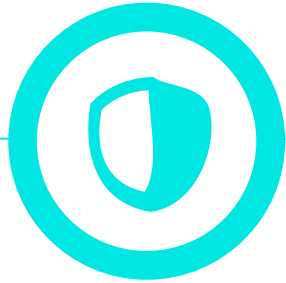
Terms	Definitions (for this report)
Banks	Payments arms/functions and payments subsidiaries of banks.
Payments firms	Card schemes (Visa, Mastercard, Discover, etc.), and Payments processing firms (Fiserv, Worldline SA, Euronet Worldwide, etc.)
Central operators	Organizations managing payment infrastructure like ACH, SEPA, SWIFT, TCH, EPI, etc
New-age players	FinTechs and PayTechs They could be: <ol style="list-style-type: none">1. Partners or competitors to banks and Payments firms (like Stripe, Adyen, Block, Wise. Etc.)2. Enablers to banks and payment firms (like Kryiba, Highraidus, Thunes, TransferMate, Finlynck, etc.)



WORLD PAYMENTS REPORT 2023 IN A NUTSHELL

WHERE IS THE CASH?

Accelerate the corporate cash management transformation to build value

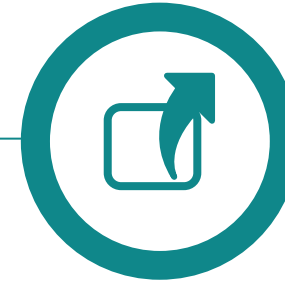
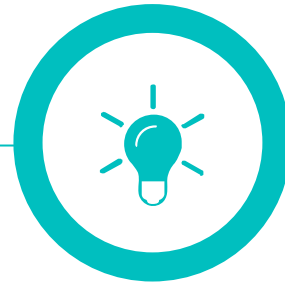


Manoeuvre

the changing payment landscape
to
maximize profitability
by re-aligning to
enterprise payments needs

Transform

With strong foundation and
intelligent capabilities
to deliver
**experiential
cash management services**



Break the mould

To move beyond
"service provider"
to
"strategic partner"
for
long-term sustainable growth

INNOVATION, REGULATION, and PROFIT DYNAMICS SHAKE PAYMENTS STATUS QUO

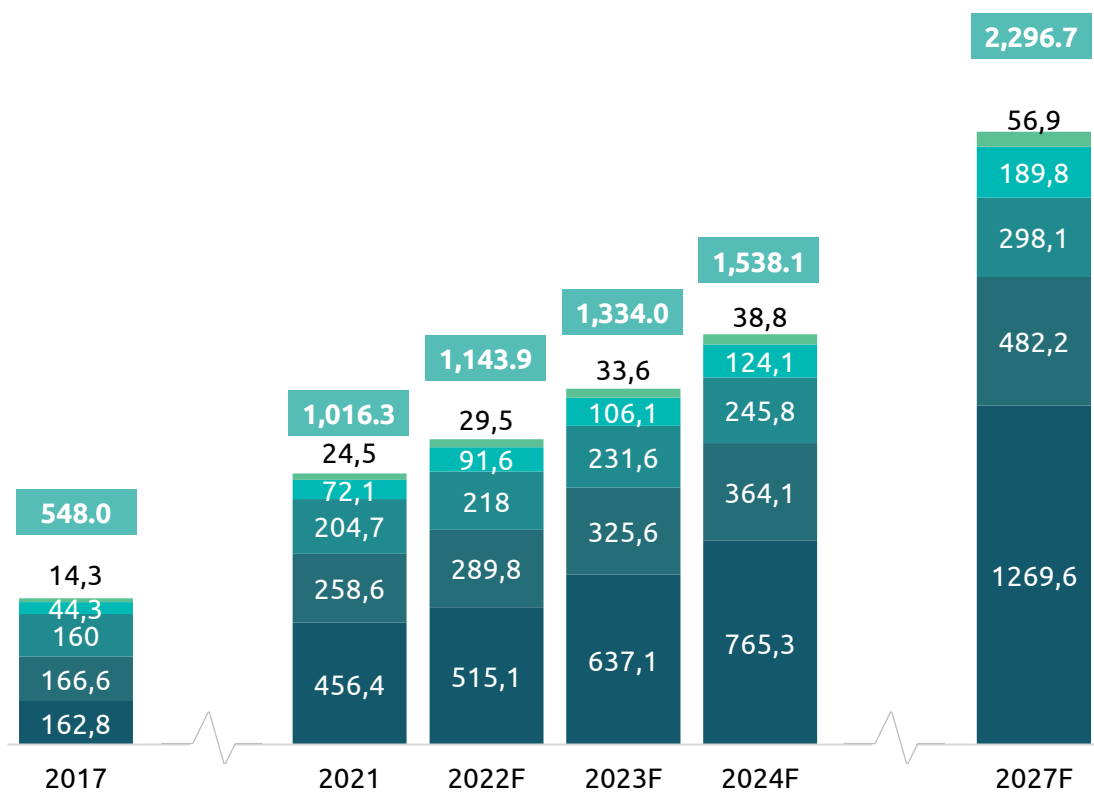




NON-CASH TRANSACTION GROWTH PROVED RESILIENT AMID GLOBAL MACROECONOMIC UNCERTAINTIES

The massive growing shift towards cashless society is **accelerating the payments mix**

Worldwide non-cash transactions
(enterprise and retail)
(volume in billions, 2017-2027F)



	Growth '22F-'23F	CAGR '22F-'27F
Global	16.6%	15.0%
MEA	14.1%	14.1%
Latin America	15.8%	15.7%
North America	6.2%	6.5%
Europe	12.4%	10.7%
APAC	23.7%	19.8%

MEA : investing heavily on **real-time payments infrastructure** and **open banking**.
E.g.: **SARIE (KSA)** for instant fund transfer
Bahrain open banking framework,

Latin America: Several countries have launched **real-time payments (RTP)** and fast-payment systems
E.g. **PIX (BR)**, **Transferencia 3.0 (AR)**

North America: **FedNow (US)** and **RTR (CA)** are expected to provide consumers and businesses with **fast and easy access to instant payments**.

Europe: **EPI, Digital ID and PSD3** will be the new drivers promoting **interoperability** and **standardisation** in the region.

APAC: Expanding digital payment infrastructure and interlinking of interfaces for cross-border transfers.
E.g. **UPI (India)**, **PayNow (SG)**, and **DuitNow (MY)**

Expanding digital payment infrastructure is the tailwind for non-cash transaction volume growth



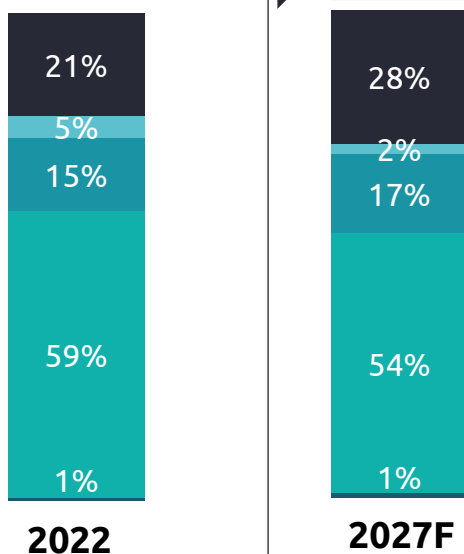
GROWING UBIQUITY OF INSTANT PAYMENTS AND DIGITAL WALLETS ARE REDEFINING "HOW CUSTOMERS PAY"

Open banking and fast-growing instant and eMoney payments are fuelling customer adoption

New payment adoption is on rise

Total non-cash transactions volume

1,143.9 billion **~2X** 2,296.7 billion



Traditional payment's mix

- Cards (debit & credit)
- Credit Transfers (Payer-driven push transactions)
- Direct Debit (Payee-driven pull transactions)
- Checks

New payment's mix

- Instant Payments and e-Money Payments (incl. Wallets)

Retail payments lead the shift towards digital payments

Account to Account (A2A) payments

- In 2022, **64 Real-Time-Payments (RTP) schemes** globally drove the A2A payment growth.
- A2A payments accounted for **\$525bn in global e-commerce transaction value** and is projected to grow at **13% CAGR** through 2026. ¹



Digital wallets

- Digital wallets market size is **projected to grow at 14.6% CAGR** during 2022-26.
- Digital wallet users are **expected to exceed 5.2 billion globally in 2026**
- Over **60% of global population** to use digital wallets in 2026 ²



Contactless cards

- Contactless card purchases worldwide will **increase by 23% each year** and reach a total of more than **\$522bn by 2026** ³

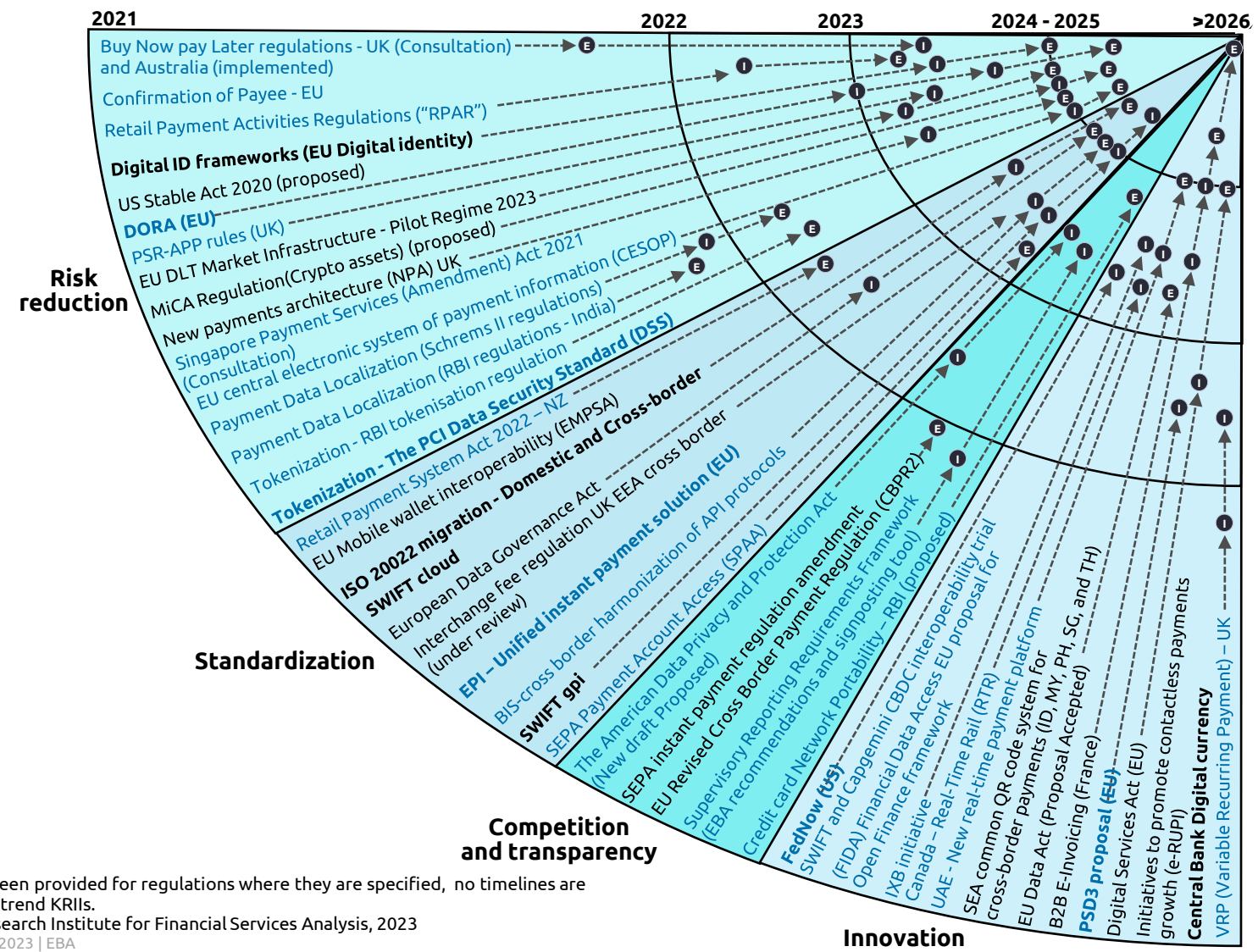


An acceleration in the **regulatory landscape** is further driving the **digitalization** of the **payments value chain**



REGULATIONS AND INITIATIVES ARE DRIVING COMPETITION, HARMONIZATION, INNOVATION, AND TRANSPARENCY

KRII – Key Regulatory and Industry Initiatives



New KRIs introduced in WPR 2023

- I** Intermediate implementation of the initiative/regulation
- E** Full implementation of the initiative/regulation
- ↑ Elapsed time

- EPI – European Payments Initiative
- DORA – Digital Operational Resilience Act
- PSR - Payment Systems Regulator
- MiCA – Markets in Cryptoassets
- IXB – Immediate Cross-Border Payments
- SEPA – Single Euro Payments Area
- PCI – Payment Card Industry
- SEA – Southeast Asia

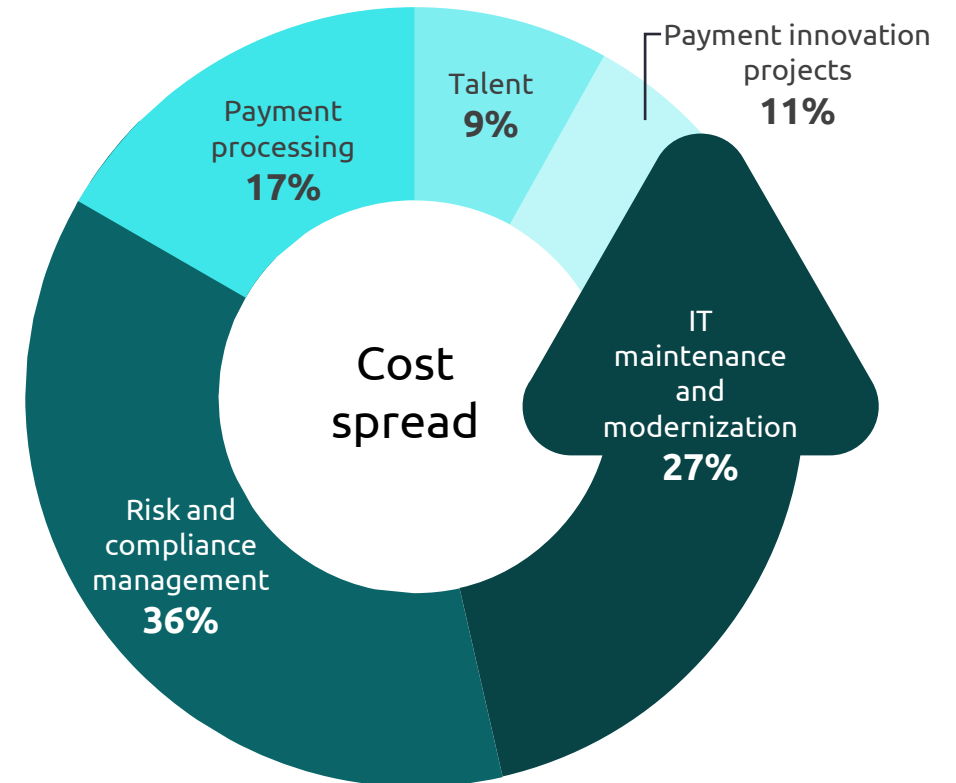
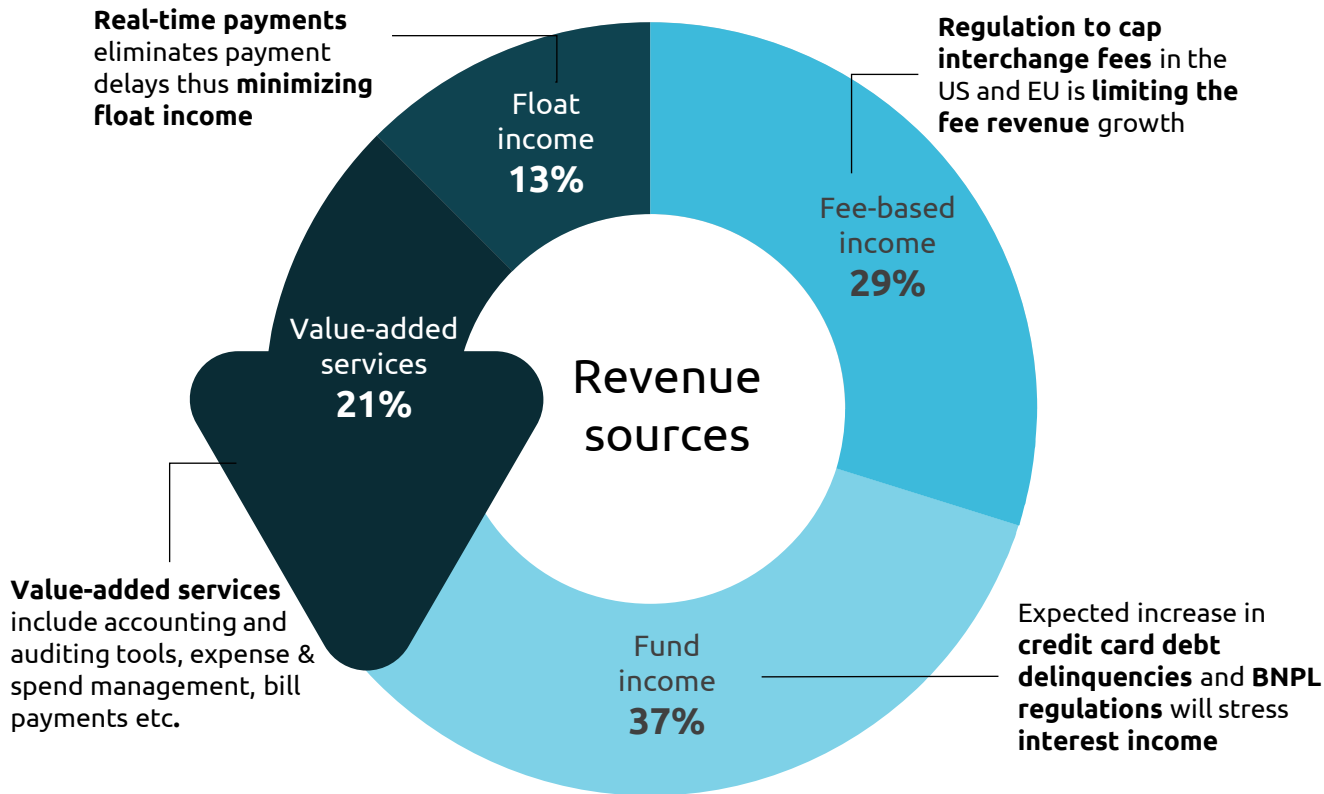
Note: Timelines have been provided for regulations where they are specified, no timelines are specified for industry-trend KRIs.
 Source: Capgemini Research Institute for Financial Services Analysis, 2023
 World Payments Report 2023 | EBA



STRESSED REVENUE SOURCES AND HIGH OPERATIONAL COST IS LEAVING LIMITED SCOPE FOR INNOVATION

Fees, fund and float income, the 3F's of the revenue, are under pressure

Regulatory and scheme compliance requirements (ISO20022, SWIFT gpi, etc.) are driving costs up

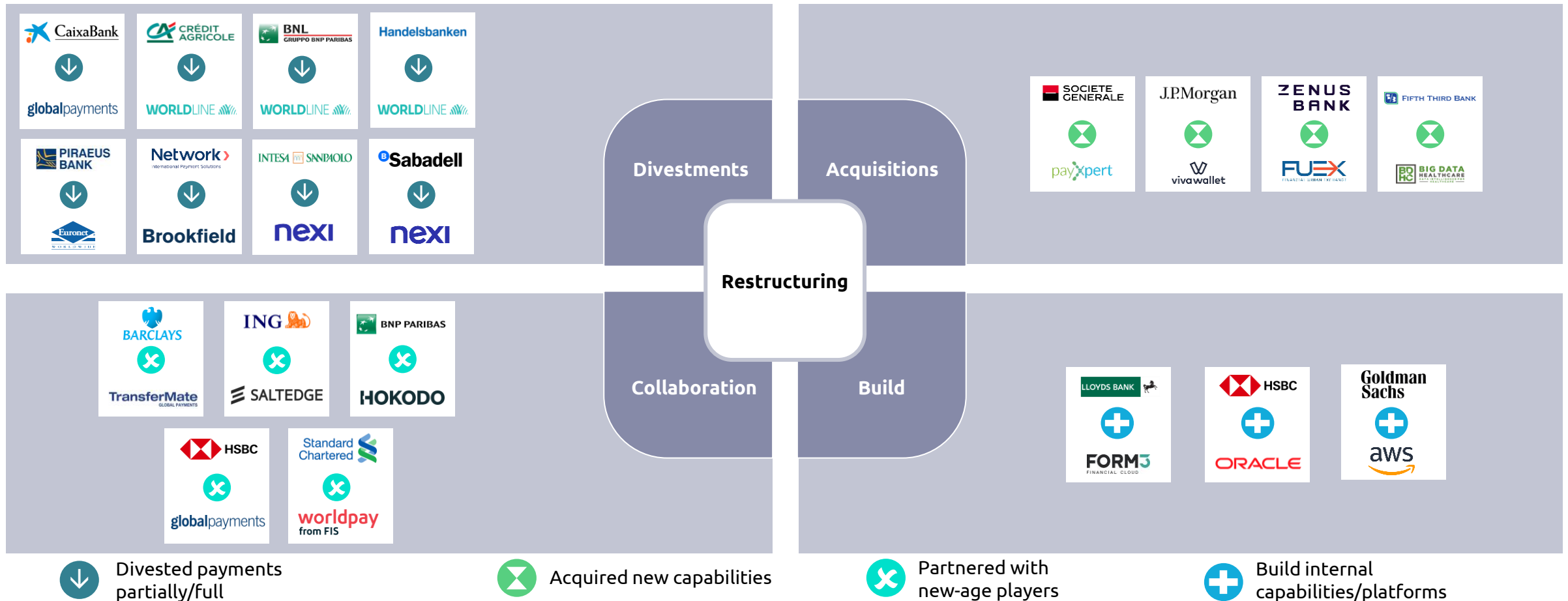


Note: Cost and revenue structure of payments industry (includes retail and enterprise), Payment executive views

As profit potential declines, firms have to **rethink their payment business strategy.**

CHANGING MARKET DYNAMICS IS TRIGGERING RESTRUCTURING OF PAYMENTS BUSINESS

To improve efficiency and build new capabilities, banks and payment firms are actively seeking new business models



ENTERPRISE CASH MANAGEMENT IS A CHALLENGE

Enterprise payments

Transaction banking

Cash & liquidity
management



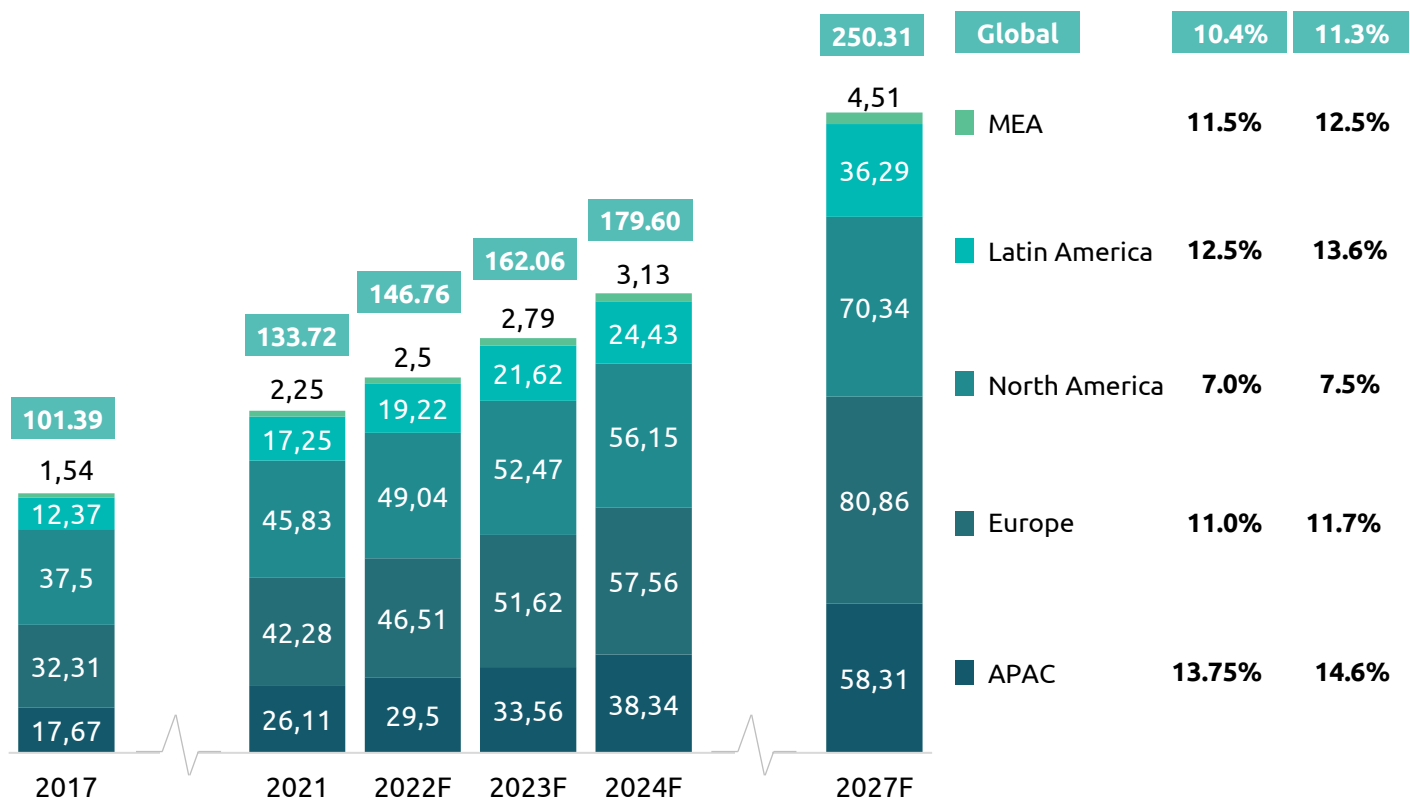


COMMERCIAL PAYMENTS ARE FAST CATCHING UP WITH THE DIGITAL TREND – ACT NOW!

Digital payments can boost business supply chain efficiency by making financial flow easier, faster, cheaper, and more transparent

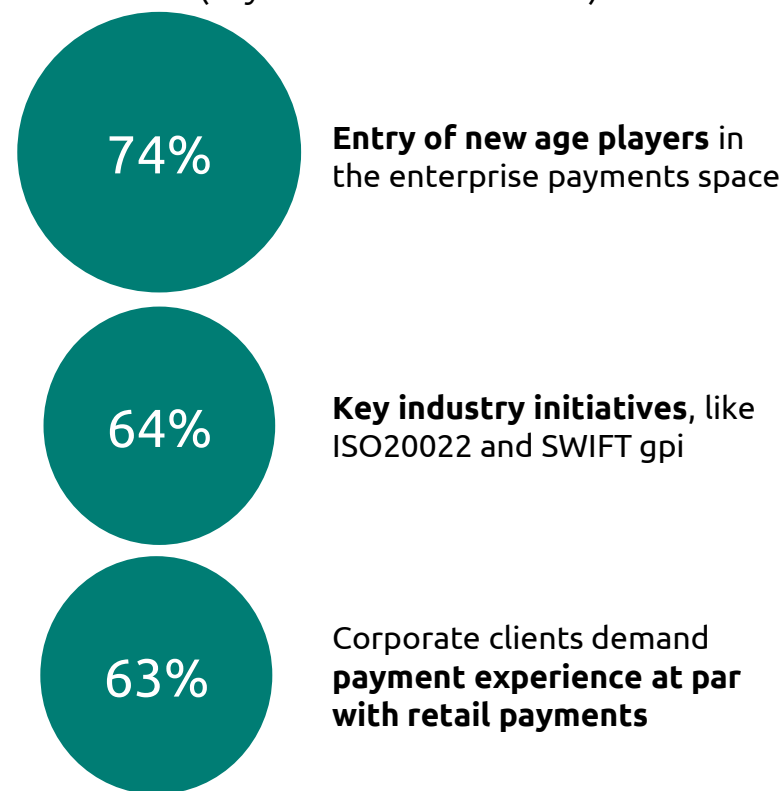
Worldwide non-cash transaction volume

Enterprise payments
(billions, 2021-2027F)



Leading factor for rising demand of enterprise digital payments

(Payment executives views)



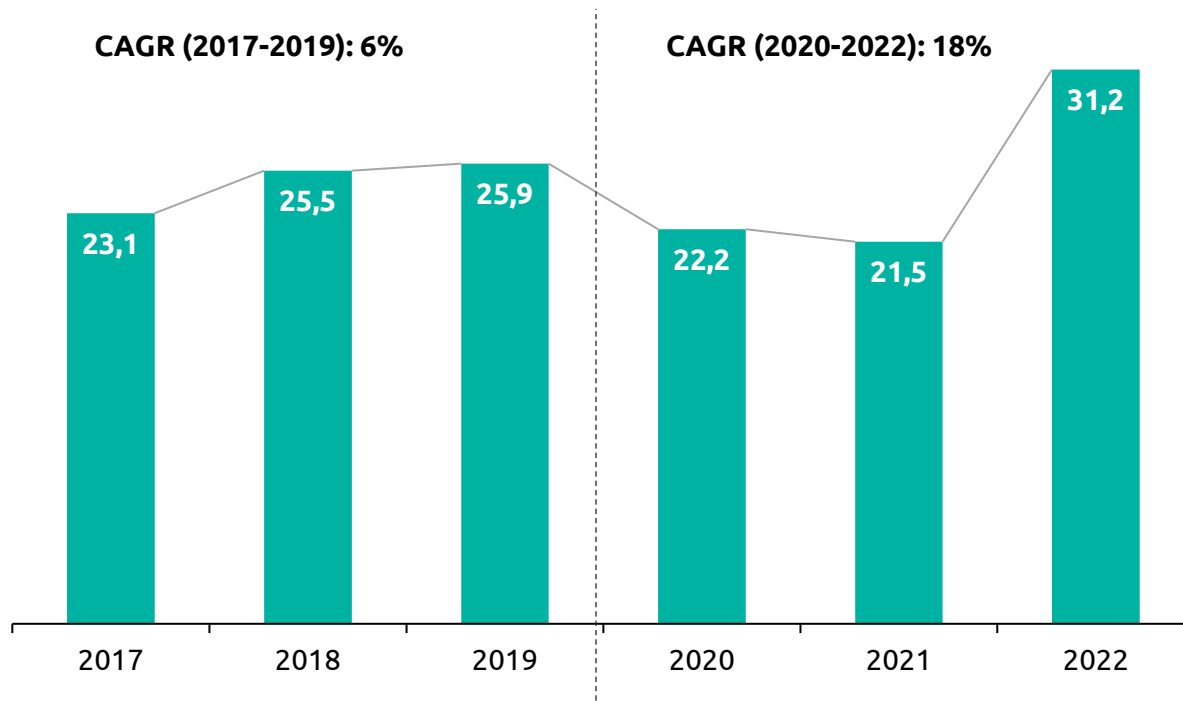
Are banks and payment firms equipped to keep the leadership with their corporate clients?



CASH MANAGEMENT IS IN SPOTLIGHT AS CORPORATES NAVIGATE VUCA ENVIRONMENT

Cash management is at the heart of enterprise success

Cash management revenue of top 10 global transaction banks
(FY2010-2022, USD billion)



Factors driving the urgent need for cash management services
(As per corporate treasurers)



Corporates are demanding **innovative and digital cash management experience**.
Are banks stepping-up to meet the enterprise expectations?

^VUCA - Volatile, uncertain, complex, and ambiguous



LIMITED BY POOR CAPABILITIES, BANKS AND PAYMENT FIRMS ARE AT RISK OF LOSING GROUND

Payment firms trail in delivering effective cash management services

Product Management	On-boarding	Channel & Origination	Product Processing			Clearing & Settlement	Servicing & Reporting	Billing
Market coverage	Bank-corporate connectivity	Payment authentication	Payment processing	Messaging	Format conversion	Interbank-settlement	Enquiries	Billing & invoicing
Correspondent Set-up	KYC checks	Omni-channel	Sanctions handling	Physical pooling	Tax management	Netting	Regulatory reporting	
	Entity management	Validation	Dynamic pricing	Notional pooling	Interest calculation	Cash reconciliation	Cash forecasting	
			FX solutions	Fraud management	Virtual account management			
72% struggle to provide efficient cross-border payments	51% said on-boarding and KYC is largely manual and paper-based	65% said payment authentication and validation are delayed	65%+ said that they: <ul style="list-style-type: none"> Do not offer instant payment capabilities to corporates Struggle with multi-banking integration and connectivity Fail to offer VAS¹ like FX solutions, VAM², etc. 			56% said reconciliation is largely manual and consume significant time	62% are failing to offer: <ul style="list-style-type: none"> Cash forecasting Single view of cash position 	64% said billing and invoicing remains siloed and manual process

Payment executive's view

Areas with high friction/issues

1- VAS – Value Added Services
2- VAM – Virtual Account Management

Banks and payment firms need to optimize their cash management value chain to drive efficiency.
Where are banks and payment firms lagging?

**ESSENTIAL TO BUILD
STRATEGIC
CORPORATE
RELATIONSHIPS
WITH EFFICIENT
CASH MANAGEMENT**



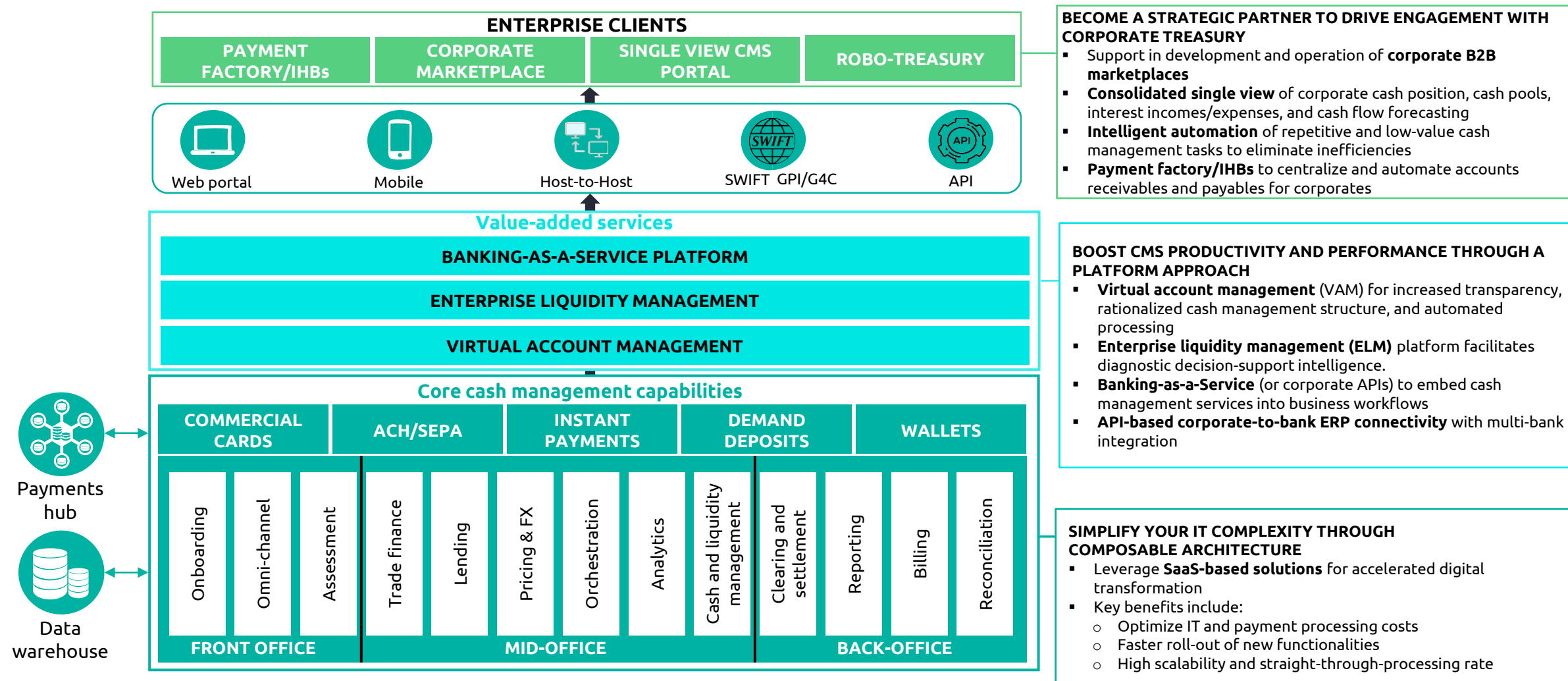
VALUE





STEP UP IN THE CASH MANAGEMENT VALUE CHAIN WITH STRONG DIGITAL FOUNDATION

To become a strategic partner
SIMPLIFY IT → DRIVE PRODUCTIVITY → BOOST PERFORMANCE





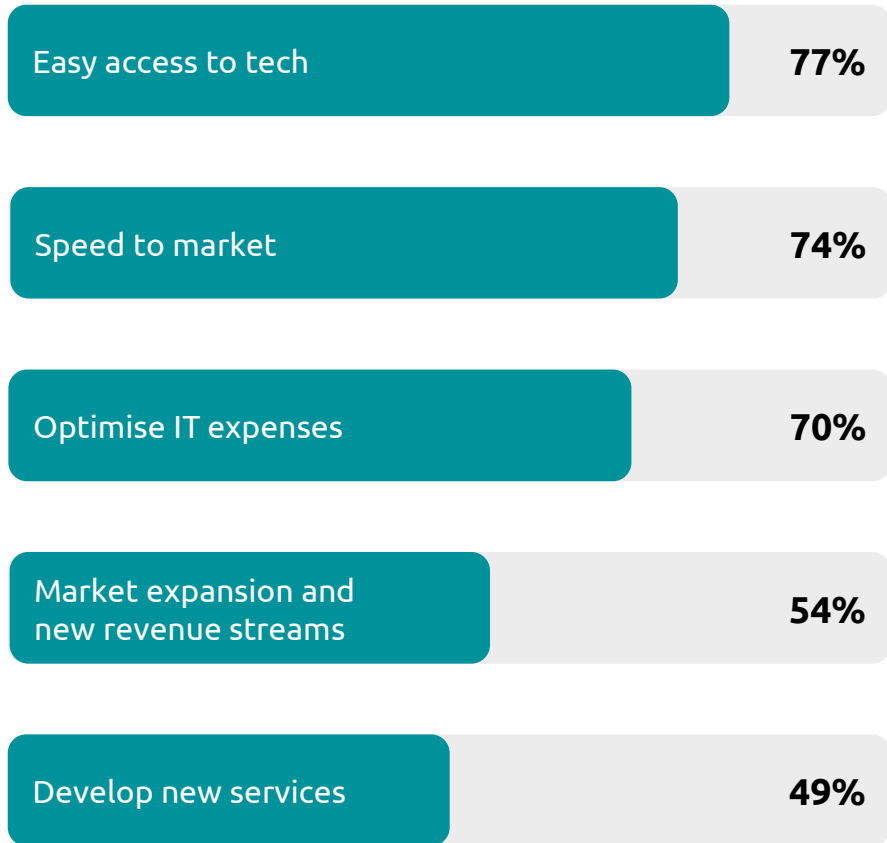
BANKS AND PAYMENT FIRMS + NEW AGE PLAYERS = ACCELERATED VALUE CREATION

Improved digital maturity results in higher collaboration readiness

71% payment executives said they are prioritizing collaboration with new-age players to create and offer innovative CMS

Benefits to banks from new-age players collaboration

(% of payment executives on benefits of collaboration)



DBS partners with **Finlync** for plug-and-play API solutions to reduce **time to market** of new services

HighRadius's AI//ML capabilities powered **Citi Bank** in **automated reconciliation**.

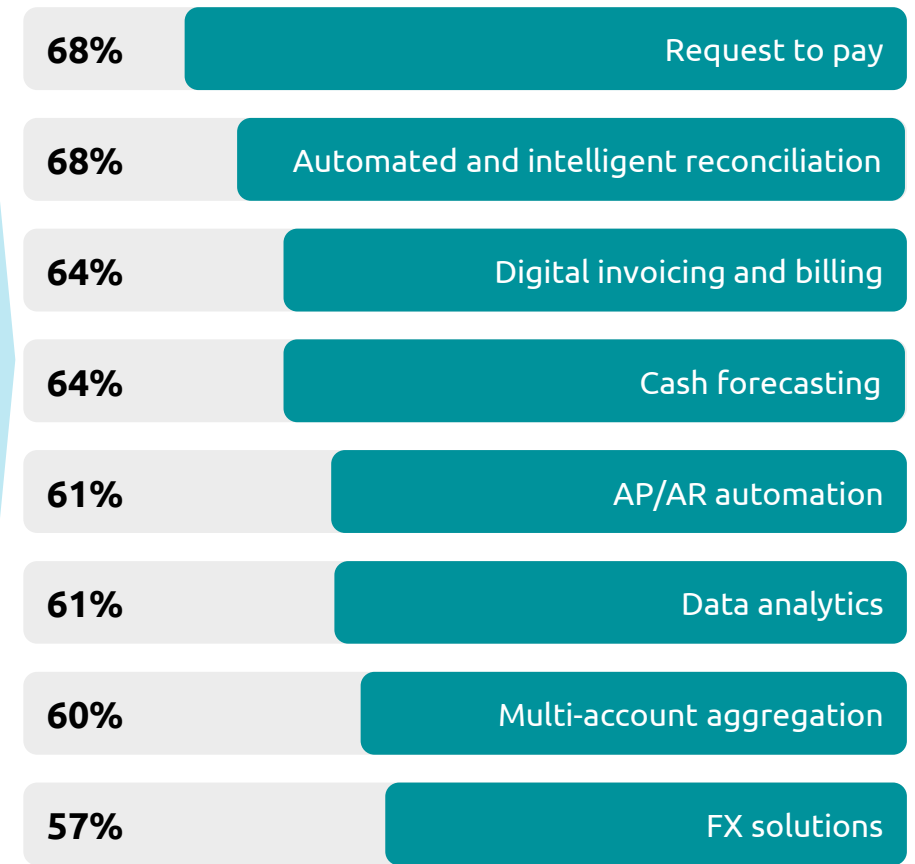
Kyriba's cloud based liquidity solution powered **Société Générale** in cash flow forecasting.

Citi Bank and **Treasury intelligence Solutions (TIS)** launch next-generation **cash flow forecasting**.

Barclays has partnered with **TransferMate** to provide an international payment receivable solution

Key areas of collaboration

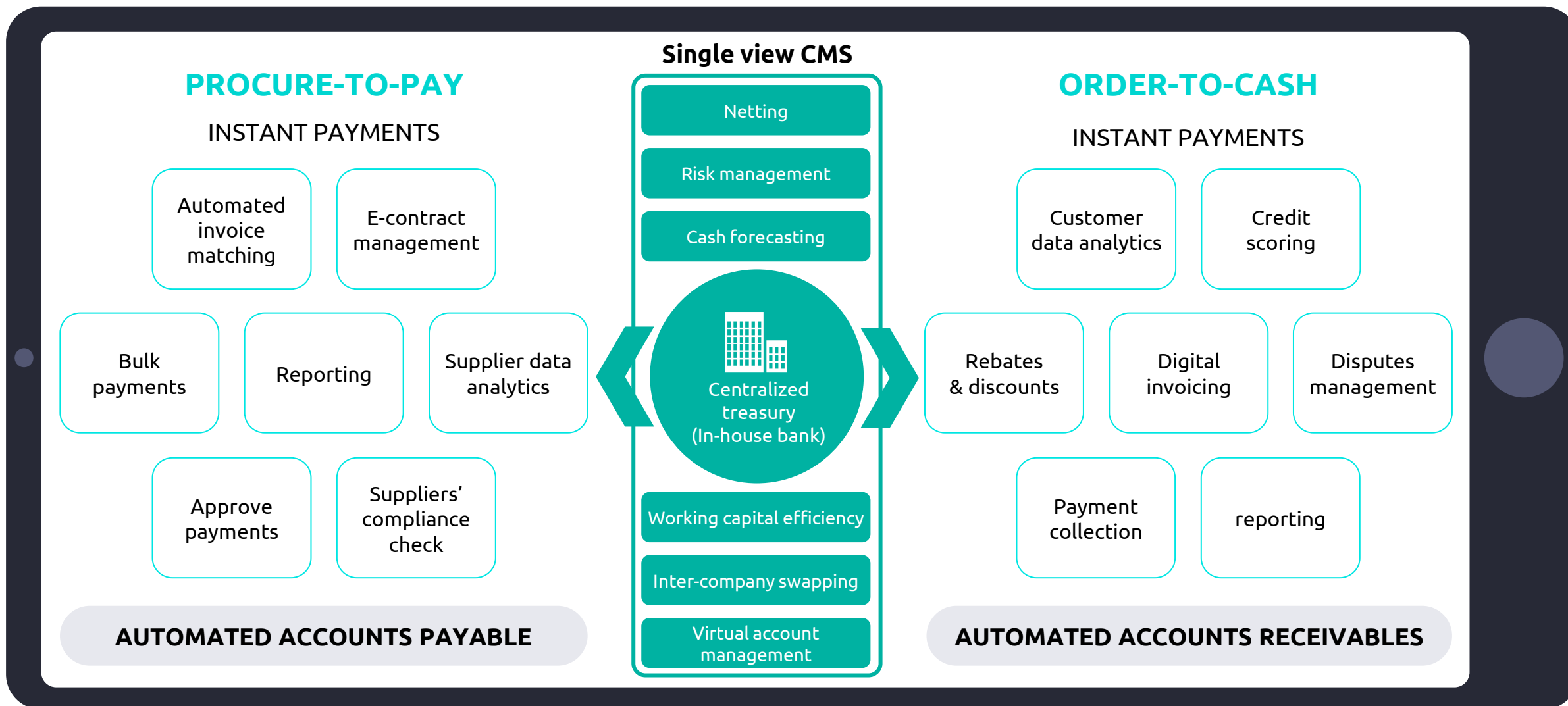
(% of payment executives on key areas of collaboration)





HERE IS THE CASH – *TODAY AND TOMORROW!*

THE GOAL FOR BANKS IS TO OFFER SINGLE VIEW CMS TO CORPORATES





EXPLORE NEW HORIZONS

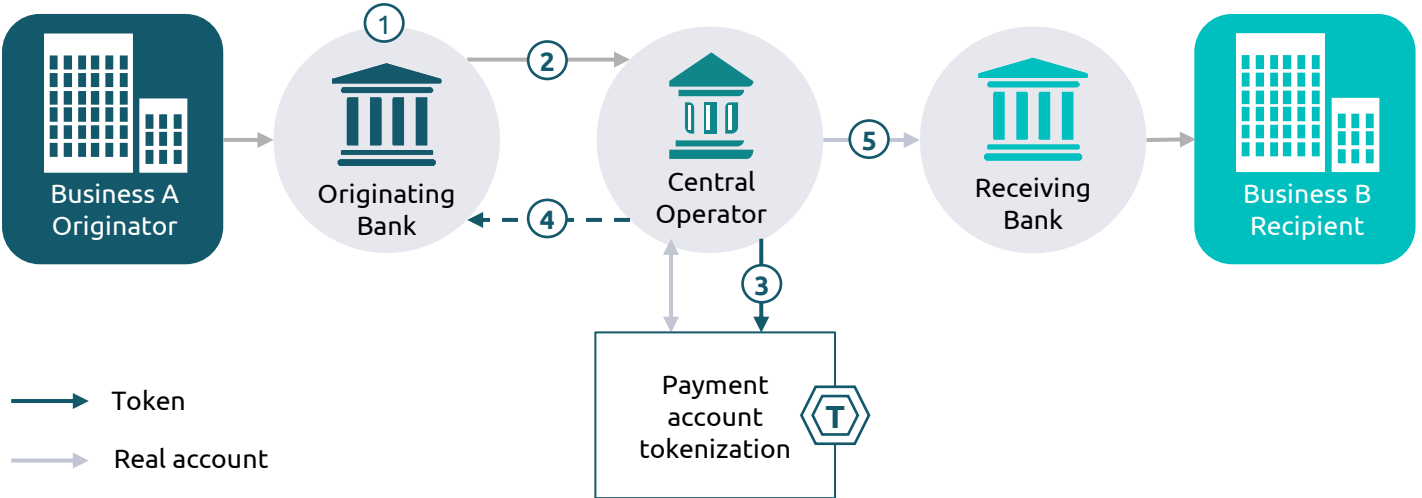
Tokenization to open new frontiers for efficiency and value creation



TOKENIZATION IS THRIVING AS A SECURITY SOLUTION FOR PAYMENTS

Led by regulations, electronic (ACH) and cards payment data are already undergoing tokenization

Enterprise payment tokenization process



→ Token
→ Real account

- ① Business A initiates a transaction through its bank
- ② The bank sends the non-tokenized transaction to central operator (card operator or The Clearing House)
- ③ The central operator generates a token for the transaction
- ④ This token is shared with the originator bank for all future transactions
- ⑤ The central operator de-tokenizes the transaction data and shares account details with receiving bank to complete the transaction



Tokenization for security and compliance

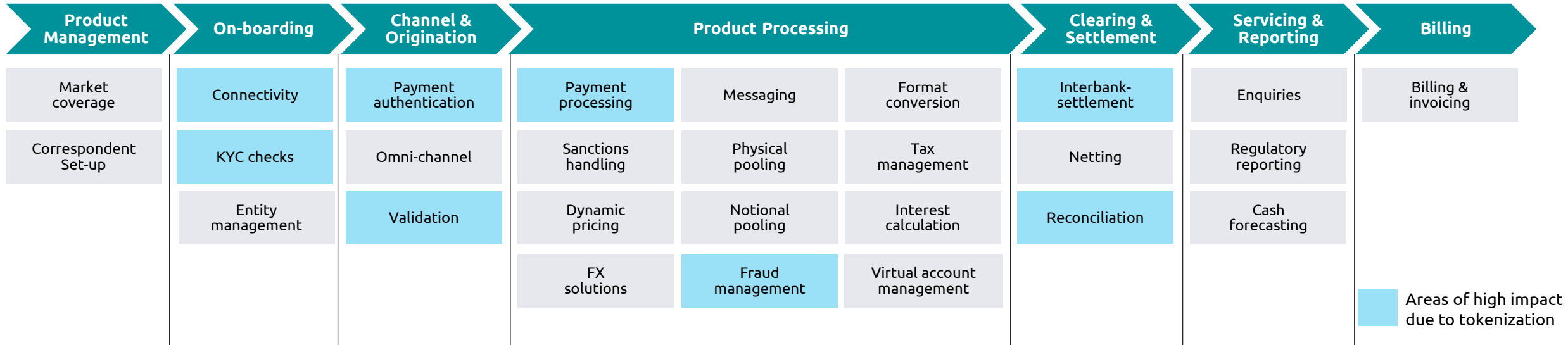


Banks and payment firms need to **look beyond security and compliance tokenization use cases to drive innovation**

PAYMENT TOKENIZATION CAN BOOST CASH MANAGEMENT EFFICIENCY

Tokenized data and tokens can help banks and payment firms to further improve the cash management value chain

Tokenization impact on cash management value chain



USE CASES

Drive seamless collaboration for open banking

Tokenized APIs are fast replacing key-based APIs and screen-scraping to improve third-party connectivity and data exchange.



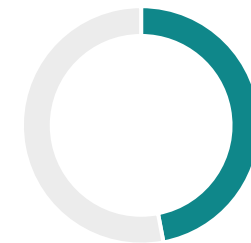
Improve account receivable efficiency

Tokenization combined with invoicing and billing ensures that businesses are able to capture granular data securely. This improves reconciliation and CX.



Boost uptake of enterprise digital payment instruments

Tokenization is driving up the adoption of wallets and virtual cards with in-built expense management, reconciliation, and usage-control for effective working capital management.



47% Payment firms and corporates are exploring tokenization use case cases for enterprise wallets and IoT payments



FURTHER, COMBINING TOKENIZATION WITH BLOCKCHAIN CAN OPEN NEW VALUE FRONTIERS

66% payment firms and 51% corporates said they are exploring tokenization for developing blockchain use cases

Key use cases of Blockchain-based tokenization for cash management services

Deposit tokens

- Deposit tokens are equivalent to bank deposits but recorded on blockchain.
- Businesses can **tokenize their cash deposited** in banks to **create deposit tokens** on DLT networks (or Blockchain).
- Deposit tokens can help to improve:
 - Cross-border payments
 - Cash pooling and swapping
 - Interbank settlement
 - Counterparty risk mitigation
 - Automation of manual tasks



J.P.Morgan

Programmable payments

- Banks can **issue smart tokens** with three layers:
 - **Layer 1:** Source of value such as account number or deposits
 - **Layer 2:** Inherent logic and set of rules embedded using smart contracts
 - **Layer 3:** State of token to record and track the value
- JP Morgan bank worked with Siemens AG to pilot an **automated treasury solution using programmable payments.**
 - The pilot helped Siemens to build real-time and responsive treasury capabilities.

J.P.Morgan



SIEMENS

Tokenized bills

- Digital **invoices tokenized on Blockchain** network.
- This will allow tokenized invoices to become transparent, and fractionable.
- Supplier can issue digital invoice token on the Blockchain. Once confirmed by the purchaser, a “note receivable” token is generated to collect payments.
- Note receivable token can be split into several pieces and sold to multiple parties to raise funds.
- This helps to transform invoices into new asset with high liquidity and composability.



RESERVE BANK OF AUSTRALIA



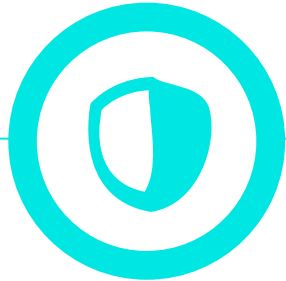
Unizon



WORLD PAYMENTS REPORT 2023 IN A NUTSHELL

WHERE IS THE CASH?

Accelerate the corporate cash management transformation to build value

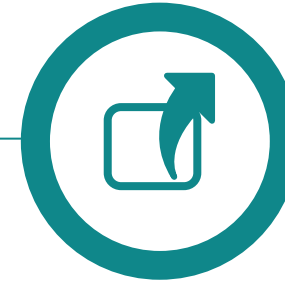
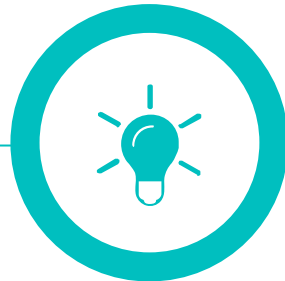


Manoeuvre

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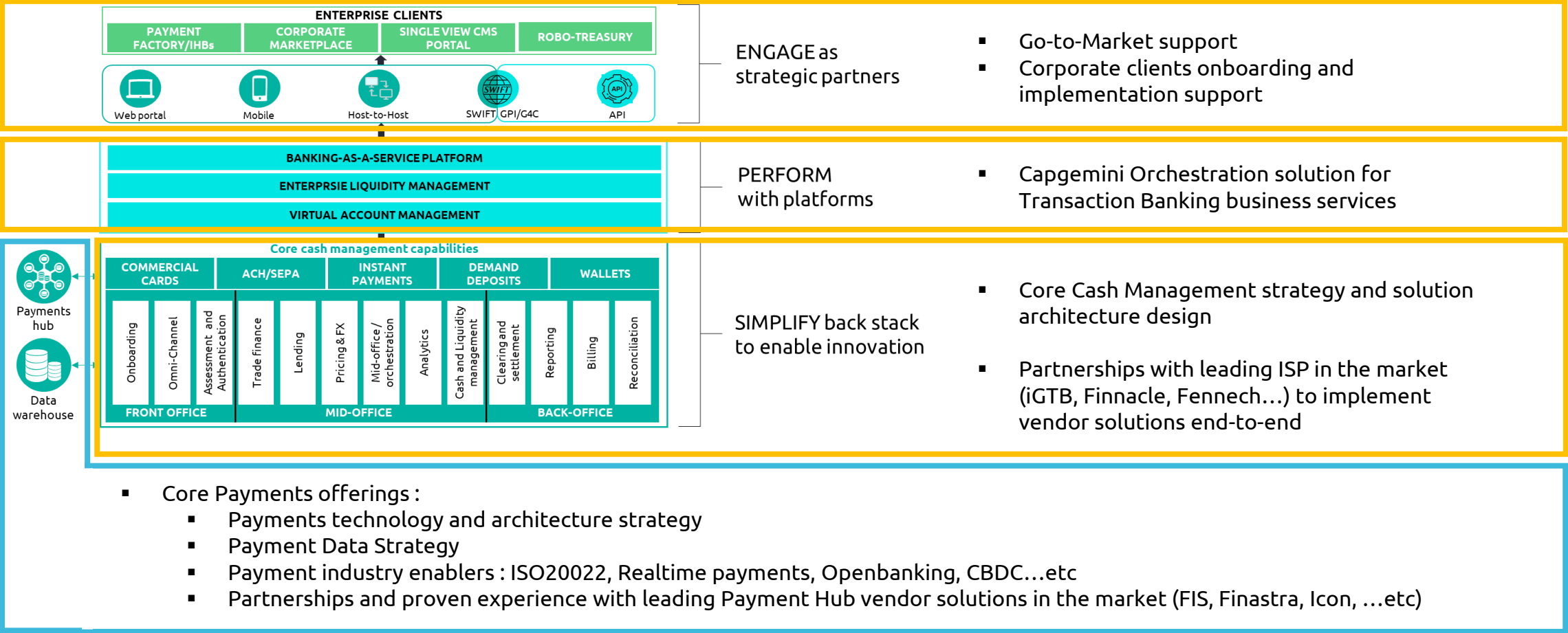
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CASH MANAGEMENT

BUILDING A DIFFERENTIATING 'DIGITAL FIRST' TRANSACTION BANKING PROPOSITION FOR YOUR CORPORATE CLIENTS THAT IS HIGHLY COMPOSABLE, SCALABLE AND COST EFFICIENT



What is our value proposition ?



Fireside Chat

Coffee Break

10:40 – 10:55 CET

During coffee break, do not “leave the meeting”
(i.e., stay connected while muting your sound and turning off your camera)

Panel Discussion

Embedded Payments & Finance

How is it changing the landscape?

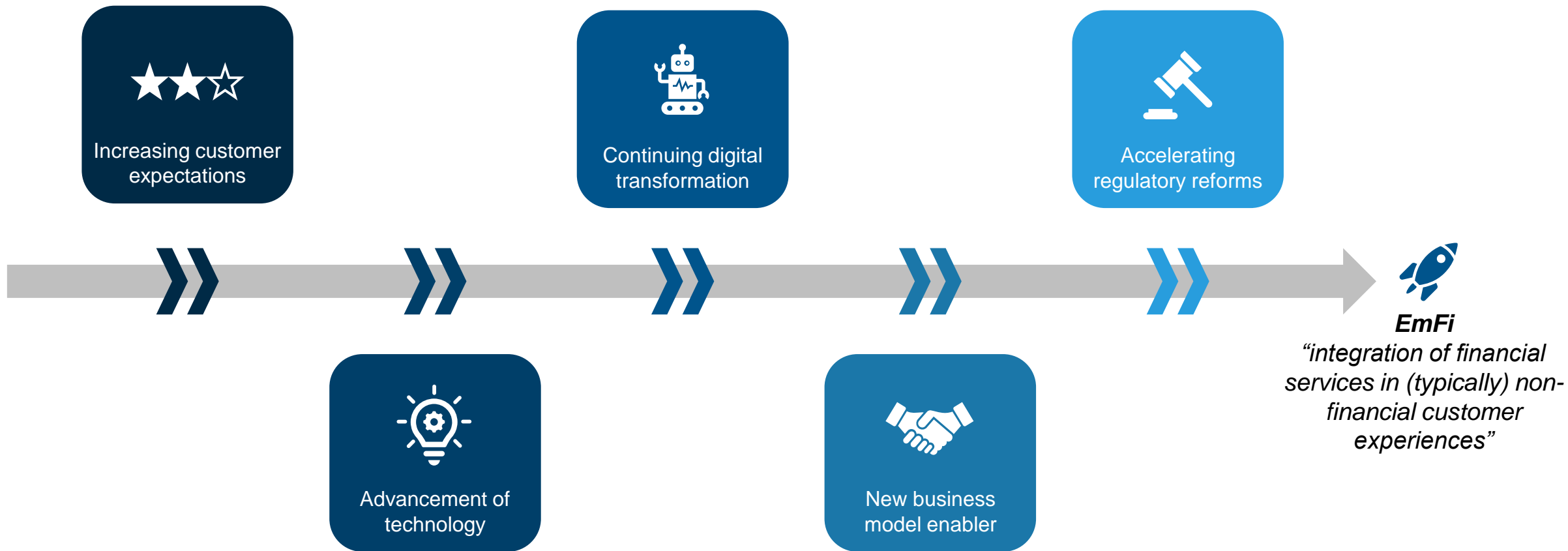
AGENDA:

1. Setting the scene
2. Insights Embedded Finance Radar
3. Implications



Embedded Finance (EmFi) is taking off now because ...

FIVE REINFORCING ADOPTION DRIVERS



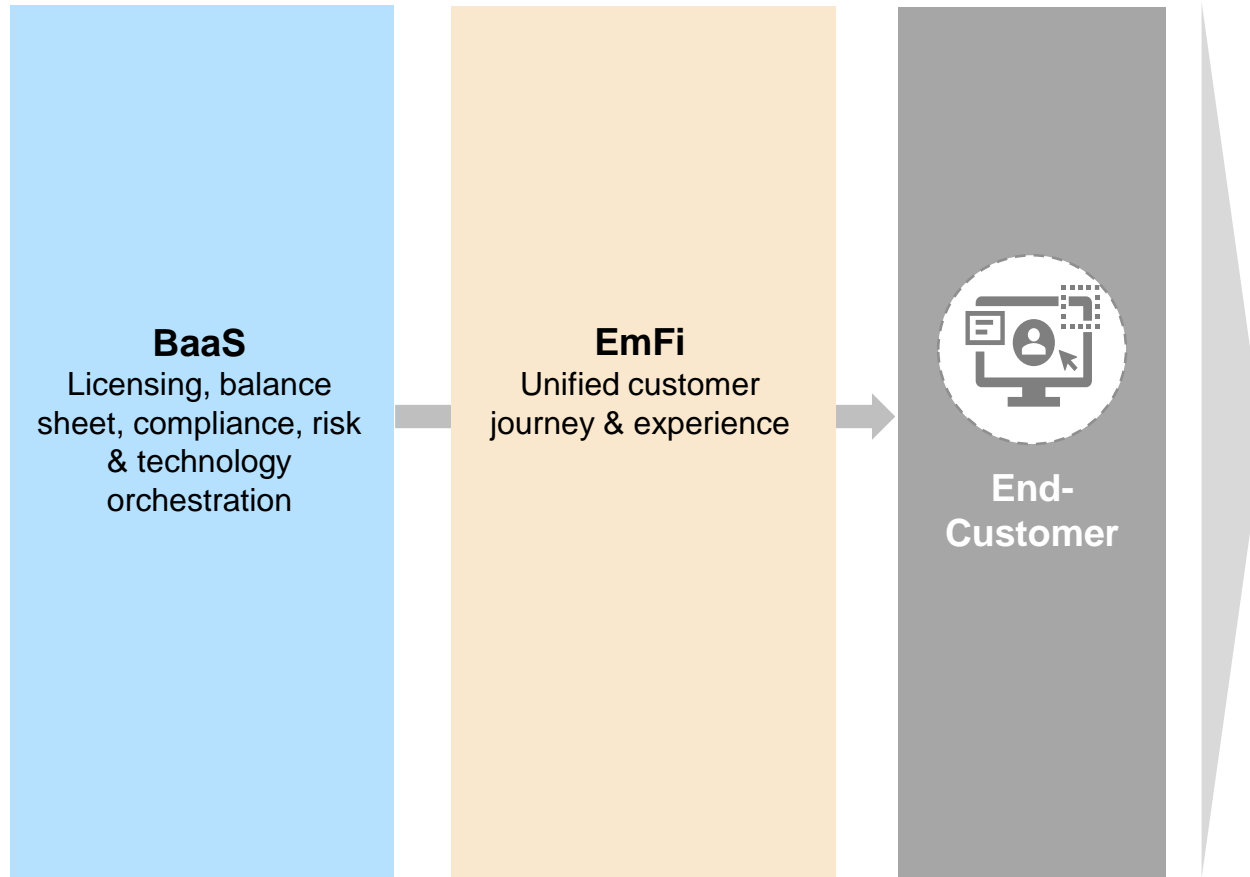
Source: INNOPAY analysis

Banking as a Service (BaaS) ≠ EmFi

BaaS is an enabler of EmFi solutions that drive customer benefits

EMBEDDED FINANCE STACK

KEY (END-)CUSTOMER BENEFITS



- 1 Convenience**
Access **financial services at the right moment** and **within the products** or platforms customers **already use**
- 2 User experience**
Provide a more **intuitive and familiar experience** for customers
- 3 Personalised offers**
Offer **tailored and contextually relevant** financial products or services

Legend Backoffice Frontend

Source: INNOPAY analysis

Within the EmFi value chain three main roles emerge that combine capabilities to serve end-customers

OVERVIEW MAIN EMFI ROLES



Role	Provide banking licence, risk framework, compliance, funds and/or accounts to hold deposits	Maintain & configure technology for delivering compliant and risk controlled financial services via plug & play APIs	Integrate financial services in digital offering enabling seamless journeys in use cases	Use embedded financial services at the point of need
Type	Financial institutions, other licensed FinTechs	Financial institutions and specialised FinTechs	Various platforms (esp. vertical specialists)	Retail, SME, Corporate
Example players				



Source: INNOPAY analysis

Financial institutions follow different go-to-market approaches

PROFILE BALANCE SHEET PROVIDER

Balance sheet provider

Provide banking licence, risk framework and compliance, funds and/or accounts to hold deposits

Key benefits

- Relevance where it matters
- Low(er) acquisition cost and cost-to-serve
- New business model

Key considerations

- Modern tech stack & developer experience
- Smart partnering to scale
- Move up in value chain
- Risk management framework (KYC/AML, security, money handling, product suitability)

Source: INNOPAY analysis


OVERVIEW POSSIBLE STRATEGIC APPROACHES

GTM APPROACH

 **Build**
Set-up and develop dedicated business unit

 **New venture**
Set-up new venture to develop capabilities

 **Partner**
Collaborate (and/or JV/investment) to tap into relevant capabilities

 **Buy**
Acquire and internalise capabilities

MARKET EXAMPLES


SEB - SEB Embedded

Goldman Sachs
Goldman Sachs - GS TxB

 standard chartered
Standard Chartered - SC Nexus



 audax
Standard Chartered - Audax

 **VODENO**
Natwest & Vodeno

HSBC  **Tradeshift**
HSBC & Tradeshift

 Raiffeisen Bank International **tis**
RBI & TIS

 **FIFTH THIRD BANK**
RIZE
Fifth Third -> Rize money

 **FIS**
 **BOND**
FIS -> BOND

 **PNC**  **BBVA**
PNC Fin. Group -> BBVA Open Platform

Technology providers broadly fit into two categories

PROFILE TECHNOLOGY PROVIDER



Technology provider

Maintain & configure technology for providing compliant and risk-controlled services via plug & play APIs



Key benefits

- Revenue stream by delivering technology at scale
- Enhanced reputation by partnering with known BSP



Key considerations

- Own licence(s) vs. pure tech play
- Product depth vs. breadth
- Risk, compliance, data security capabilities
- Operational costs to appeal to many distributors

OVERVIEW SERVICE PROVIDER TYPES

FOCUS



BaaS Middleware platform

Focus on 'raw' API integration of financial services (beyond open banking/PSD2 services)



Embedded Finance platform

Focus on experience of financial services with control and compliance built in

MARKET EXAMPLES

 intergiro

 Enfuce

 Modulr

 synctera

 TREASURY PRIME

 toqio  weavr

 HUBUC

 mmob

 phyre

 Alviere

 ZWITCH

Distributors can be assigned to various categories and sorted into subcategories, describing the industry or service area

PROFILE DISTRIBUTOR



Integrate financial services in digital offering enabling seamless journeys in use cases

+ Key benefits

- New revenue stream
- Higher conversion rates
- Increased customer engagement / loyalty

✓ Key considerations

- Smart partnering for plug & play experience
- Financial services expertise
- Reputational risk (when things go wrong)
- Insource for value capture

OVERVIEW DISTRIBUTOR TYPES







CATEGORY	SUBCATEGORY					EXAMPLES
Financial Services Range of activities and products provided by financial institutions	 (Neo-)banking	 (Crypto-) Asset	 Lending	 Payment sol.	 Insurance	amazon, Revolut, stripe, BINANCE, AXA
Retail & eCommerce Online and physical commerce for tangible products	 Food & Beverage	 Automotive	 Fashion	 Other Goods		zalando, HELLO FRESH, TESLA, mercadolibre
Human Capital Products or services related to people and workforce	 Community	 Labour	 Education	 Healthcare		udemy, upwork
Software Solutions Digital solutions cutting through industries or focused on a niche	 Horizontal SaaS		 Vertical SaaS			quickbooks, salesforce, bioiq, light speed
Leisure Products and services related to personal fulfilment and enjoyment	 Entertainment	 Social networks	 Travel			
Utilities Essential services provided to the public for daily live	 OEM*	 Energy	 Telco	 Mobility & Delivery	 Real Estate	Expedia, NETFLIX, KLM, Opendoor, IMMOWEB, Grab, Telkomsel

Source: INNOPAY analysis

EmFi covers origination and maintenance of financial products across product lifecycle

OVERVIEW COVERED FINANCIAL PRODUCTS

Non-exhaustive

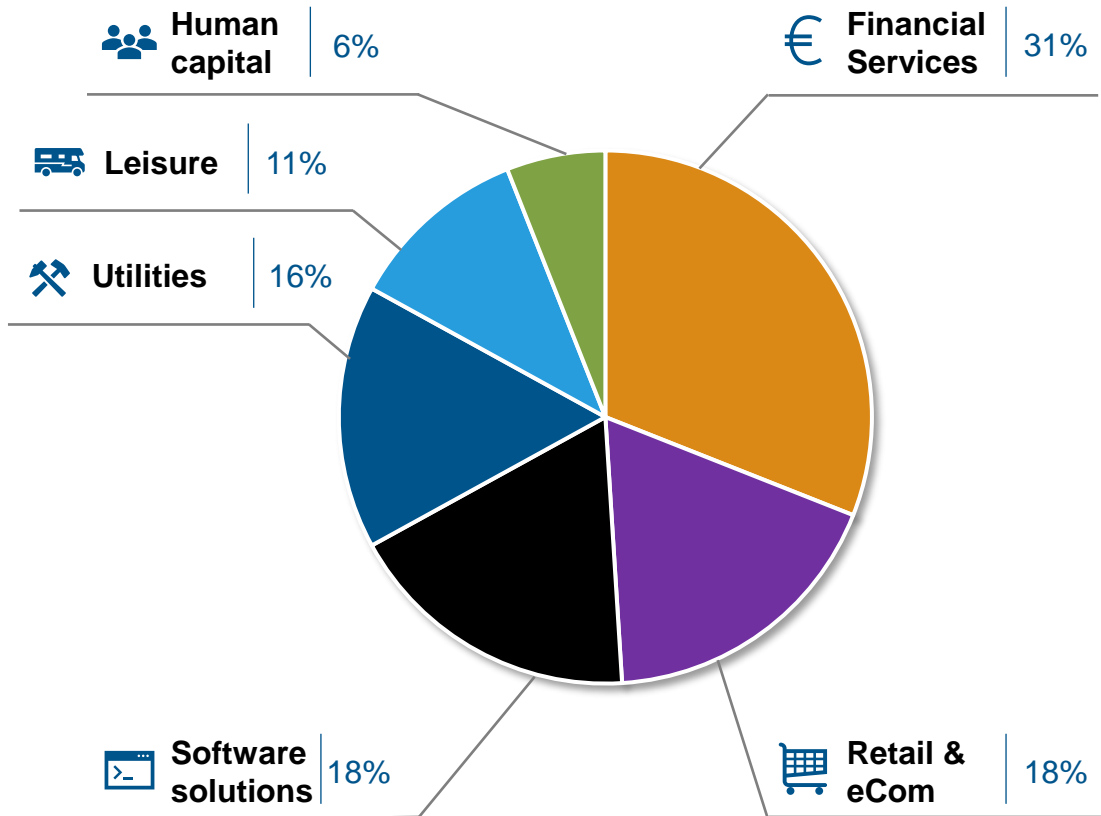
Product area	 Payments	 Accounts	 Cards	 Lending	 Insurance	 Wealth mgt.
What	<i>Initiating & managing payments</i>	<i>Opening & managing bank accounts</i>	<i>Issuing & managing cards</i>	<i>Applying for & managing financing products</i>	<i>Applying for & managing insurance products</i>	<i>Managing savings & investments</i>
Value Stream	Transaction fees, FX	Account fees, overdraft	Interchange	Interest rates	Premium commission	Trade commission, payment order flow
Retail	<ul style="list-style-type: none"> • Payment initiation • E-wallets • Instalments (BNPL) 	<ul style="list-style-type: none"> • Current Accounts 	<ul style="list-style-type: none"> • Debit / credit card • Prepaid card • Reward/Gift card 	<ul style="list-style-type: none"> • POS financing • Short-term loans 	<ul style="list-style-type: none"> • Product Insurance • Travel insurance • Shipping Insurance 	<ul style="list-style-type: none"> • Auto. stock invest. • Savings account • Saving penny change
SME	<ul style="list-style-type: none"> • Mass/Bulk payments • Payroll processing • Instalments (BNPL) • Payment acceptance 	<ul style="list-style-type: none"> • Business Accounts • Cash management 	<ul style="list-style-type: none"> • Business Card • Virtual card 	<ul style="list-style-type: none"> • Working capital • Payroll advances • Cash advances 	<ul style="list-style-type: none"> • Business owner insurance • Worker health insurance 	<ul style="list-style-type: none"> • Cash management • Portfolio management
Corporate	<ul style="list-style-type: none"> • Int'l payments • Payment acceptance 	<ul style="list-style-type: none"> • Business Accounts • Virtual accounts • Cash management 	<ul style="list-style-type: none"> • Business Card • Virtual card 	<ul style="list-style-type: none"> • Supply-chain financing • Leasing • Trade finance 	<ul style="list-style-type: none"> • Employee travel insurance • Logistics insurance 	<ul style="list-style-type: none"> • Employee retirement plans

Source: INNOPAY analysis, Embedded Finance Radar 2023

Payments and Insurance products are most embedded, with majority of distributors operating in financial services, retail & eCom and SaaS

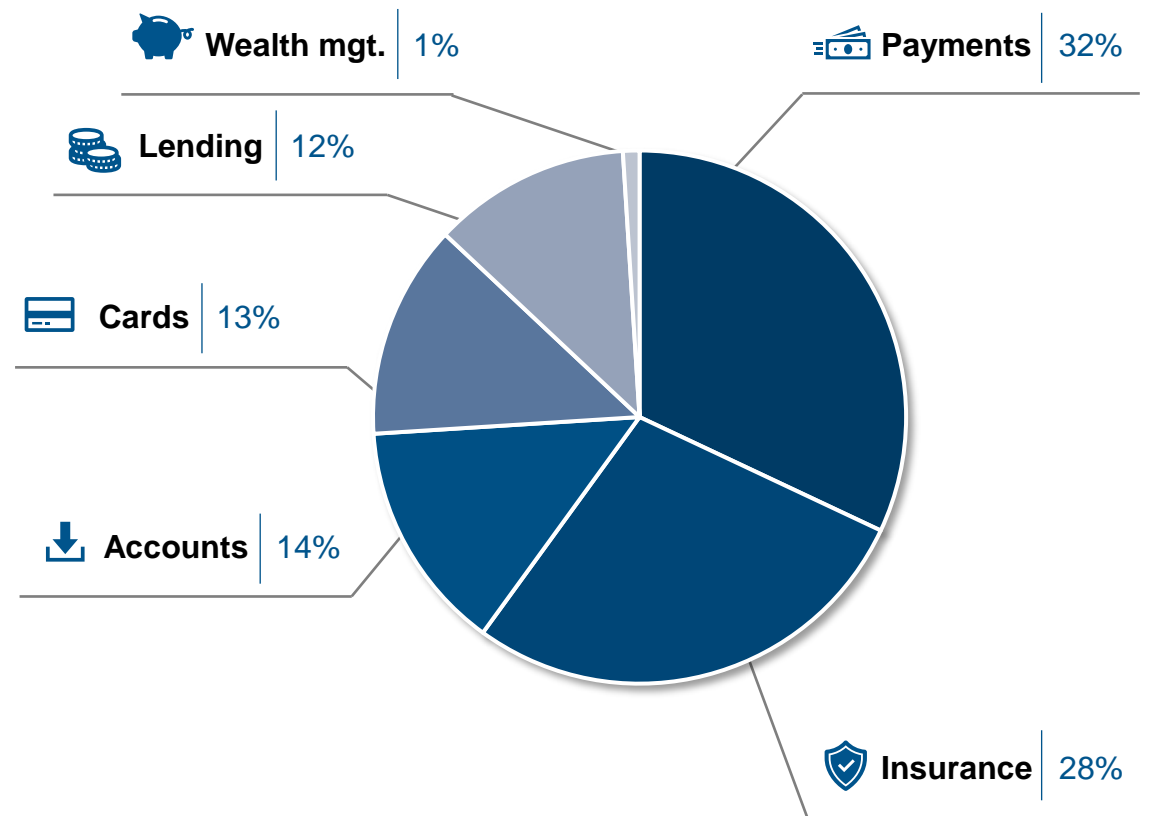
EMFI ACROSS DISTRIBUTOR TYPES

Majority of distributors operate in **financial services, retail & eCom and software solutions**



EMFI ACROSS FINANCIAL PRODUCTS

Embedded payments and insurance prevail across distributors

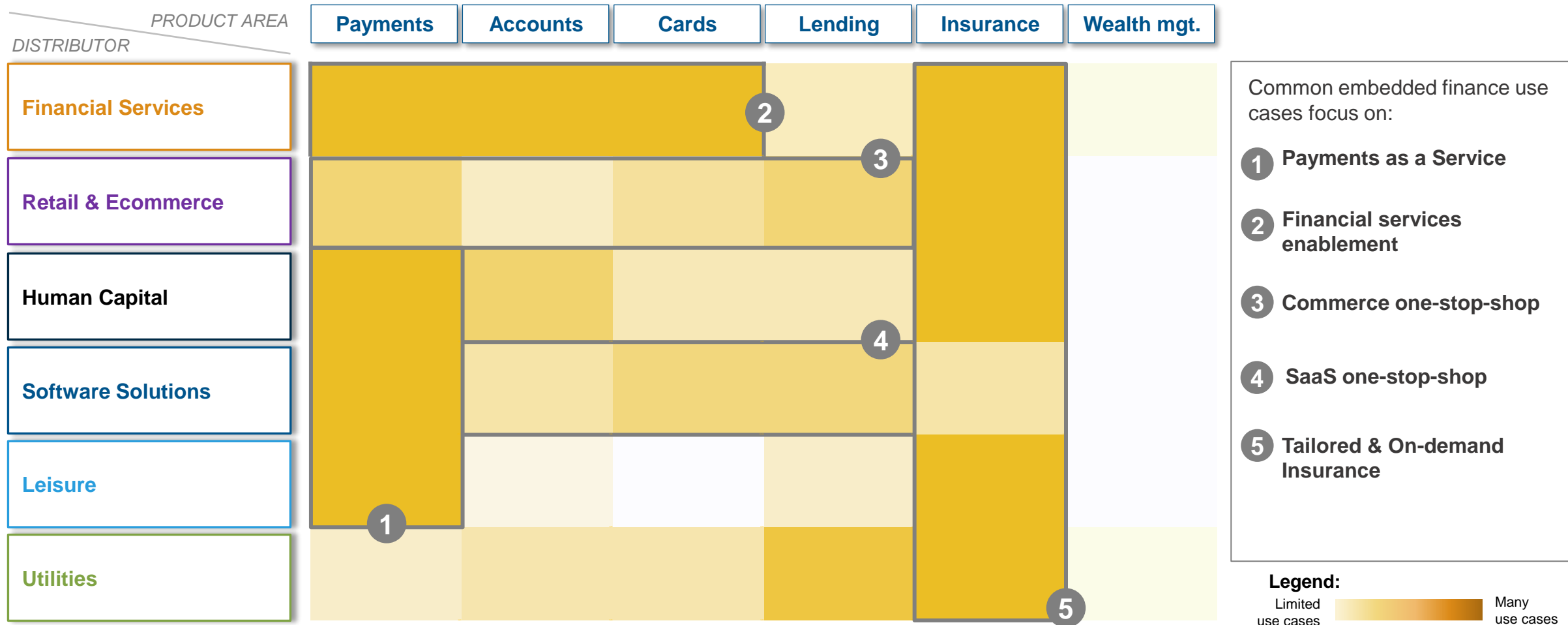


Source: INNOPAY analysis, Embedded Finance Radar 2023

Embedded business models cut through distributor industry and product area with most traction in payments, insurance and lending

EmFi USE CASE HEATMAP

Non-exhaustive

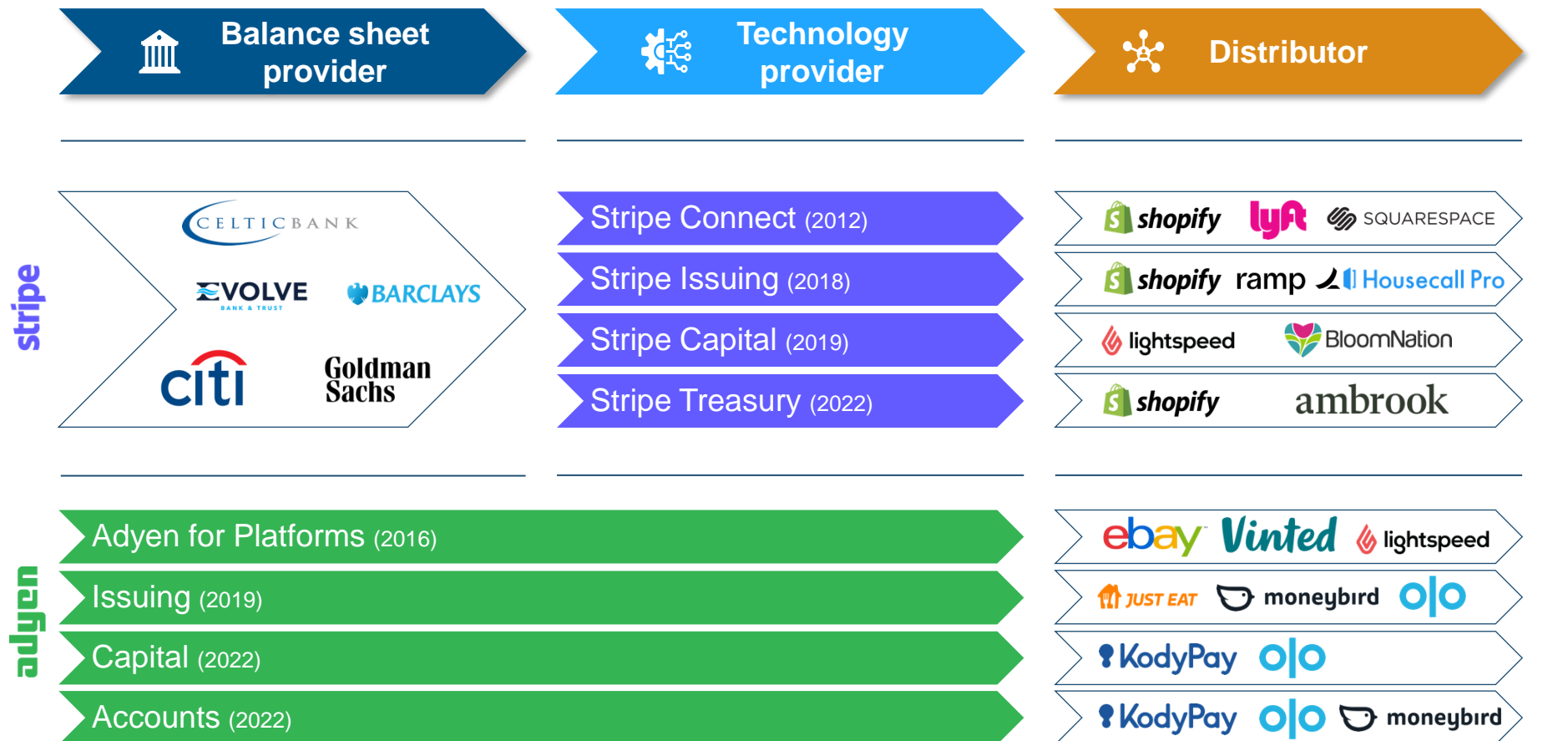


Source: INNOPAY analysis, Embedded Finance Radar 2023

¹Note: other emerging players could be found in gaming, home delivery services and shared economy platforms

Adyen and Stripe have similar embedded finance offering, but take different positions in the embedded finance value chain

EMBEDDED FINANCE: COMPARISON STRIPE VS. ADYEN



- Stripe and Adyen **started with embedded payments** and slowly expanded EmFI offering
- Both distribute financial services to businesses via **various distributors**
- Difference:
 - **Stripe collaborates with banks** to leverage banks' balance sheets
 - **Adyen leverages own banking licence** and balance sheet

Source: INNOPAY analysis

While estimates differ, they all show that EmFi market is large and growing

WHAT OTHERS THINK

Embedded Finance represents a revenue opportunity of ...

Roland Berger

... **180 bn** EUR in 2030



Accenture

... **120 bn** EUR for global SME market in 2025



BCG/Adyen

... **105 bn** EUR in US, Europe & UK¹



McKinsey

... **100 bn** EUR in EEA & UK in 2030²



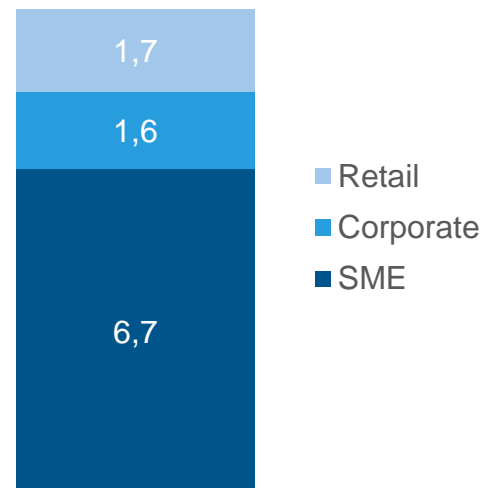
Note: ¹cash advances, bank accounts, and card issuing; ²lending, payments, accounts

Source: INNOPAY analysis, reports of referenced consulting firms **Note:** *includes General Liability, Legal, Credit & Surety, Marine, Aviation & Transport, Worker compensation

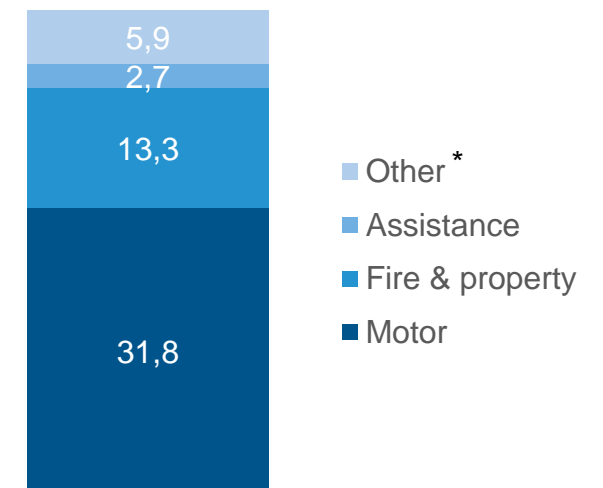
WHAT INNOPAY THINKS



Embedded Lending represents a revenue opportunity of **10 bn EUR** in 2030 in EU



Embedded Insurance represents a revenue opportunity of **54 bn EUR** in 2030 in EU



Financial services execs are faced with a strategic dilemma when considering an EmFi strategy and business model

STRATEGIC DILEMMA: BALANCING BENEFITS AND CHALLENGES

◆ BENEFITS



NEW OPPORTUNITIES

Ability to leverage existing capabilities into new products, markets & revenue streams



STRENGTHEN COMPETITIVE POSITION

Protect customer base and attract new customers (previously (un/underserved) at lower costs



STRONGER RELATIONSHIPS

Seamless experiences for customers where it actually matters



VALUE CREATION

Short-term revenue expectations vs. long-term sustained value creation



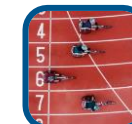
CANNIBALISATION

Perceived view of creating own competition / cannibalisation risk



COMMODITISATION

Own channel first vs. 'as a service' model, with risk of becoming commodity provider



VALUE CHAIN & COMMERCIALS

New partners/clients to serve
Selling technology vs. financial services



ONBOARDING, RISK & SECURITY

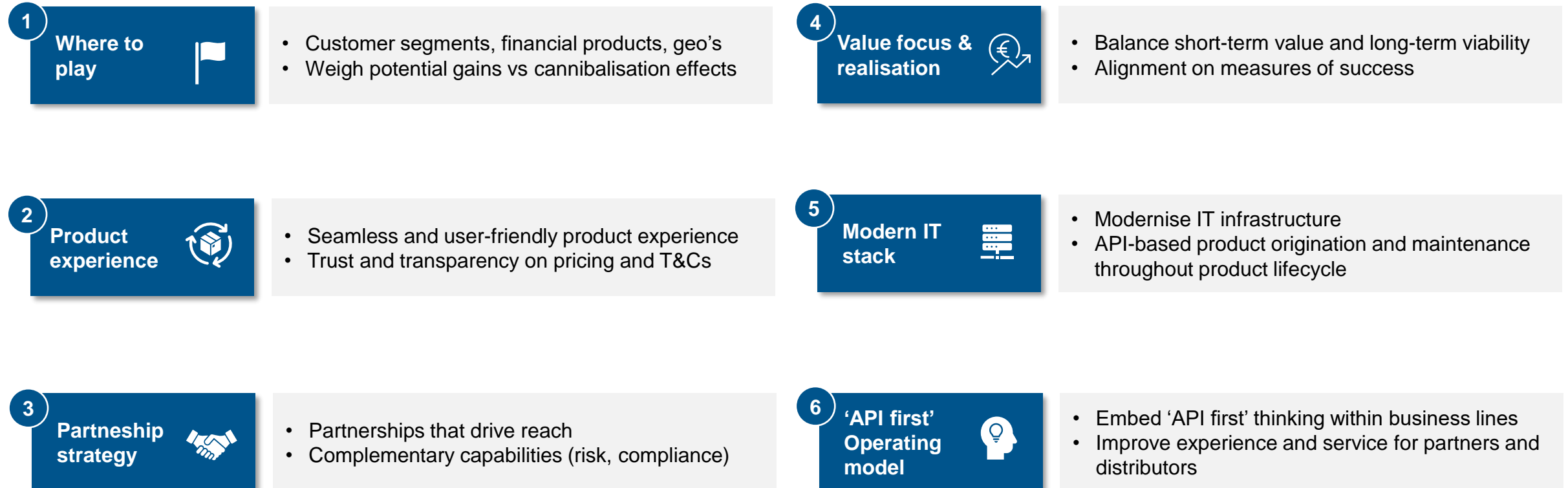
Effectively managing complexity, compliance and risks across the EmFi value chain



CHALLENGES 弊

Financial Institutions need to get six building blocks right to win in EmFi

SIX KEY BUILDING BLOCKS



Source: INNOPAY analysis



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Managing Director

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Manuel Klein

**Product Manager Blockchain Solutions & Digital Currencies
Deutsche Bank**

Lunch Break

12:45 – 13:50 CET

During lunch break, do not “leave the meeting”
(i.e., stay connected while muting your sound and turning off your camera)

Kindly reconnect on time for the afternoon sessions

Johan Anlert

Business Intelligence Specialist

SEB

Annick Moes

**Head of Industry Issues and
Cooperation Initiatives
Euro Banking Association**

How is fraud affecting the future of payments... what can and is being done?

Implementing the EBA Fraud Taxonomy – an example!

EBA Open Forum

17 October 2023

How is fraud affecting the future of payments... what can and is being done?

Implementing the EBA Fraud Taxonomy – an example!

Agenda

- About the EBA Expert Group on Payment Fraud-related Topics (EGPF)
- Introduction to the EBA Fraud Taxonomy
 - Definition and objective
 - How does the taxonomy work? Capturing the ‘who’, ‘how’, ‘what’, and ‘what else’
 - Benefits
 - Usage rights
 - Information about the annual change cycle
 - Way forward
- Annex I: Detailed view of the EBA Fraud Taxonomy categories (initiator, method, modus, labels/tags)
- Annex II: Overview of potential impact of IBAN-name checks on fraud cases for credit transfers

About the EBA Expert Group on Payment Fraud-related Topics (EGPF)

Key activity areas of the EBA


Market Practices & Regulatory Guidance



THOUGHT LEADERSHIP & INNOVATION

WHY? To advance the understanding of new market trends

HOW? Open Banking Working Group
Cryptotechnologies, Smart Payments and Stablecoins Working Group
Liquidity Management Working Group
Open Forum on Digital Transformation



MARKET PRACTICES & REGULATORY GUIDANCE

WHY? To provide guidance on practical implementation issues

HOW? SCT Inst Migration Action Round Table (SMART2)
Payments Regulation Sounding Board
Expert Group on KYC-related Topics (KYCEG)
Cyber Regulation Sounding Board
Expert Group on Payment Fraud-related Topics (EGPF)
Request to Pay Expert Group



NETWORKING & EVENTS

WHY? To organise events fostering pan-European practitioner exchange

HOW? EBAday
EBAday Business Fora
Local EBA Roadshow Sessions



TRAINING & EDUCATION

WHY? To provide training & educational services on key industry topics to the EBA community

HOW? Summer and Winter Schools
Global Seminars
EBA Liquidity Management Training Seminars
Webcasts

Market practices and regulatory guidance – topics 2023



Introduction to the EBA Fraud Taxonomy

What is the EBA Fraud Taxonomy?

Definition and objective

Taxonomy

noun

a system for naming and organising things, especially plants and animals, into groups that share similar qualities

(Cambridge Dictionary)

EBA Fraud Taxonomy

a pan-European approach to **naming and organising fraud types** for payments, including card payments

Why should PSPs change?

What is broken today?

Shortcomings of existing fraud taxonomy approaches

- Created at national or PSP-internal level
 - high degree of fragmentation
 - difficult to share fraud intelligence or data at cross-country or pan-European level
- Siloed approaches for card payments vs. other payments
- Lack of structured approach
 - poor data quality
 - inefficient processes for entering and exploiting data
 - often limited granularity and few data points

How does the taxonomy work? Capturing the ‘who’, ‘how’, ‘what’, and ‘what else’

Explaining the different elements

Who?

Initiator of payment transaction
(customer or fraudster or 1st party fraud)

How?

Method:
First point of contact between the fraudster and the victim or the point of compromise

What else?

Label/tag:
Additional information to enrich the case – ensures ease of use and maximum flexibility

What? (and why?)

Why? High-level classification:

Why the victim engaged with the fraudster / took the bait

- Indicates strategic approach taken by the fraudster that triggers the desired reaction by the victim

What? Modus:

What trick the fraudster used to get hold of the victim’s money or credentials

- Unauthorised and often manipulative action taken by fraudster

How does the taxonomy work? Capturing the ‘who’, ‘how’, ‘what’, and ‘what else’

From fraud case to fraud type

Fraud case description

Fraudster calls bank customer and tells him that she represents his bank

Fraudster tells customer that the bank identified several unauthorised transactions to be debited from customer’s account

Fraudster convinces customer to transfer his funds to a “safe account” indicated by fraudster



Who?

Initiator of payment transaction:

Customer

How?

Method: **Phone contact**

What else?

Label/tag:

**Fake bank / financial institution
Impersonation**

What? (and why?)

Why? High-level classification: “**Your money/personal information is at risk**”

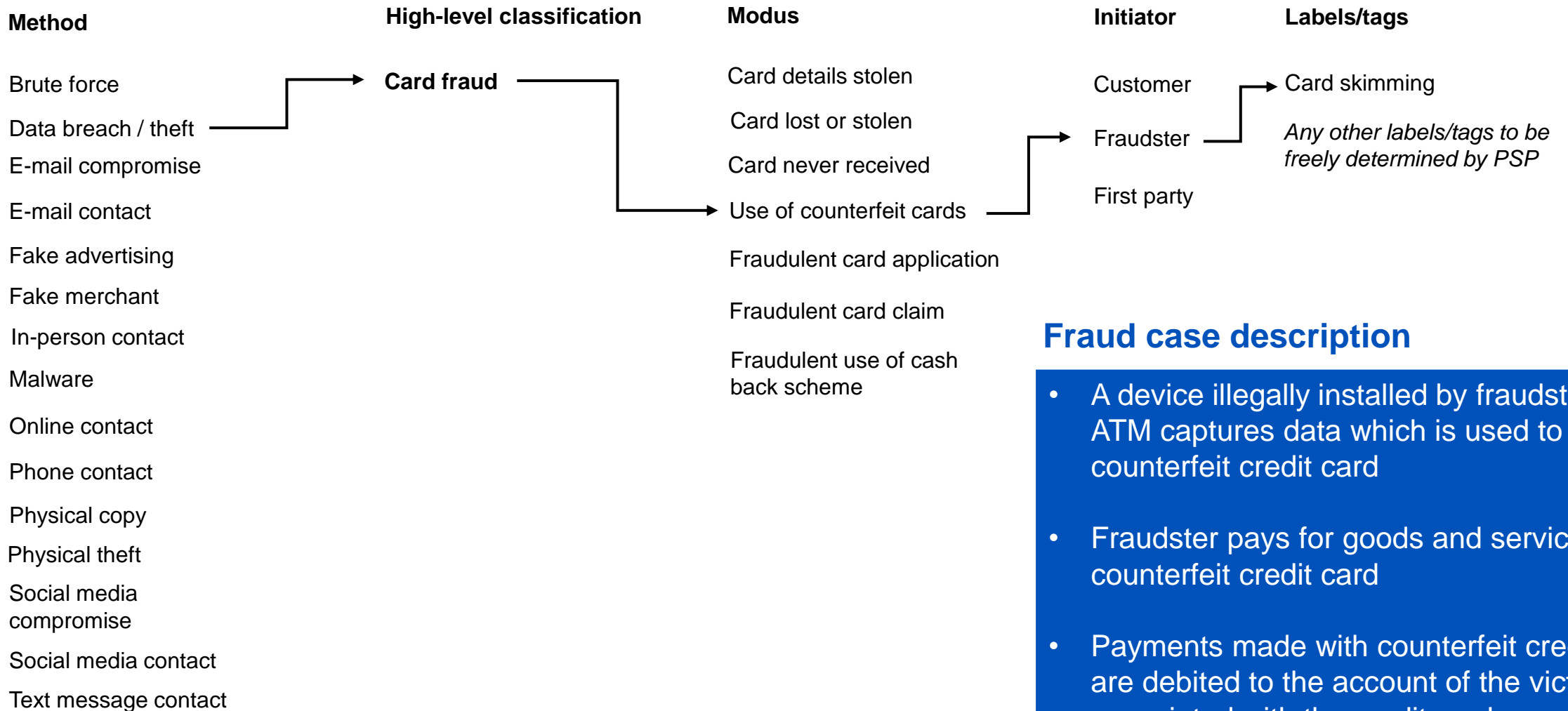
What? Modus: “Safe account fraud”

“You’ll usually [be] contacted by someone saying they are from the bank or the police. They’ll (...) ask you to transfer your money to a “safe account” they have set up on your behalf. The account will belong to a fraudster.”

Source: Barclays Bank UK ‘Ten common types of fraud and scam – 9. Safe account fraud’

How does the taxonomy work? Capturing the ‘who’, ‘how’, ‘what’, and ‘what else’

From fraud case to fraud type



Fraud case description

- A device illegally installed by fraudster at an ATM captures data which is used to create counterfeit credit card
- Fraudster pays for goods and services with counterfeit credit card
- Payments made with counterfeit credit card are debited to the account of the victim associated with the credit card

Why is the EBA Fraud Taxonomy better?

What difference does the taxonomy make?

Benefits of the EBA Fraud Taxonomy

- It separates the contact methods (“how”) used by fraudsters from the actual tricks they apply (“what”)
 - Better data quality and more granular data, e.g. separate data points on point of contact and trick applied:

Traditional approach	EBA Fraud Taxonomy approach	
No separate categorisation of ‘how’ and ‘what’; no granularity on ‘what’	Separate categorisation of method (‘how’)	Separate categorisation and precise identification of (‘what’)
Phishing	E-mail contact	E.g. Phoney debt/bill collection
Smishing	Text message contact	E.g. Fake institution
Vishing	Phone contact	E.g. Safe account fraud

Why is the EBA Fraud Taxonomy better?

What difference does the taxonomy make?

Benefits of the EBA Fraud Taxonomy

- Created and evolved by **33 fraud experts from 15 European countries**, based on annual change process
- Applies to both **payment fraud and card fraud**
- Creates a **common vocabulary** regarding fraud in the area of payments
 - The taxonomy relies on **definitions from authoritative and publicly available sources**, wherever possible
- Reduces risk of overlap between fraud types, increasing **accuracy of fraud trend intelligence and data**
- **Aligned with EBA Fraud Reporting Guidelines** under PSD2
- Pan-European approach enables **collaboration and intelligence/data sharing** on card and payments fraud
- **Data point collection** can be made **easier and faster**
- Supports PSPs in developing **effective fraud prevention campaigns** for their customers

Why fraud experts love the EBA Taxonomy

Early movers value improved granularity, analytical insights, scope and collaboration capabilities



“The taxonomy splits the contact methods used by fraudsters from the tricks they apply – that's a truly revolutionary approach.

At Banco Sabadell, this will help us to develop better ways to **educate and warn our customers.**”

Ana Arnaiz

Fraud Analyst
BANCO SABADELL



“The taxonomy provides us with increased capabilities to conduct more **in-depth analysis** of the fraudulent transaction within our bank.

We also look forward to the future possibilities of **collaboration and knowledge sharing** that come with having a common taxonomy.”

Johan Anlert

Strategic Fraud Analyst
SEB AB



“Having a granular fraud taxonomy covering **both payments and cards** helps the bank continually improve its fraud management framework.”

Jørgen Eidesmo

Chief Analyst
1st Line Card & Payment Fraud Strategy
Danske Bank



“You can put the taxonomy on the table and say, ‘This is the terminology we are going to use.’

It immediately **gets people on the same page.** That’s tremendously helpful.”

Alan McMahon

Fraud Intelligence Officer
Bank of Ireland

EBA Fraud Taxonomy: usage rights

Pan-European approach to fraud type categorisation

Usage rights

- EBA Fraud Taxonomy is available to any interested party
- EBA Fraud Taxonomy is licensed under a [Creative Commons Attribution 4.0 International Public License \(CC BY 4.0 license\)](#)

Objective:

- **Consistent implementation of the EBA Fraud Taxonomy**
- **Adherence to the latest version of the taxonomy by all users at all times**

EBA Fraud Taxonomy can be requested via the EBA website at <https://www.abe-eba.eu/publications/>

EBA Fraud Taxonomy: change cycle 2023/2024

Timeline change cycle 2023/2024

Annual review and updating process

- **October 2023:** call for change requests ✓
- **8 January 2024:** deadline to submit change requests pertaining to the 'initiator', 'method' and 'modus' sections
- **2 April 2024:** deadline to submit change requests pertaining to the 'labels/tags' section
- **January to April 2024:** review of change requests
- **May 2024:** adoption of version 5.0 of EBA Fraud Taxonomy by EBA Board
- **June 2024:** release of EBA Fraud Taxonomy version 5.0
- **January 2025:** implementation

EBA Fraud Taxonomy

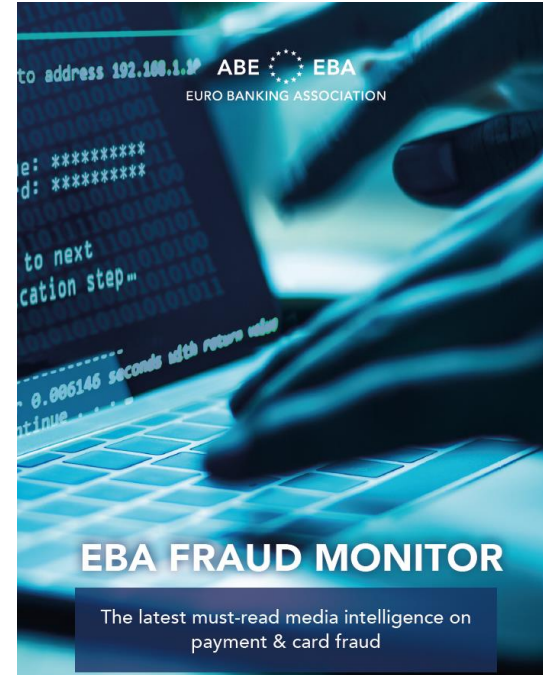
Way forward

Next steps towards wider market penetration:

Fraud experts are invited to share the EBA Fraud Taxonomy with their colleagues

Objective: Europe-wide adoption at PSP level and at the level of local/regional fraud intelligence or data sharing facilities

EBA Fraud Taxonomy community: monthly newsletter, regular updates, training material on taxonomy (ongoing)

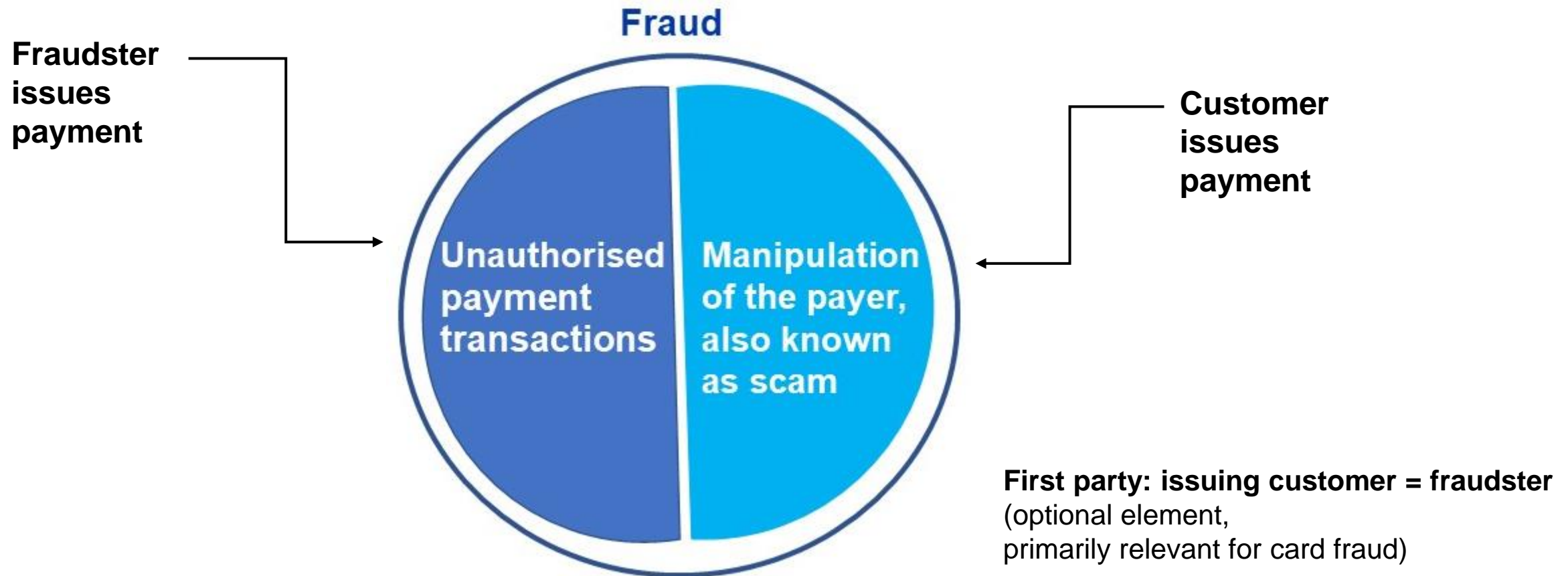


The EBA Fraud Taxonomy can be requested via the EBA website at <https://www.abe-eba.eu/publications/>
The sign-up includes an opt-in for receiving updates on fraud combatting, such as the EBA Fraud Monitor newsletter.

**Annex I:
Detailed view of the EBA Fraud Taxonomy
categories (initiator, method, modus,
labels/tags)**

Initiator: describes who initiates the payment transaction affected by the fraud

Definitions aligned with the EBA Guidelines on Fraud Reporting under PSD2



Method: describes attack vector and specifies first point of contact between fraudster and victim or the point of compromise

Method (how):

Supports PSPs in developing effective fraud prevention campaigns for their customers

- Brute force
- Data breach / theft
- E-mail compromise
- E-mail contact
- Fake advertising
- Fake merchant
- In-person contact
- Malware
- Online contact
- Phone contact
- Physical copy
- Physical theft
- Social media compromise
- Social media contact
- Text message contact

Modus: unauthorised and often manipulative action taken by fraudster and resulting in the loss of money via a payment transaction

Modus (what):

Facilitates standardised means to describe fraudulent action

Why? High-level classification:

Why the victim engaged with the fraudster / took the bait

- Indicates strategic approach taken by the fraudster that triggers the desired reaction by the victim

What? Modus:

What trick the fraudster used to get hold of the victim's money or credentials

- Unauthorised and often manipulative action taken by fraudster

"Your money / personal information is at risk"

Safe account fraud

Stop unauthorised transaction fraud

Stop unauthorised access fraud

"You can earn/save a lot of money"

Advance fee fraud

Claim a benefit fraud

Investment fraud

"I am a seller/buyer"

Online shopping fraud

"Please help me"

Emotional manipulation

"Send me money or I'll ..."

Extortion

"We've changed account number"

Impersonation of creditor

"You owe money"

Overpayment scams

Phoney debt/bill collection

"Can you please sign this?"

Fake institution

Account takeover by unauthorised party

Pure account takeover

Creditor account data manipulation

Card fraud

Card details stolen

Card lost or stolen

Card never received

Use of counterfeit cards

Fraudulent card application

Fraudulent card claim

Fraudulent use of cash back scheme

Labels/tags: enrich the case with additional categorisation information

Labels/tags:

Ensure ease of use and maximum flexibility














- PSPs are free to choose labels/tags for specific fraud scenarios as they deem fit
- Labels/tags listed in the EBA Fraud Taxonomy are suggestions and not meant to be exhaustive

Account takeover	Fake prize, sweepstakes, and lottery scams	Non-crypto investment scam
Advanced persistent threat (APT)	Fake website	No physical meeting
Beneficiary account change	False billing scam	Phishing
BIN attack	Falsified ID	Physical meeting
Card not present	Falsifying personal and financial information	Physical proximity credential theft / known perpetrator
Card peeking	First party	Physical proximity credential theft / unknown perpetrator
Card present	Fraudulent MOTO card transaction	Ransomware
Card skimming	Fraudulent use of Contract for Difference (CFD)	Remote access trojan
CEO fraud	Fraudulent use of cryptocurrency	Romance scam
Collusive merchant / data misuse	Gift card	Sextortion
Contactless relay fraud	Goods not received	Shoulder surfing
Credit master	Impersonation	Smishing
Discount / refund fraud	Keylogger	Subscription scam
Exploiting the system	Lookalike domain	Synthetic ID
Fake bank / financial institution	Malware - MageCart	Third-party channel
Fake betting	Manipulated invoice	Third-party vendor account takeover
Fake customer support	Multiple imprint	Vishing
Fake loan	Nigeria	Wecycle
Fake police	Nightclub	

**Annex II:
Overview of potential impact of
IBAN-name checks on fraud cases
for credit transfers**

Overview of potential impact of IBAN-name checks on fraud cases for credit transfers

Based on relevant fraud modi defined by the EBA Fraud Taxonomy

No impact expected	Low impact expected	Medium impact expected	High impact expected
 Extortion	 Emotional manipulation	 Safe account fraud	 Impersonation of creditor
 Pure account takeover	 Investment fraud	 Stop unauthorised transaction fraud	 Phony debt/bill collection
	 Online shopping fraud	 Advance fee fraud	 Fake institution
		 Overpayment scams	 Creditor account data manipulation

Source: *IBAN-name check – Current developments and concepts*

Thank you!

Annick Moes, EBA Head of Industry Issues and Cooperation Initiatives

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<https://www.abe-eba.eu>

https://twitter.com/EBA_Association

<https://www.linkedin.com/company/euro-banking-association>



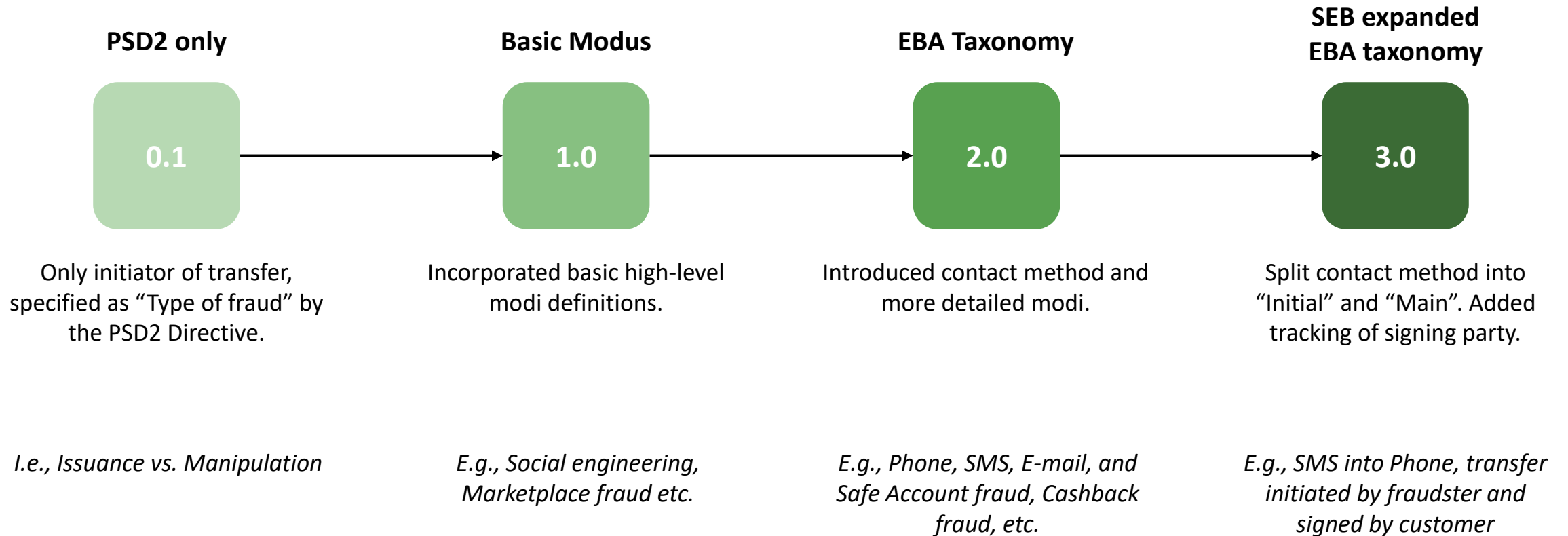
Implementing EBA Fraud Taxonomy at SEB AB

EBA Open Forum 2023-10-17

Goal of new taxonomy

- **Compliance:** Aligning with EBA Guidelines on Fraud Reporting under PSD2.
- **Increased data quality:** Reducing the risk of overlap in the identification of fraud types and, consequently, increasing the accuracy of statistics used to identify fraud trends.
- **Data sharing:** Allowing for better inter-bank cooperation and data sharing through a common taxonomy.
- **Consistency:** Speaking the same language when it comes to fraud cases. Both within the bank, and with outside parties.

SEB Fraud Taxonomy Timeline



Implementing the EBA taxonomy at SEB

Fraud registration at SEB

- A lot of legacy from PSD2 reporting.
- Time consuming manual process.
- Existence of overlapping as well as diverging legacy taxonomies.
- More difficult to translate data into threat intelligence.

How we implemented at SEB

- Started small, then quickly expanded.
- Ensuring backwards compatibility was essential.
- Focus on flexibility and user friendliness.
- Historical data according to EBA taxonomy since Jan 1st 2022.

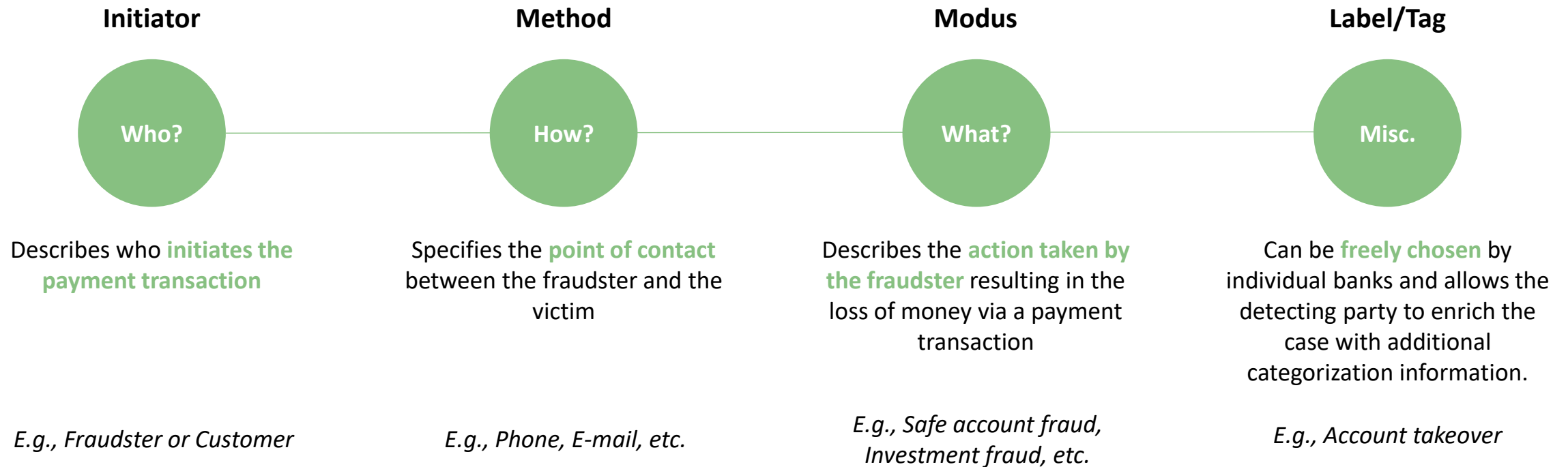
Benefits

- Common taxonomy within SEB AB.
- Clearer data gathering.
- Increased data quality.
- Increased threat intelligence.
- Increased possibilities for collaboration and knowledge sharing within EBA.
- Increased speed and efficiency of countermeasures.
- Added depth in victim profiling and risk scoring.

Future improvements

- Implement in case handling system (ongoing).
- Expand taxonomy to cover SEB Baltics and SEB Card.

Review of the EBA fraud taxonomy



The SEB expanded fraud taxonomy

Original Taxonomy

Method



Modus



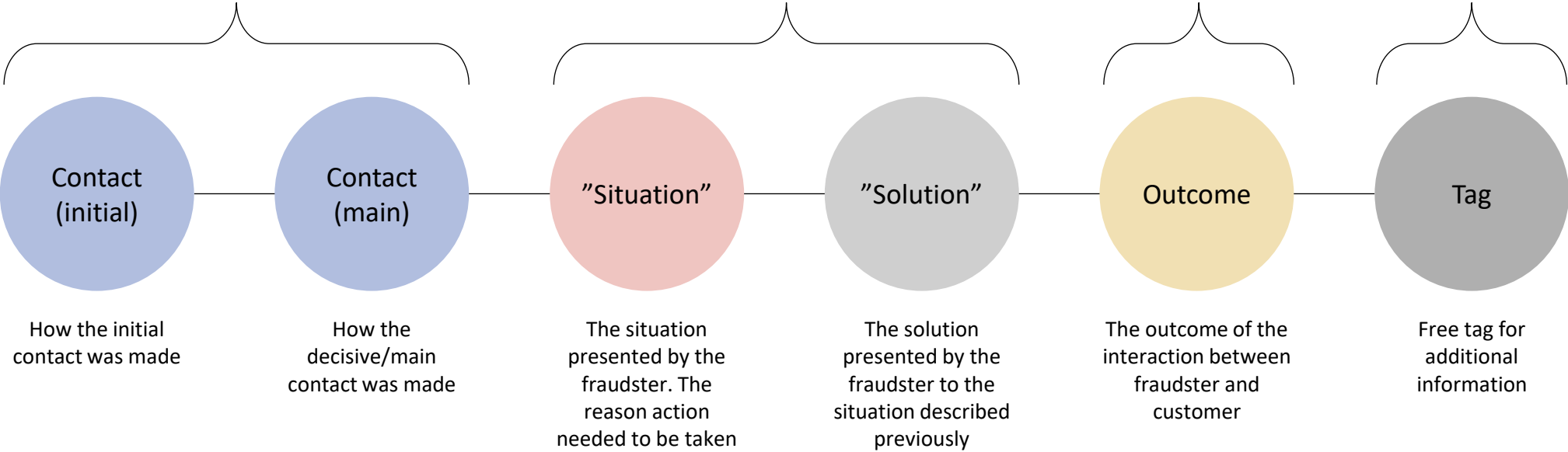
Initiator



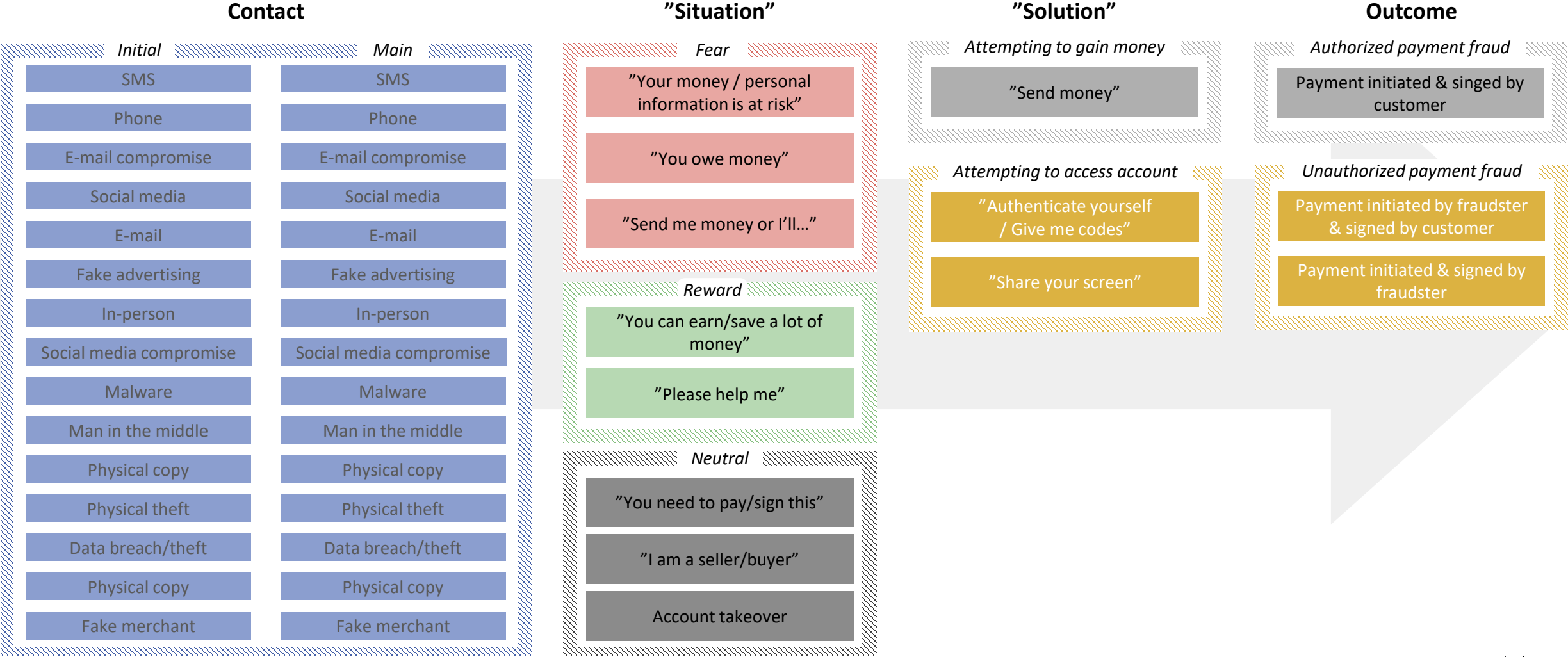
Label/Tag



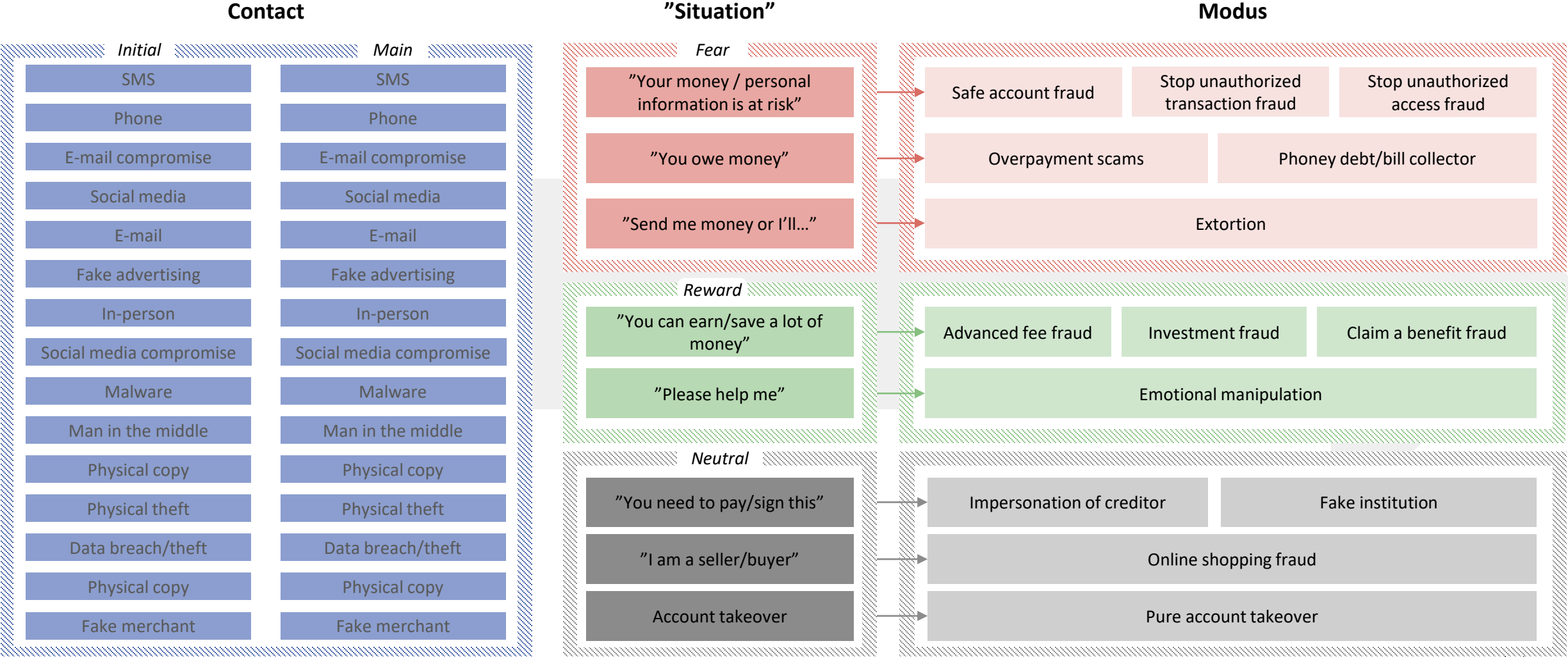
Expanded Taxonomy



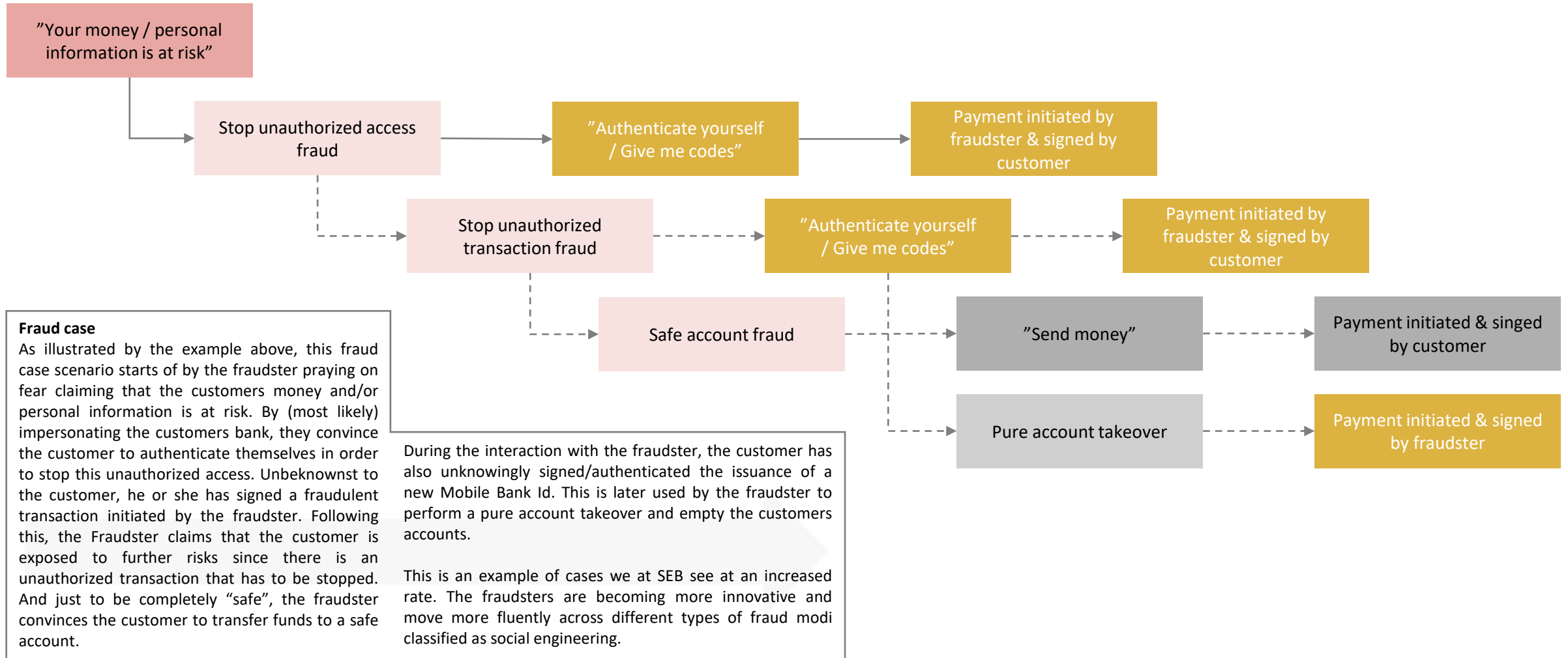
SEB Fraud Taxonomy (in detail)



SEB Fraud Taxonomy (in detail)

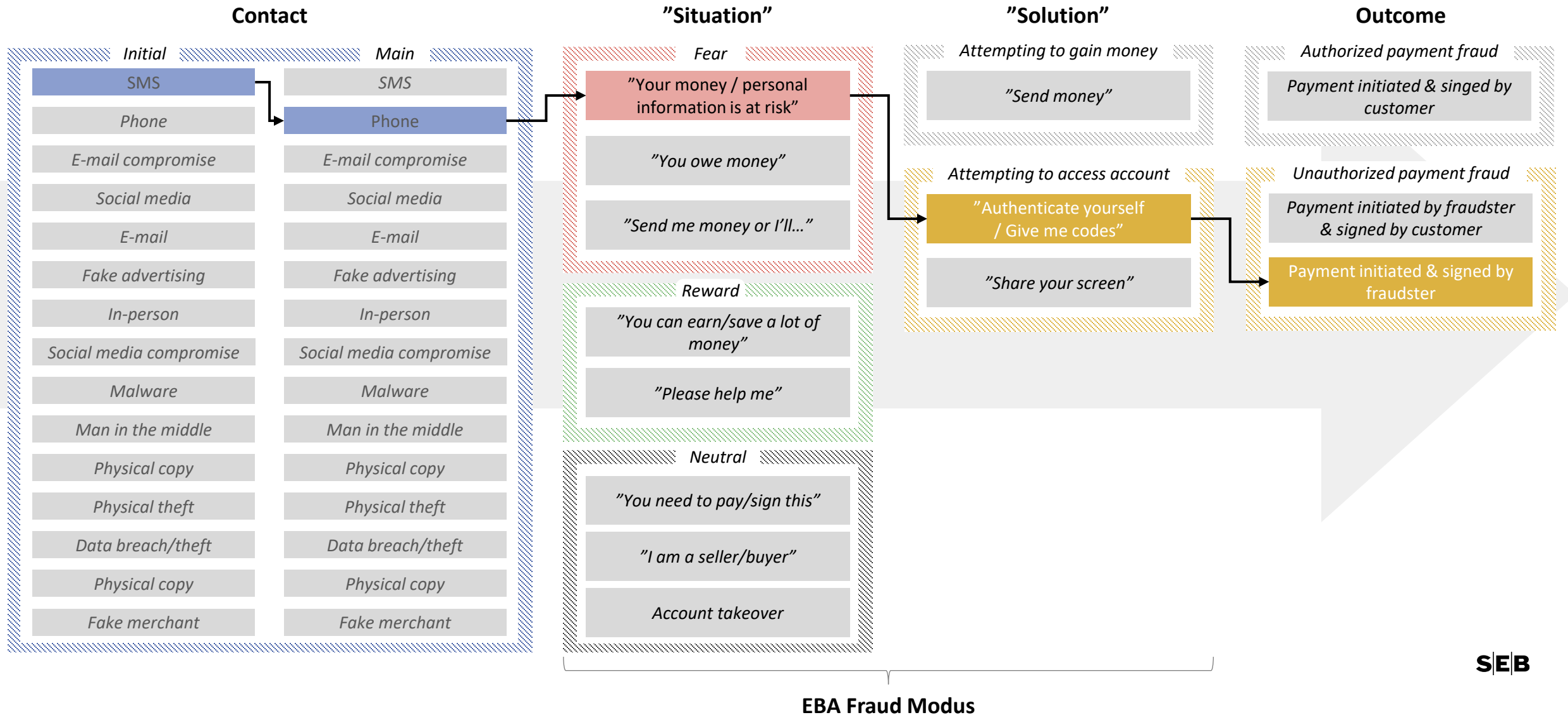


Example of fraud case scenario



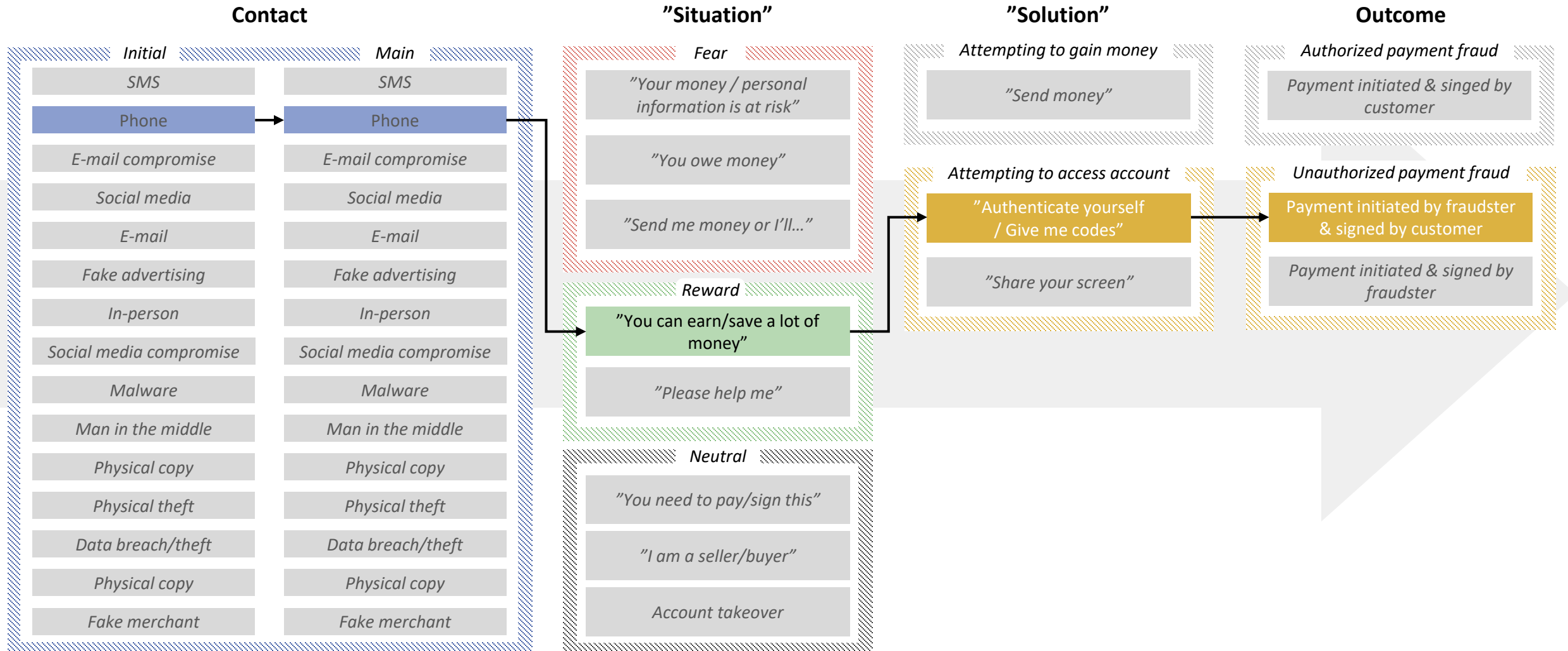
Example 1: Stop unauthorized transaction fraud

Legacy Taxonomy: Social engineering



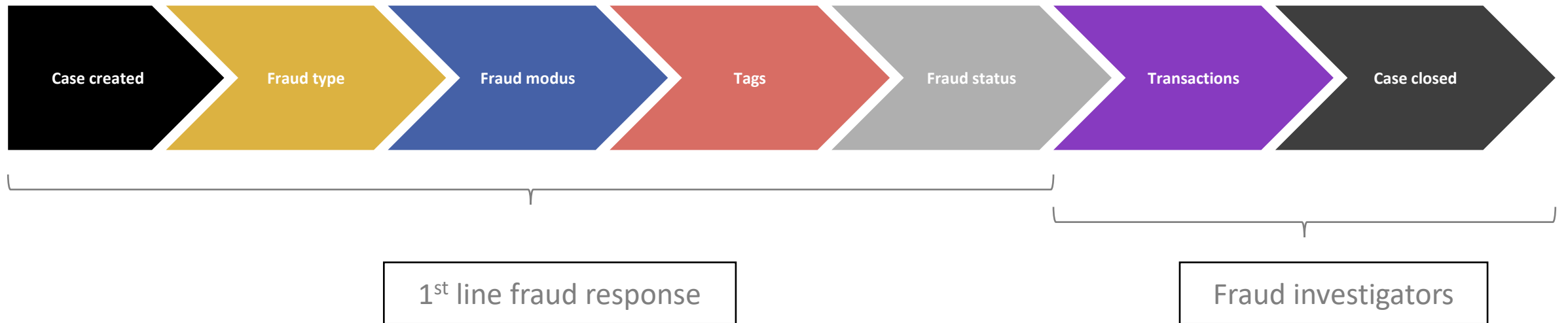
Example 2: Claim a benefit fraud

Legacy Taxonomy: Social engineering



The present & Future of fraud registration

- Implementation of taxonomy and updating registration flow in internal case handling system.



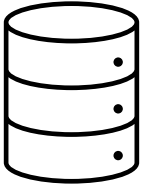
Future vision

Fraud Committed

Fraud Reported

Fraud Processed & Analyzed

Fraud analytical feedback loop

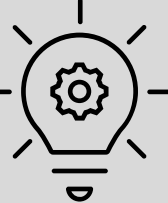


Taxonomy applied

Collaboration & Sharing



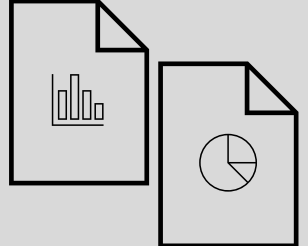
Threat intelligence



Preventive measures



Reporting



Fireside Chat

Panel Discussion

Wrap-up

Thank you!

Participants in the forum are reminded of their responsibility to observe anti-trust laws.

The EBA Anti-Trust Policy is available at the EBA website.

https://www.abe-eba.eu/media/azure/production/1352/eba_antitrust_policy_20170602_final_clean.pdf

The forum is an open group, where interested stakeholders can discuss and exchange information on industry-wide topics.

The content of the slides presented and the views expressed in the context of the activities of the forum are those of the respective participants in the forum, and do not represent the views of the Euro Banking Association (EBA).