



**DIGITAL**

**TRANSFORMATION 2.0**

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## **Overview**

Piyush Gupta

Chief Executive Officer

# Our investment thesis



**Diversified  
access to  
Asia's growth**



**Financial  
outperformance  
driven by digital  
transformation**



**Growth  
opportunities  
from early moves  
in Sustainability**

# Our investment thesis



**Diversified  
access to  
Asia's growth**

Structural drivers of Asia's long term growth remain intact

Large Asian markets offer significant growth upside

Singapore, a bridge between East and West, beneficiary of growing regional trade

# Our investment thesis

**Growth opportunities from early moves in Sustainability**

Annual sustainability banking revenue pool of >US\$30b in Asia through 2030<sup>1</sup>

Transition pathways allow us to create innovative solutions for our clients

Sustainability-linked revenues quadrupled over the last three years to c. S\$300m

<sup>1</sup> McKinsey Global Banking Annual Review 2022: Banking on a Sustainable Path

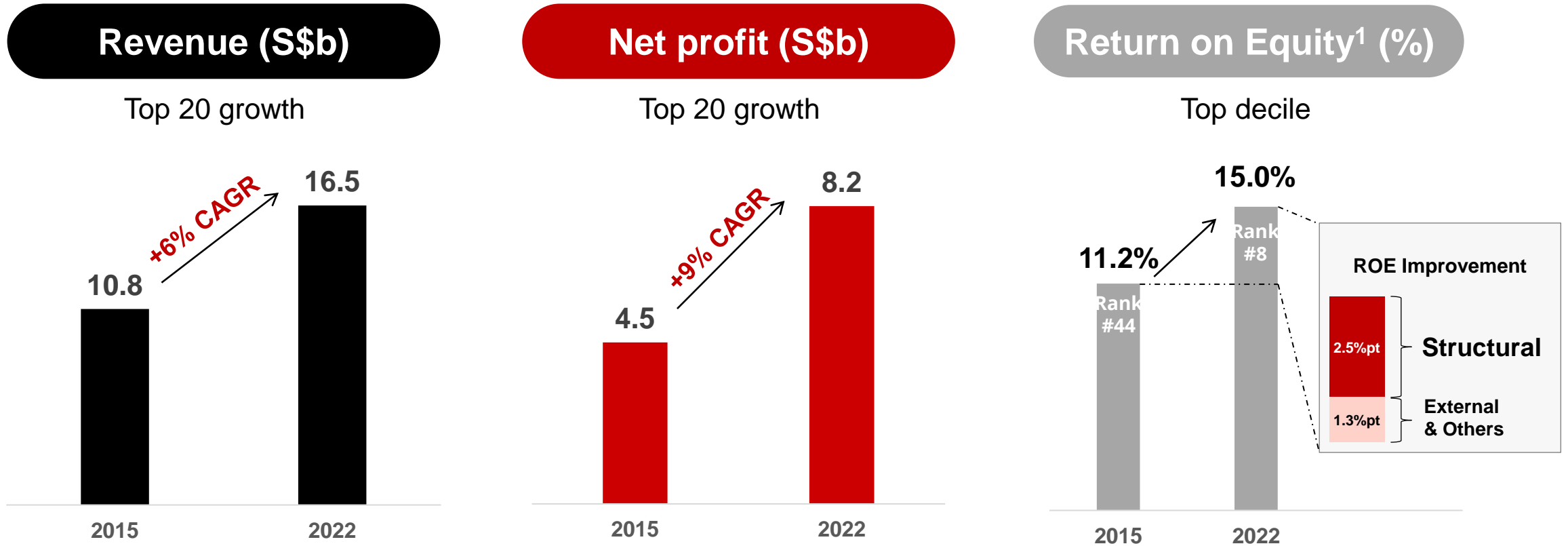
# Investor Day 2023

Diversified  
access to  
Asia's growth

**Financial  
outperformance  
driven by digital  
transformation**

Growth  
opportunities  
from early moves  
in Sustainability

# Financial outperformance driven by digital transformation



<sup>1</sup> Global peer universe comprises the 100 largest banks by assets. Data as at 31 December 2022

# What we have achieved since 2017...

## Transforming the way we manage...

*... leading to superior business outcomes*

**1** Continued to create sustainable advantage with technology

**2** Changed the way we work

**3** Redesigned credit processes for scale and effectiveness

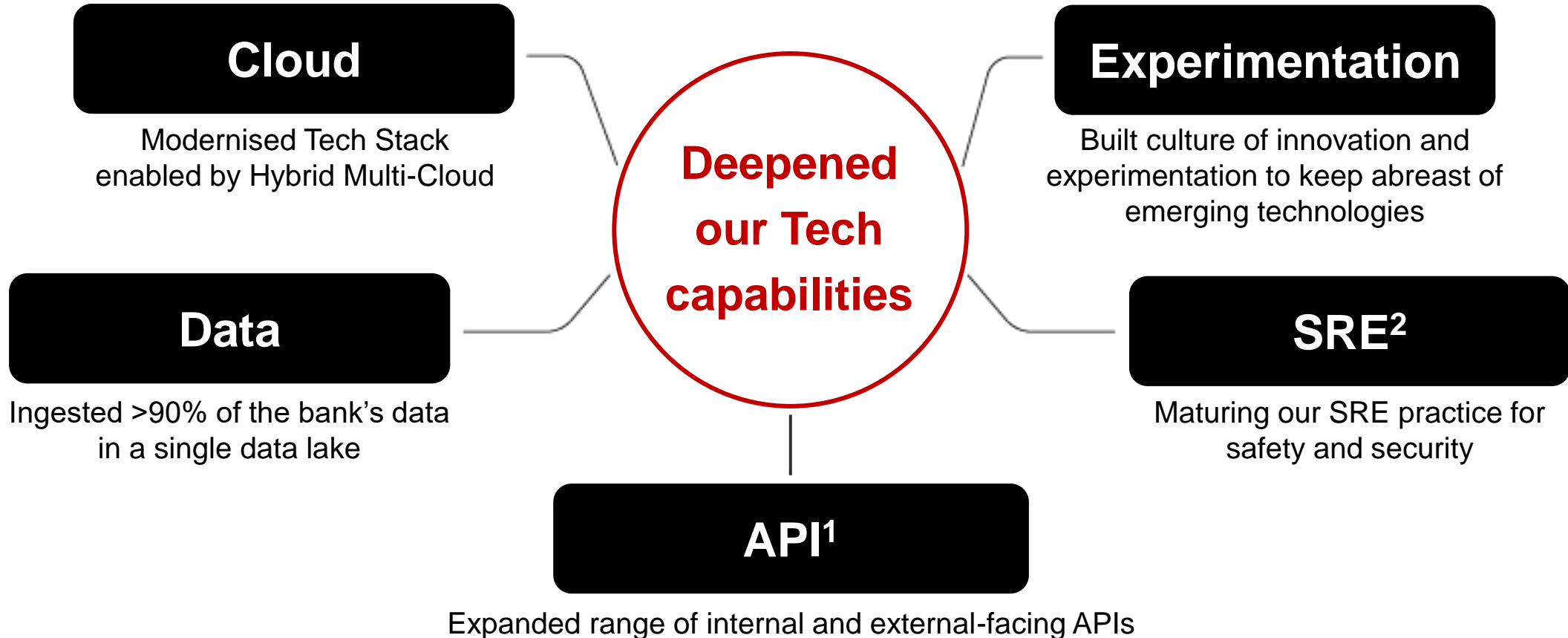
**4** Delivered on our goals in Consumer & SME

**5** Created outperformance in PB, GTS and T&M through digitalisation

**6** Started scaling in growth markets

# 1. Continued to create sustainable advantage with technology

Multi-year journey of building our own technology DNA



<sup>1</sup> Application Programming Interface / <sup>2</sup> Site-Reliability Engineering



## 2. Changed the way we work

Breaking organisational silos, becoming data-driven and extending reach through partners

**Managing  
through  
Journeys**

**Driving horizontal  
collaboration for  
efficiency &  
effectiveness**

**Data / AI**

**Industrialising AI to  
drive broad-based  
financial outcomes**

**Ecosystems**

**Acquiring customers at  
scale through  
partnerships**

# 3. Redesigned credit processes for scale and effectiveness

Driving scale and managing portfolio risk through Data and AI/ML



**Growing in new segments and markets through data-driven underwriting**



**Enhancing effectiveness of portfolio management with early warnings and triggers**

## 4. Delivered on our goals in Consumer & SME

Income (S\$b)

4.1 → 6.8  
2015 → 2022

Cost to Income (%)

49 → 40  
2015 → 2022

Return on Equity (%)

22 → 37  
2015 → 2022



- Doubled digital share of customers to 60%
- Closed last mile gaps
- Further rationalised our distribution
- Broadened our product range
- Made digital marketing more effective
- Gained access to new market segments

# 5. Top four private bank in Asia<sup>1</sup>

## AUM Growth<sup>2</sup>

**9%** CAGR<sup>3</sup> vs **3.1%** Asian Peers<sup>4</sup>

## Income (S\$b)

**1.1** 2017 → **1.7** 2022

## Cost to Income (%)

**46%** 2022 vs **69%** Asian Average<sup>5</sup>

## Return on Equity (%)

**16** 2017 → **30** 2022



- Sharpened phygital model to leverage RMs and technology
- Outperformed on RoAUM driven by enhanced client engagement

<sup>1</sup> 2022 APB PB AUM League Table / <sup>2</sup> 2017-2022 / <sup>3</sup> AUM growth of High Net Worth Individuals including DBS PB, TPC and Treasures customers with AUM ≥ \$1.5m / <sup>4</sup> AUM growth of PB/HNW clients' of the following banks in Asian markets: UBS, Credit Suisse, HSBC, Morgan Stanley, Julius Baer, JP Morgan, Bank of Singapore, Goldman Sachs / <sup>5</sup> McKinsey Asia Private Banking Survey 2022

## 5. Scaled our Global Transaction Services franchise

**Income (S\$b)**

**1.9** → **3.3**  
2017 → 2022

**Cost to Income (%)**

**38** → **32**  
2017 → 2022

**Return on Equity (%)**

**18** → **38**  
2017 → 2022



- Improved market access and capacity, and reduced latency
- Capitalised on shift from offline-to-online commerce through high-volume, low-value, real-time payments
- Captured supply chain shifts through API capabilities

# 5. Digitised Treasury & Markets

## Income<sup>1</sup> (S\$b)

1.9 → 2.7  
2017 → 2022

## Cost to Income (%)

50 → 44  
2017 → 2022

## Return on Equity (%)

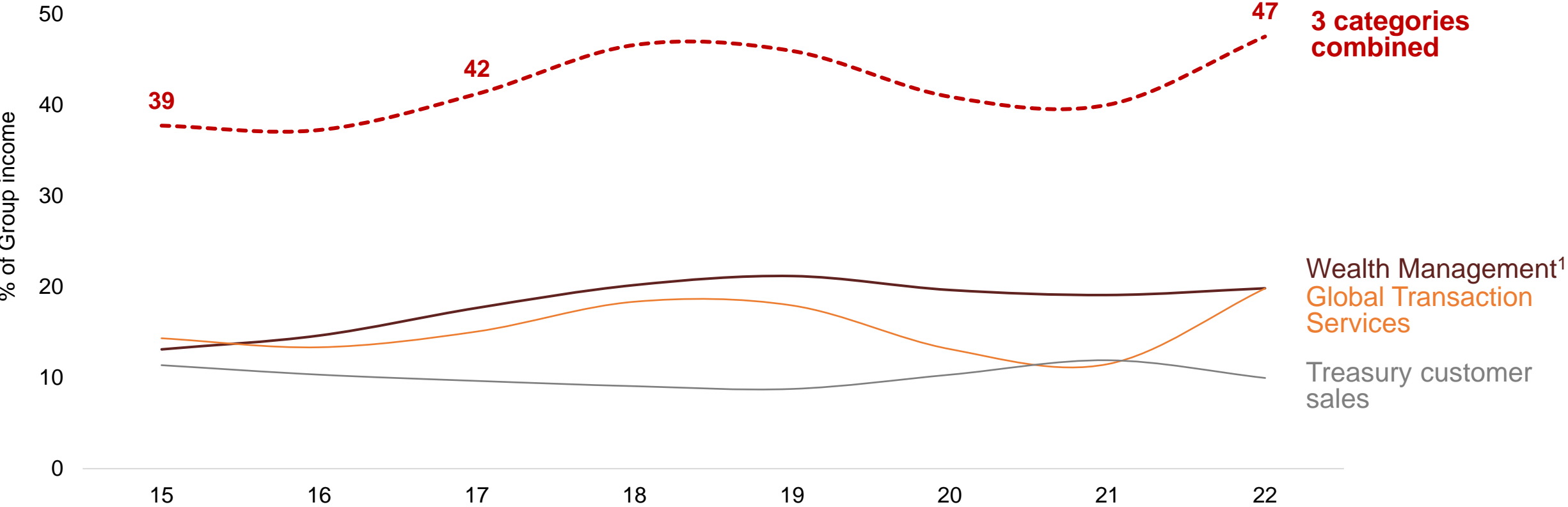
8 → 14  
2017 → 2022



- Enabled pricing and structuring at scale and speed
- Implemented electronic distribution within and outside of the bank
- Improved trading efficiency by enhancing risk warehousing

<sup>1</sup> Figures exclude revenue from debt capital markets

# 5. Increasing contribution from capital-light, high-return businesses



<sup>1</sup> Wealth management income comprising Treasures, TPC and PB

## 6. Scaling our India franchise

### Income (S\$m)

183 → 551  
2017 → 2022

### Cost to Income (%)

86 → 78  
2017 → 2022

### Return on Equity (%)

(3) → 5  
2017 → 2022



- Expanded network to >500 branches
- Full-service platform, similar to any local bank
- Leveraging digital capabilities and ecosystem partnerships to capture high-growth Consumer and SME segments



# Agenda

**Overview**

**Overview**

**Group Financials**

**Closing Remarks**

**Enablers**

**Technology Capabilities**

*Powering the future of banking with  
Data & AI*

**New Way of Working**

*Streamlining customer & employee  
journeys via workflows & workbenches*

**Credit Risk Management**

**Businesses  
& growth  
markets**

**Consumer &  
SME**

*Leveraging open  
banking to  
democratise wealth  
solutions*

**Private  
Banking**

**GTS**

*Enabling growth for  
businesses through  
digital  
transformation*

**T&M**

*Transforming  
personalised  
services-at-scale  
with Digimarkets*

**India**

**Presentation**

*Showcases*



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## **Group Financials**

Chng Sok Hui

Chief Financial Officer

# Well-positioned for success with a strong balance sheet, digital capabilities and momentum from growth markets

## 1 2015 to 2022

Proven results from digital transformation

ROE structurally improved by 2.5% points

## 2 Outlook

Well-positioned for future with strong franchise and fortress balance sheet

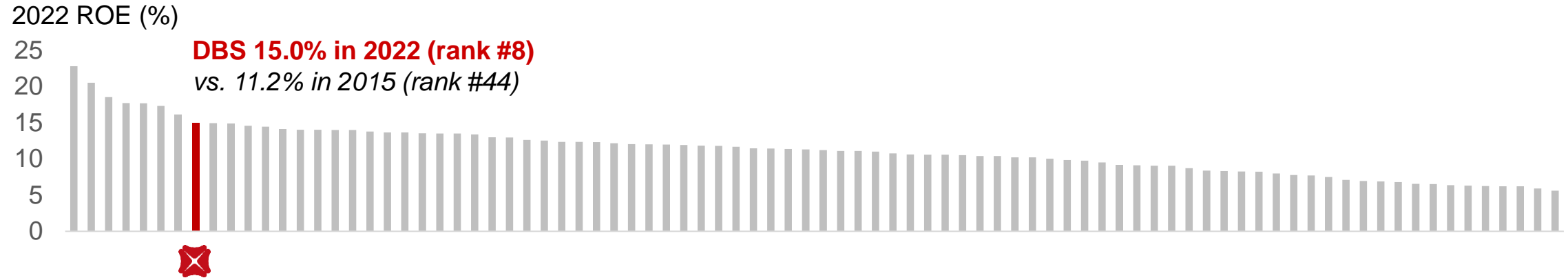
Earnings of \$10b+ and ROE of 15-17% in the medium term<sup>1</sup>

Drivers:

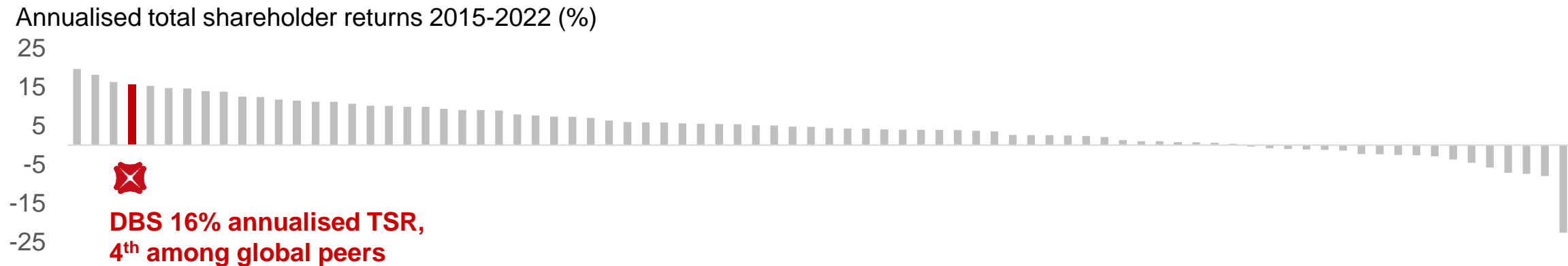
- ✓ **Strong balance sheet and capital;** well-positioned to capture opportunities
- ✓ **Formidable tech capabilities** anchoring digital transformation
- ✓ **New way of working and new risk management capabilities** enabling effective scaling while managing risks
- ✓ Momentum from **transformation initiatives across businesses** and in **growth markets**

# Successful digital transformation since 2015 led to higher ROE and better shareholder returns

## ROE in top decile of world's 100 largest banks

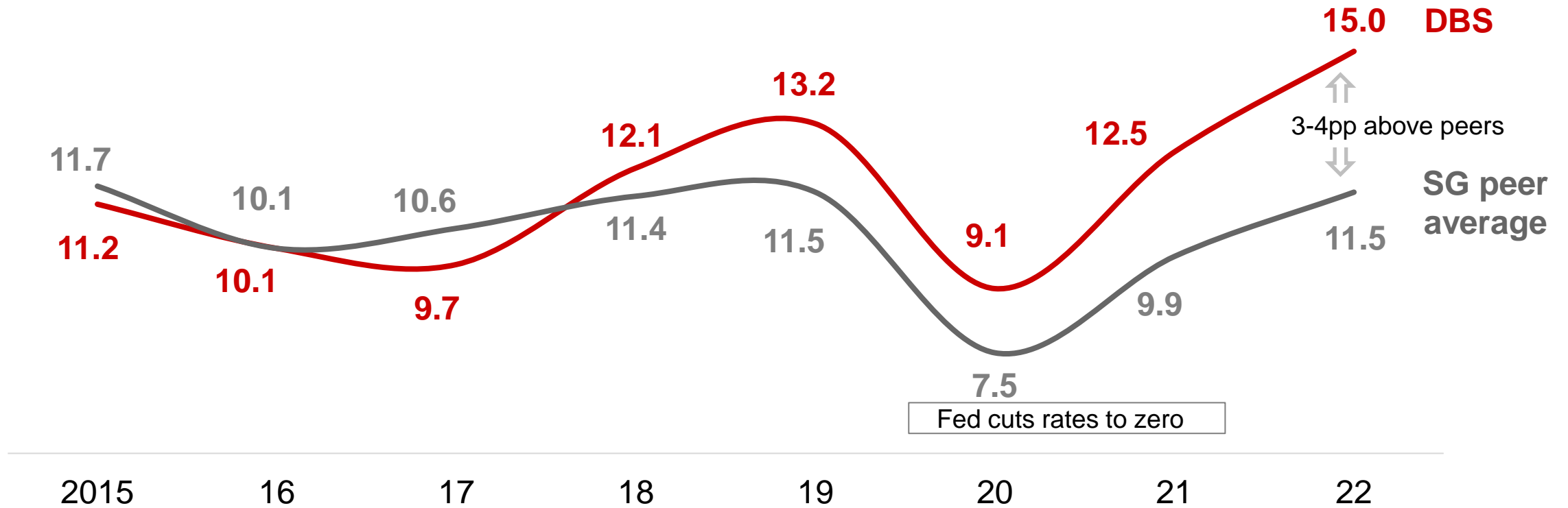


## #4 among global peers in total shareholder returns since end-2015

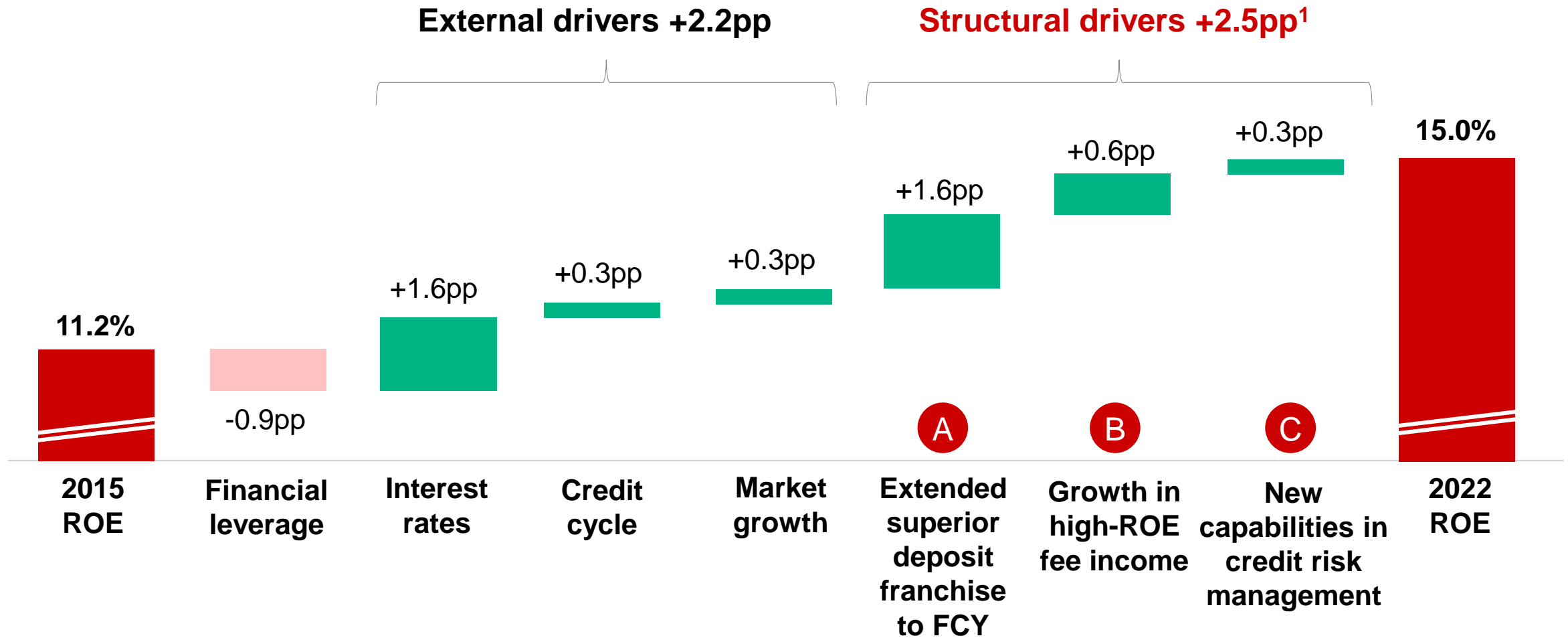


# Transformation has widened structural ROE advantage

ROE (%)

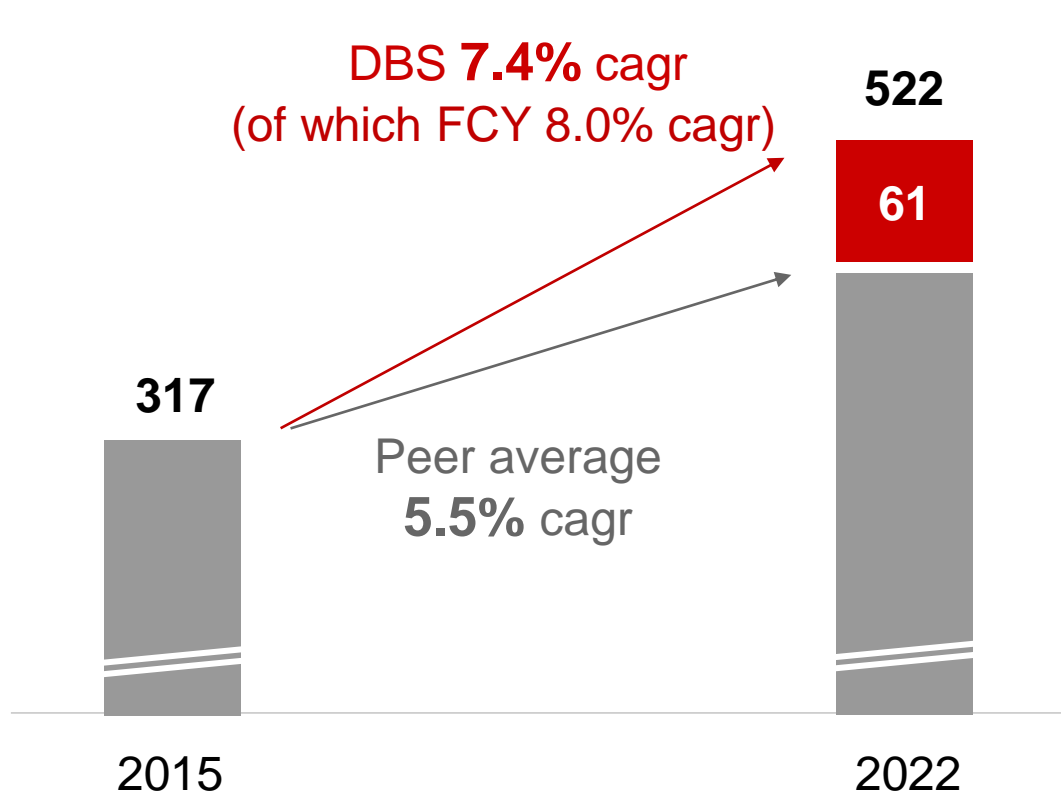


# 2015 to 2022: Group ROE structurally improved by 2.5pp



# A. Extended superior deposit franchise to FCY

Deposits (quarterly average, \$b)



Digital capabilities boosted deposit franchise:

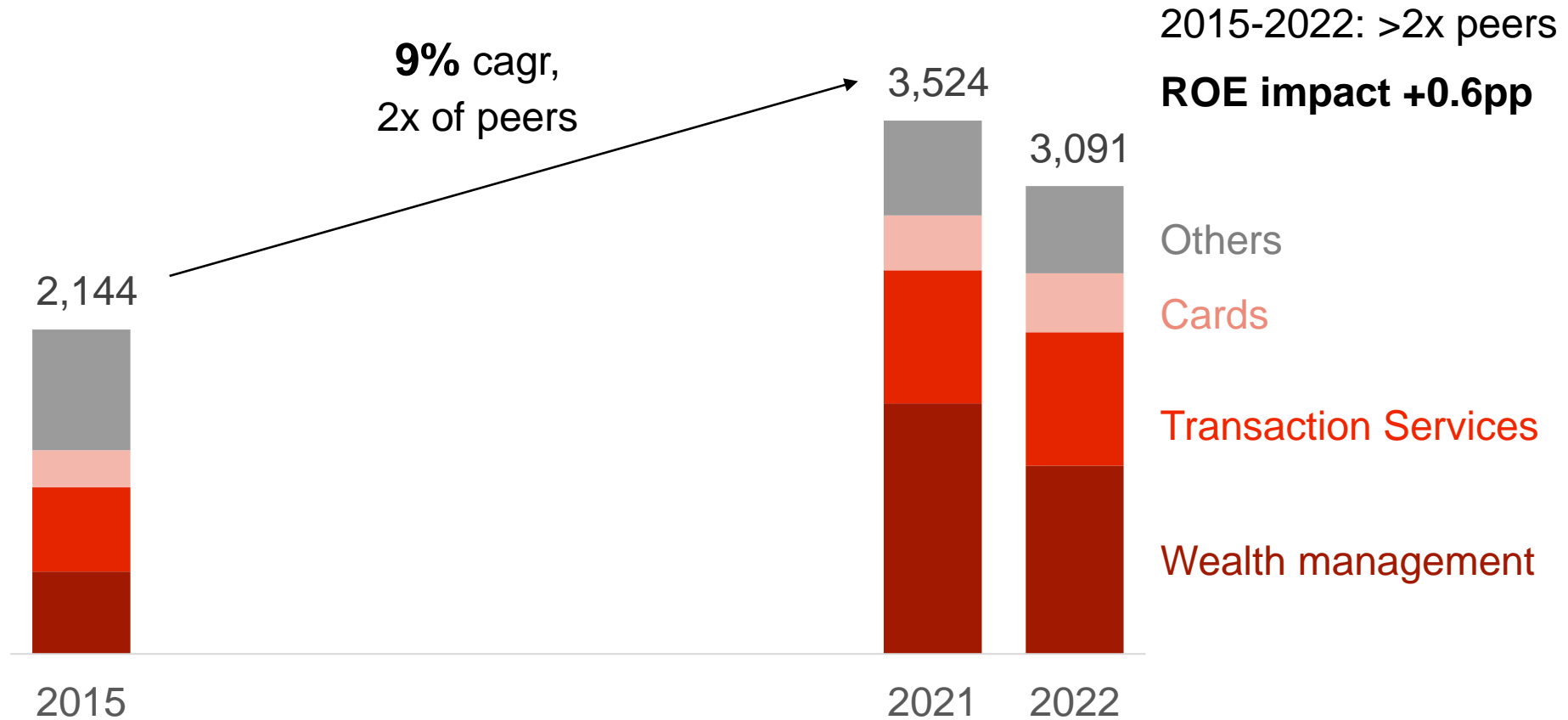
- Higher SGD savings market share at 53%<sup>1</sup>
- FCY CASA ratio up 19pp to 54%

Despite higher FCY deposits, deposit beta (29%<sup>2</sup>) remained lower than local peers (average 34%) and major US banks (average 43%)

**ROE impact +1.6pp**

## B. Growth in high-ROE fee income outpacing peers

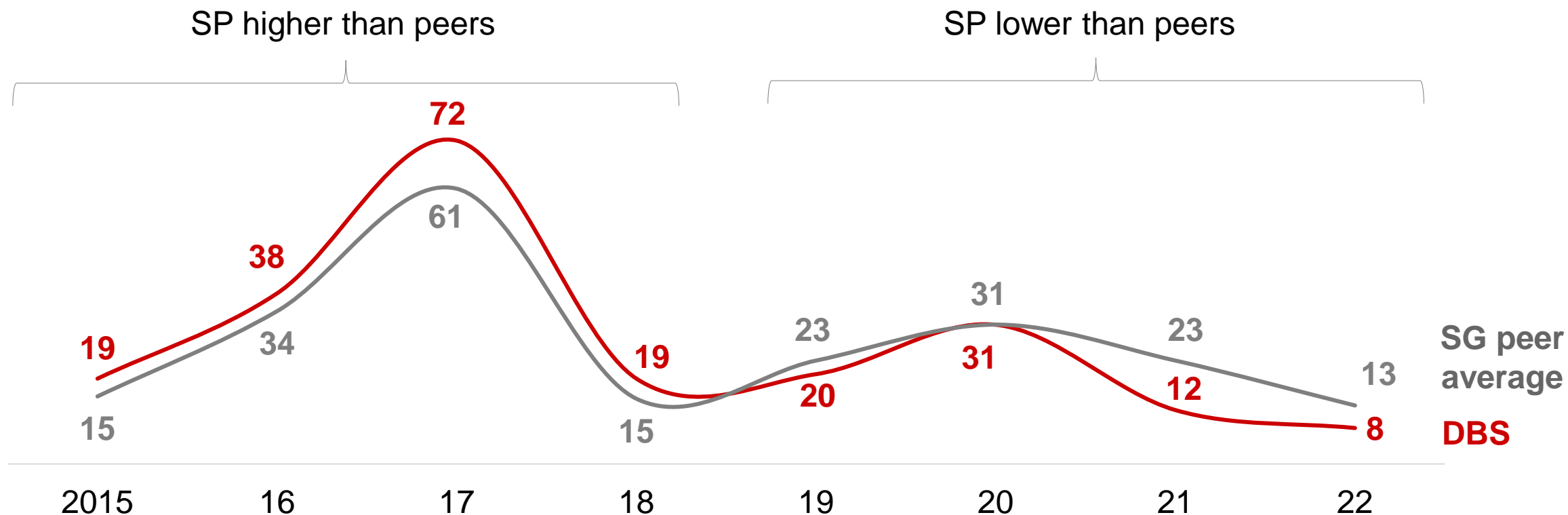
Net fee income (\$m)





# C. New capabilities in credit risk management driving structurally lower allowances

SP / loans (bp)



ROE impact of structurally lower allowances: +0.3pp

# Outlook: Near-term fundamentals sound

## 2023 ROE likely to be above 17%

### Base case

- Full-year **NIM** at 2.05-2.10%
- **Fee income** growth of high-single digit
- **Cost-income ratio** below 40%
- **SP / loans** expected at 10-15bp

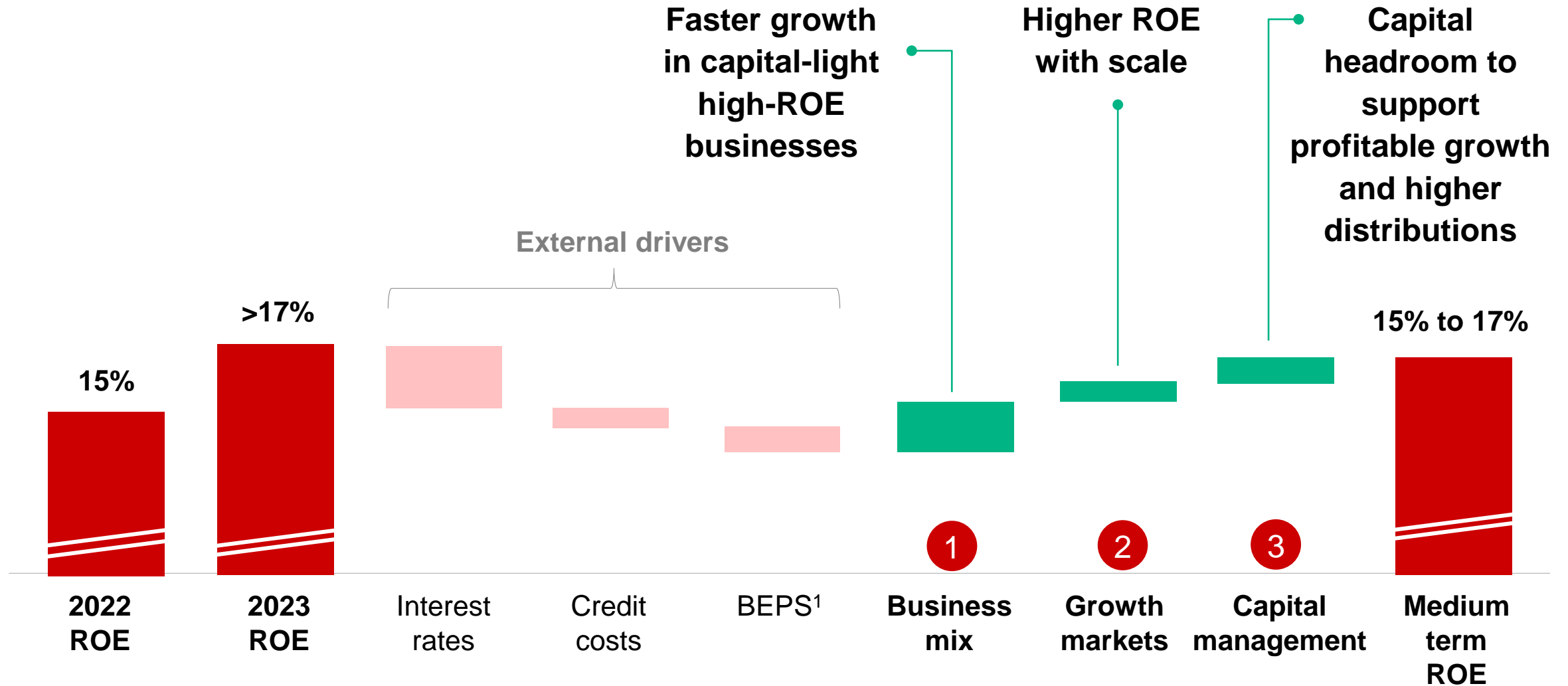
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## Bank will comfortably weather a recession

### Stress scenario

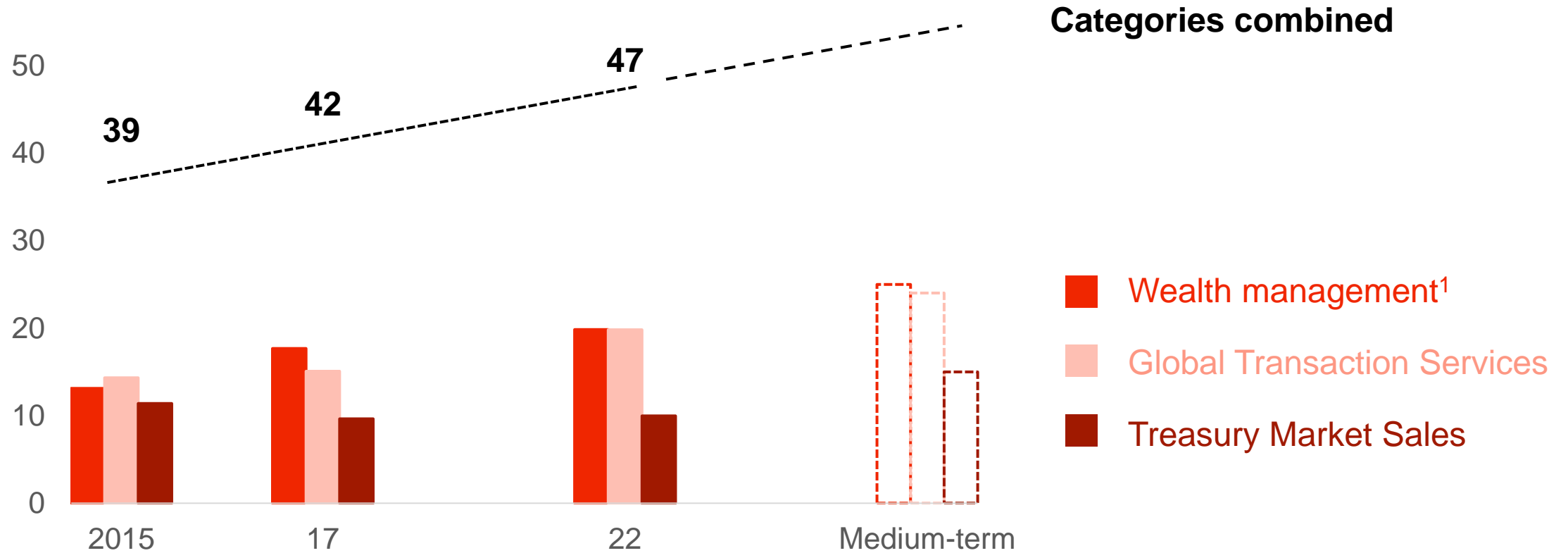
- Stress tested portfolio, **asset quality** to remain resilient
- **Substantial allowance reserves**, with \$3.8b GP buffer (including \$2b of overlays). NPA coverage at 127% and at 229% after including collateral
- Current **CET-1** of 14.1% comfortably above guided range of 12.5%-13.5%. Capital buffer increases during the Basel IV transition period
- Ample **liquidity** to support business operations even in stressed funding conditions

# Medium-term ROE of 15-17% and CET-1 at 12.5-13.5%



# 1. Faster growth in capital-light high-ROE businesses

Income (as % of group)



## 2. Increasing scale in growth markets

**Business model in place to drive scale**  
in high growth markets:

- **Digital ecosystem** led customer acquisition and engagement
- **AI/ML-led credit origination** and portfolio management capabilities
- **Building local depth** via ‘phygital’ model

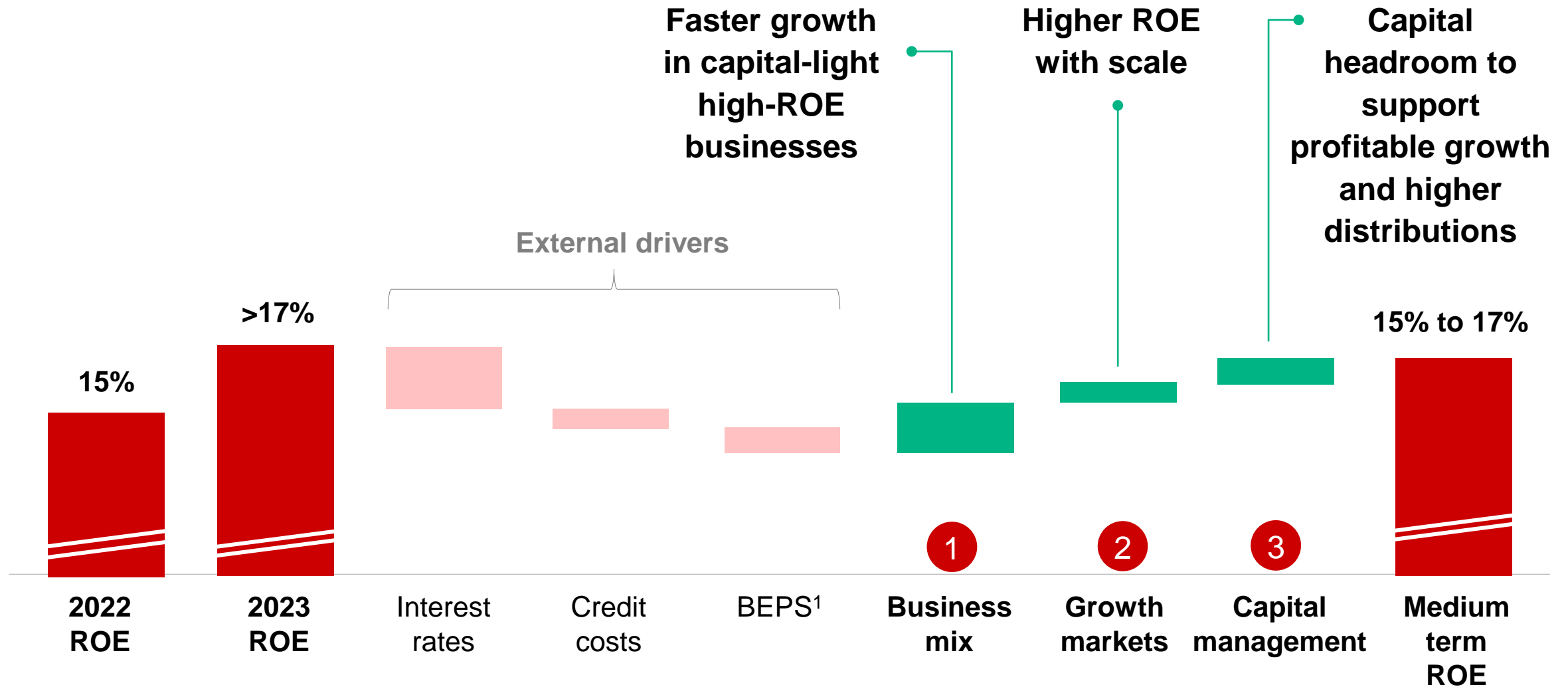
**Growth market net profit to triple and ROE to double in medium term**

Target high potential opportunities in growth markets	Forecasted market revenues <sup>1</sup> India, Indonesia, China Taiwan	
	2027F US\$b	Cagr 2022-27
Transaction banking	1,520	7.4%
Wealth management	633	7.9%
SME lending	417	7.3%
Unsecured retail lending	263	9.8%

### 3. Capital headroom to support profitable growth and higher distributions

- Ordinary dividend lifted by 24 cents to \$1.68 in 2023
- Baseline: +24 cents per year sustainable in the medium term, barring unforeseen circumstances
- Further upside of \$3b based on CET-1 operating range of 12.5-13.5%, distribution could be in further ordinary dividend step-up, special dividend or buyback. Pace dependent on business conditions and macroeconomic outlook

# Medium-term ROE of 15-17% and CET-1 at 12.5-13.5%



# APPENDIX





# Estimation of ROE impact from structural drivers

Drivers	Approach
<b>Structural</b>	
<p><b>(A) Extended superior deposit franchise to FCY</b></p>	<p>(A1) Excess deposit volume growth over peers from 2015-2022 (+\$61b) multiplied by the net return on low risk liquid assets</p> <p>(A2) Deposits growth at same rate as peers (+\$144b) multiplied by benefit from lower deposit beta than peers (-16bp deposit cost)</p>
<p><b>(B) Growth in fee-based high ROE businesses</b></p>	<p>Excess fee income growth over peers from 2015-2022 (+\$0.7b)</p>
<p><b>(C) New capabilities in credit risk management</b></p>	<p>Based on an estimated improvement in credit costs of 5bp of loans due to better credit risk management</p>
<b>Others</b>	
<p><b>Financial leverage</b></p>	<p>ROE adjusted for higher core capital between 2015 (12.4%) and 2022 (14.6%) and other comprehensive income</p>



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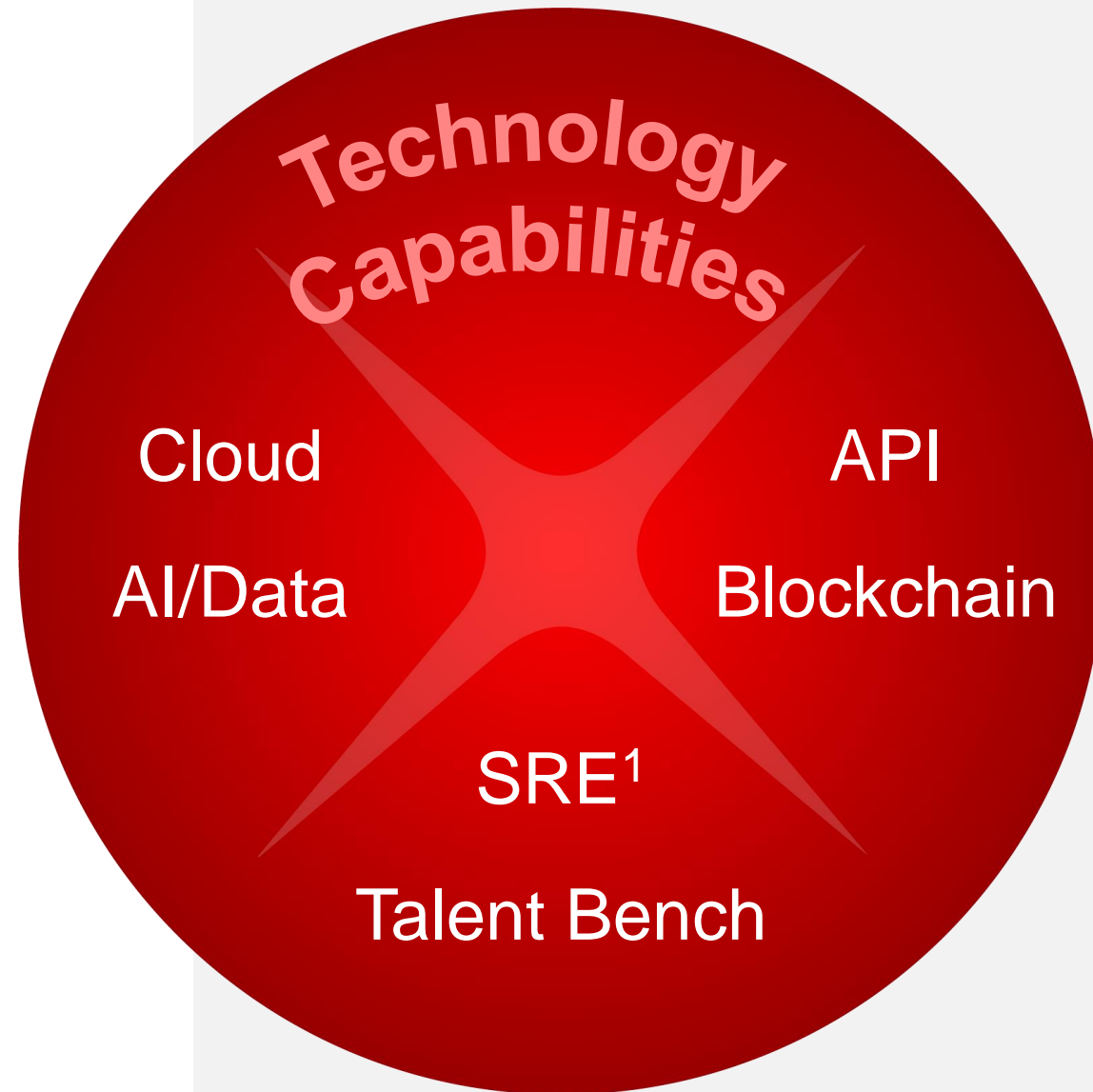
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## **Tech Capabilities**

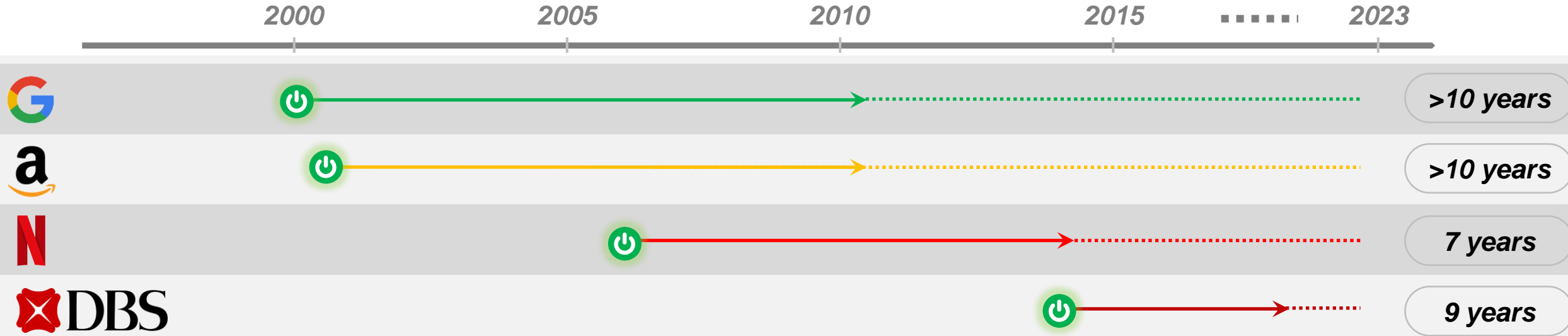
Jimmy Ng

Group CIO & Group Head, Technology & Operations

# Unlocking our sustainable advantage



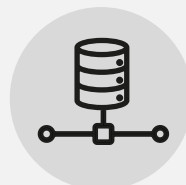
# Rome was not built in a day. Transforming tech capabilities takes time



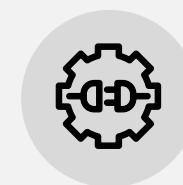
## Key takeaways



Journey to cloud



Massive use of data



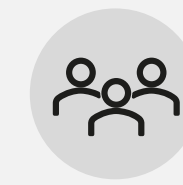
API-driven architecture



Site Reliability Engineering



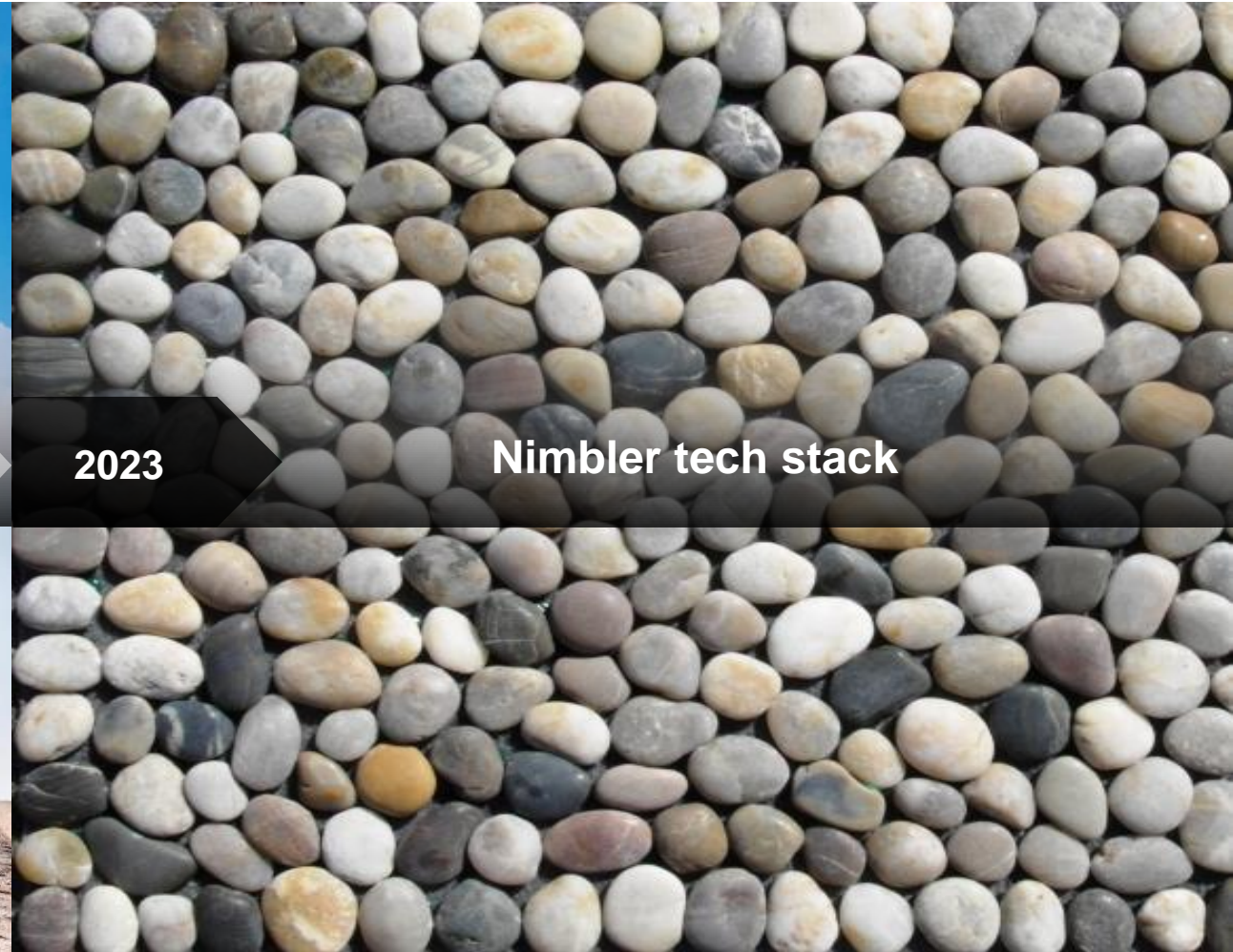
Experimentation with new tech



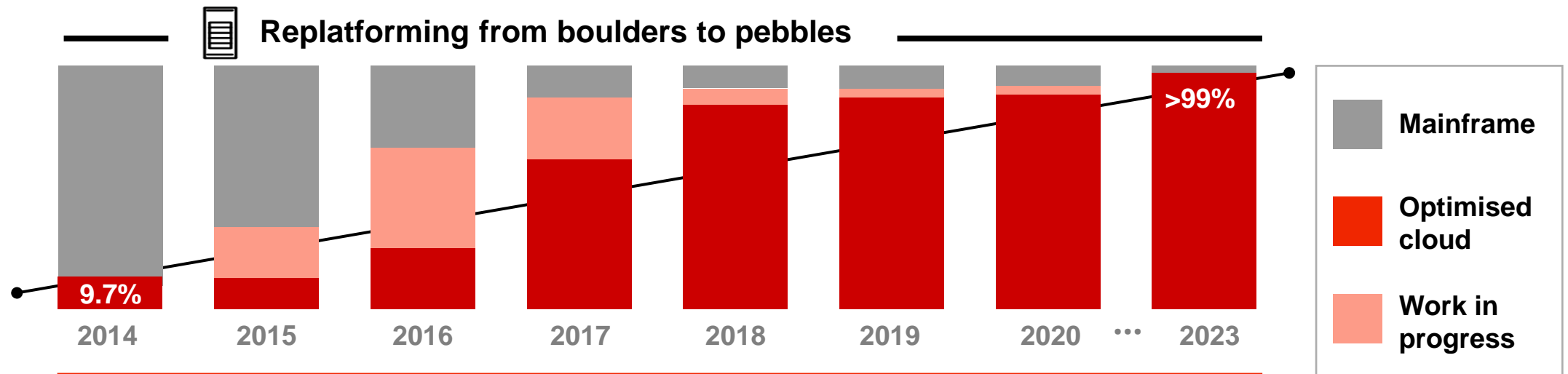
Talent bench

D  
G a N D Apple L f

# Our digital transformation journey: turning boulders into pebbles

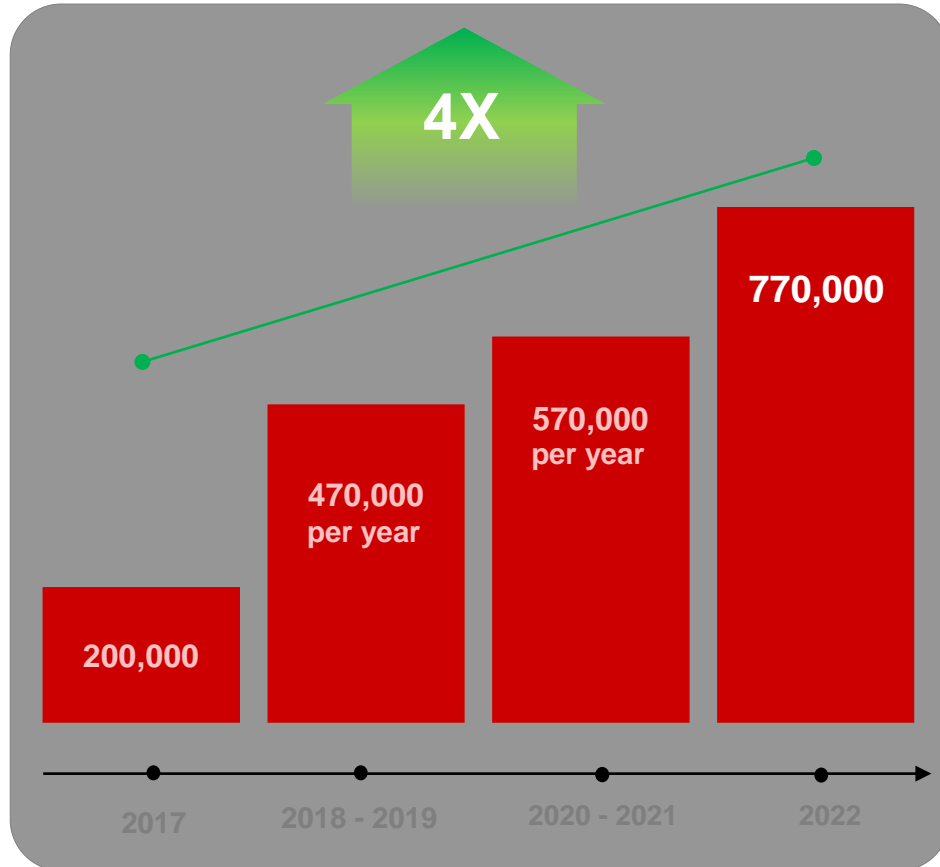


# Our digital transformation journey: turning boulders into pebbles

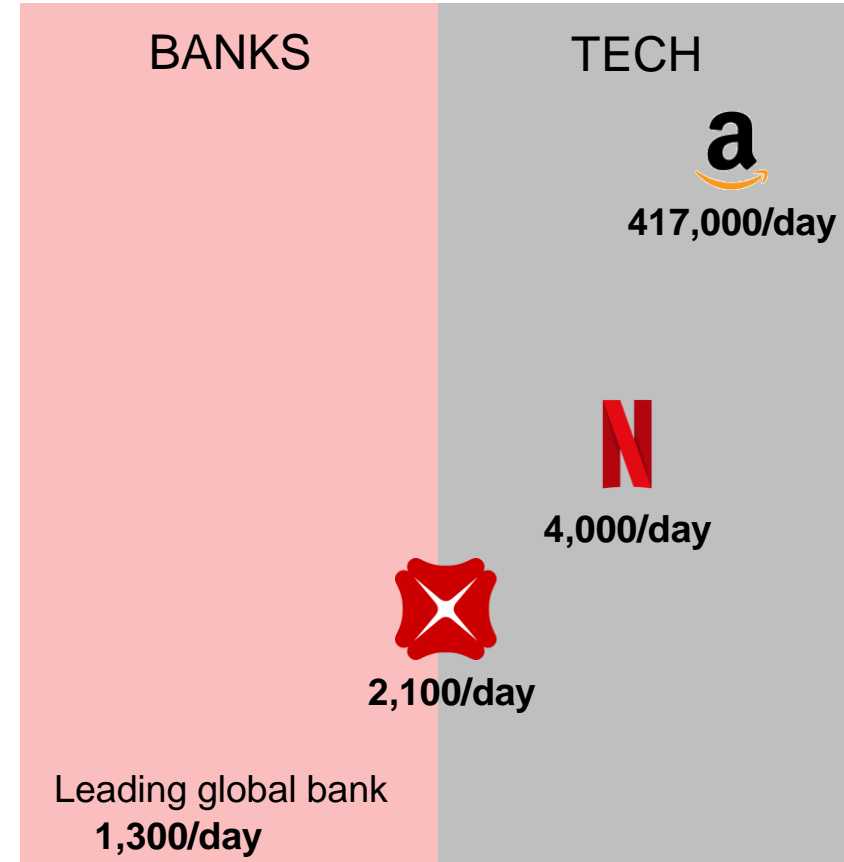


# Our modern tech stack enables scale and agility

## Total deployment releases

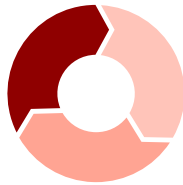


## Deployment frequency





# Our hybrid multi-cloud strategy gives us efficiency and flexibility



**In-house Infrastructure as a Service (IaaS)**

Efficiency achieved **below price point** of AWS



**Workload portability & surge capacity**

**On-demand computing power**

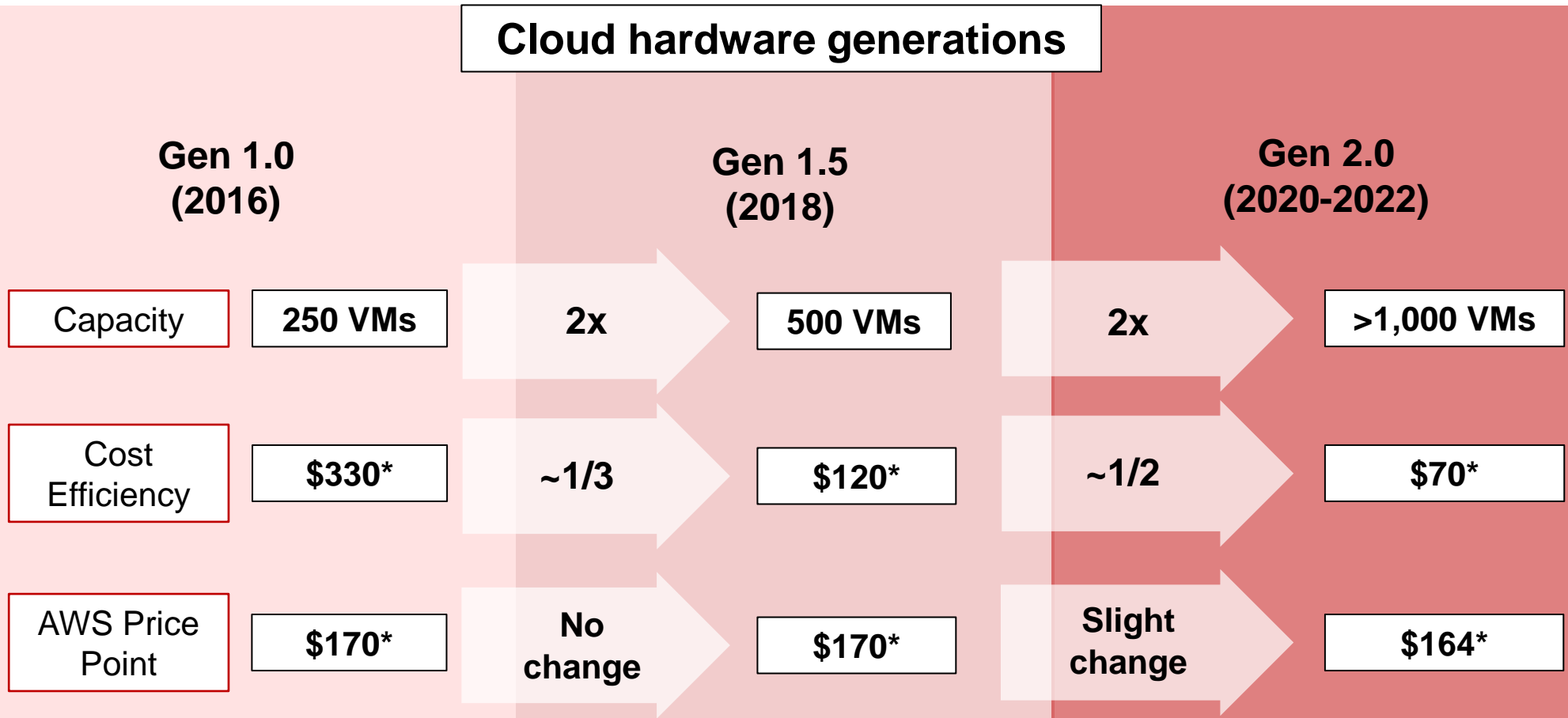


**Advanced capabilities**

**Cutting-edge technologies** for advanced analytics and insights

# Cost-efficient private cloud rivals major service providers

## Cloud hardware generations

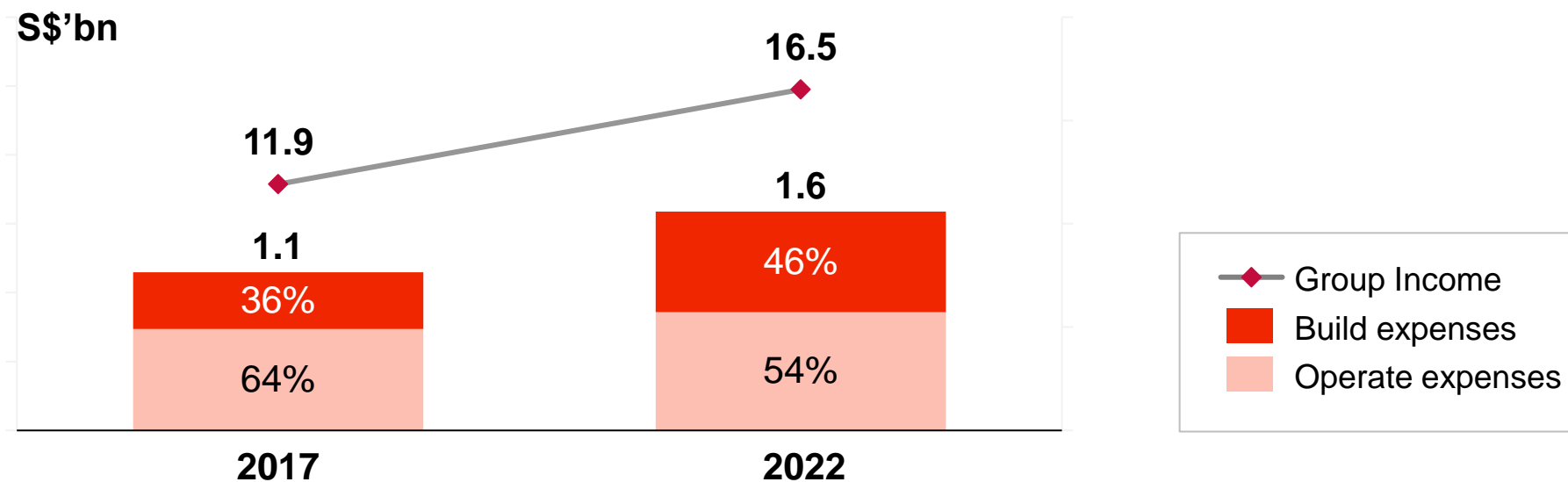


\*Per Virtual Machine (VM)

## Benefits

- Downsized data centre by **75%**
- Created **10x** growth capacity

# Operate is efficiently managed, enabling us to invest for capability



Tech CIR	10%	→	10%	
Operate CIR	6%	→	5%	Marginally lower, significant volume & capability growth
Build / Tech Cost	36%	→	46%	Increasing share from ~1/3 to ~1/2



# We have built key capabilities in ADA, our data platform



## DATA ACQUISITION

10+ silos to  
1 platform

Data ingestion  
at scale



## DATA ACCESS

Proprietary  
integrated security  
framework

Instant access to  
permitted data



## DATA DISCOVERY

Metadata and  
data lineage

Understand data  
in minutes



## MODEL DEVELOPMENT

CPU and GPU  
farms on premises  
and in the cloud

On demand  
capacity



## MODEL DEPLOYMENT

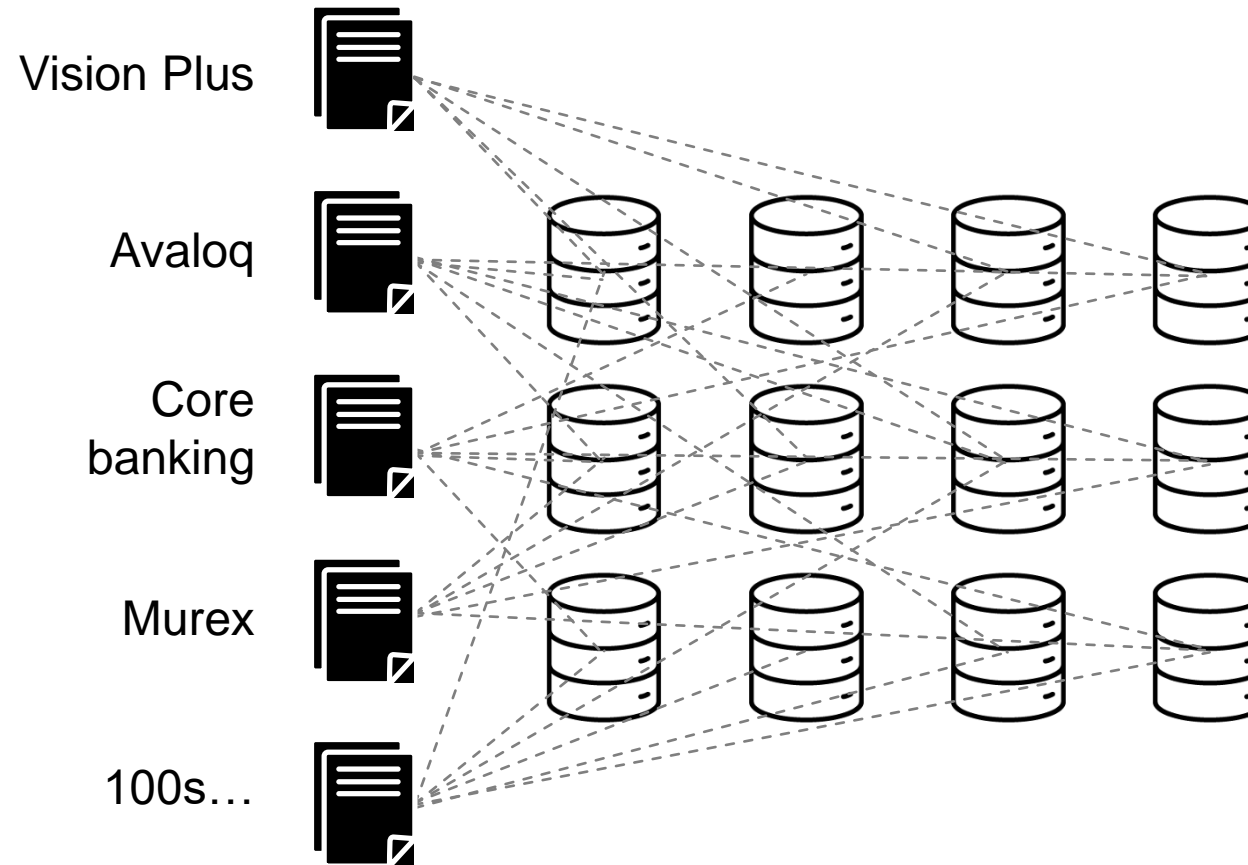
State-of-the-art tools  
for visualisation and  
modelling

State-of-the-art  
tools

# Our data platform transforms the bank's data into a competitive differentiator



Consolidates data to a single source of truth



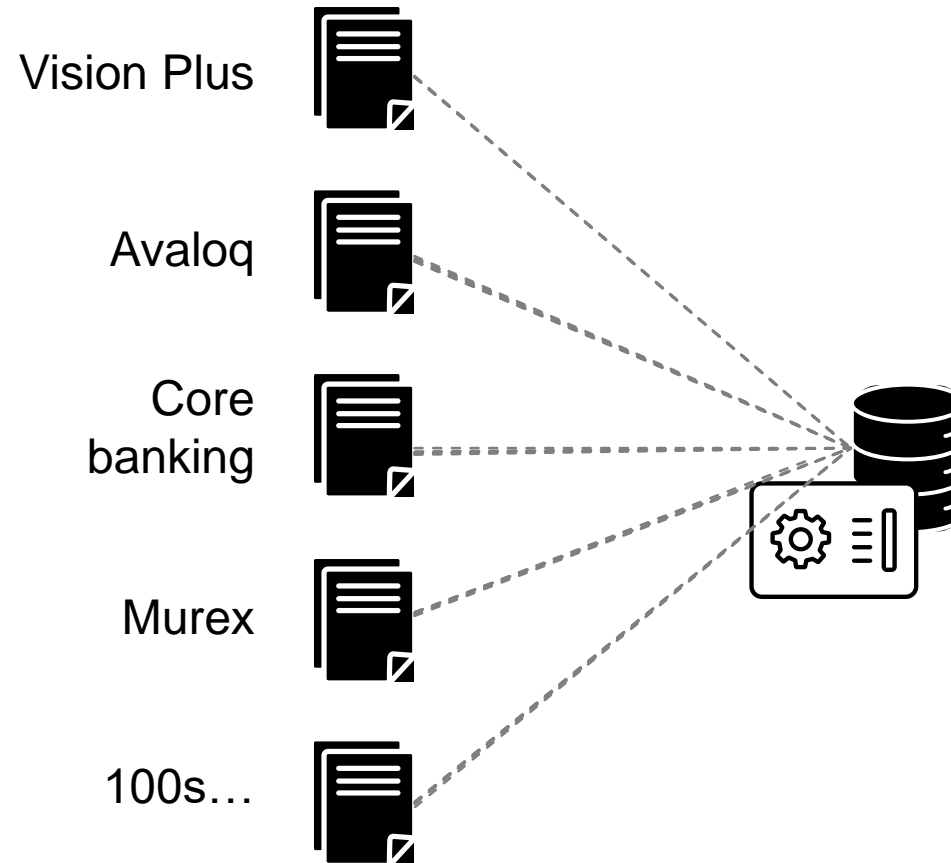
# Our data platform transforms the bank's data into a competitive differentiator



ADA  
ADVANCING DBS WITH AI



Consolidates data to a single source of truth

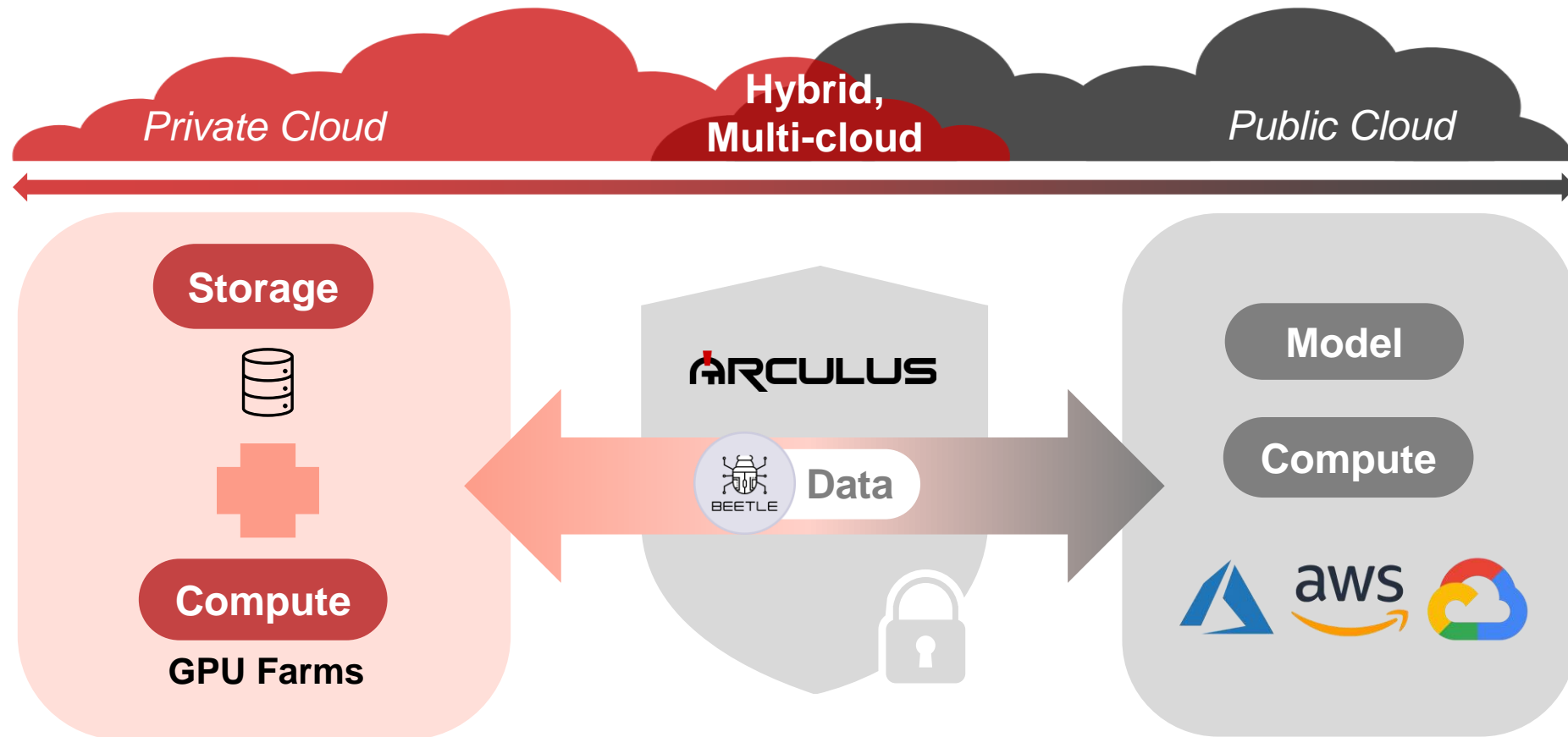




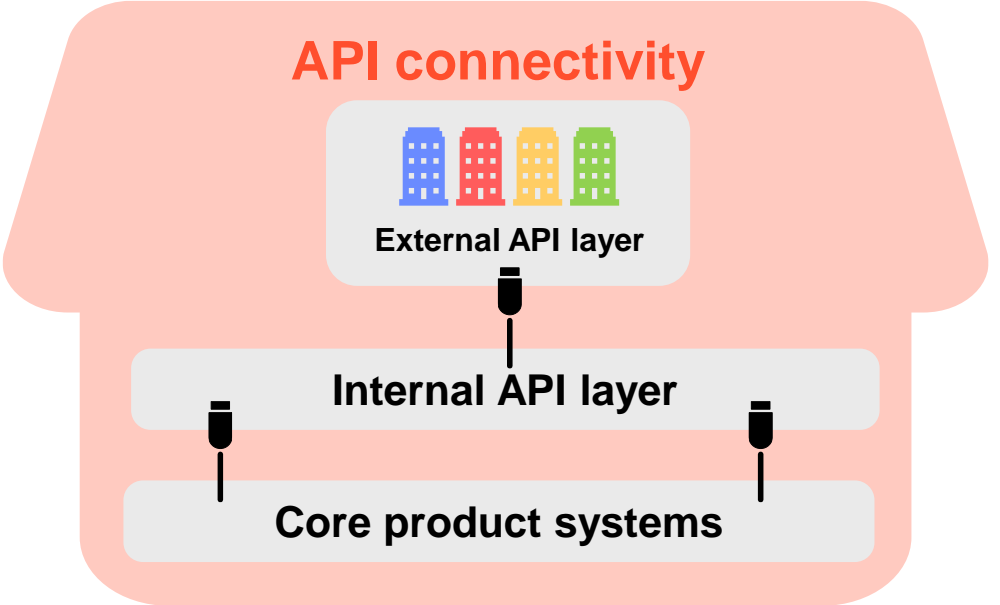
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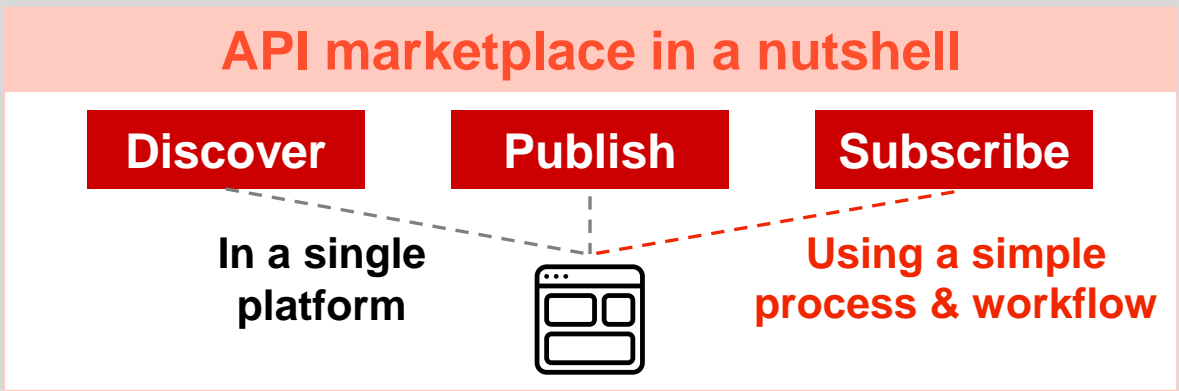
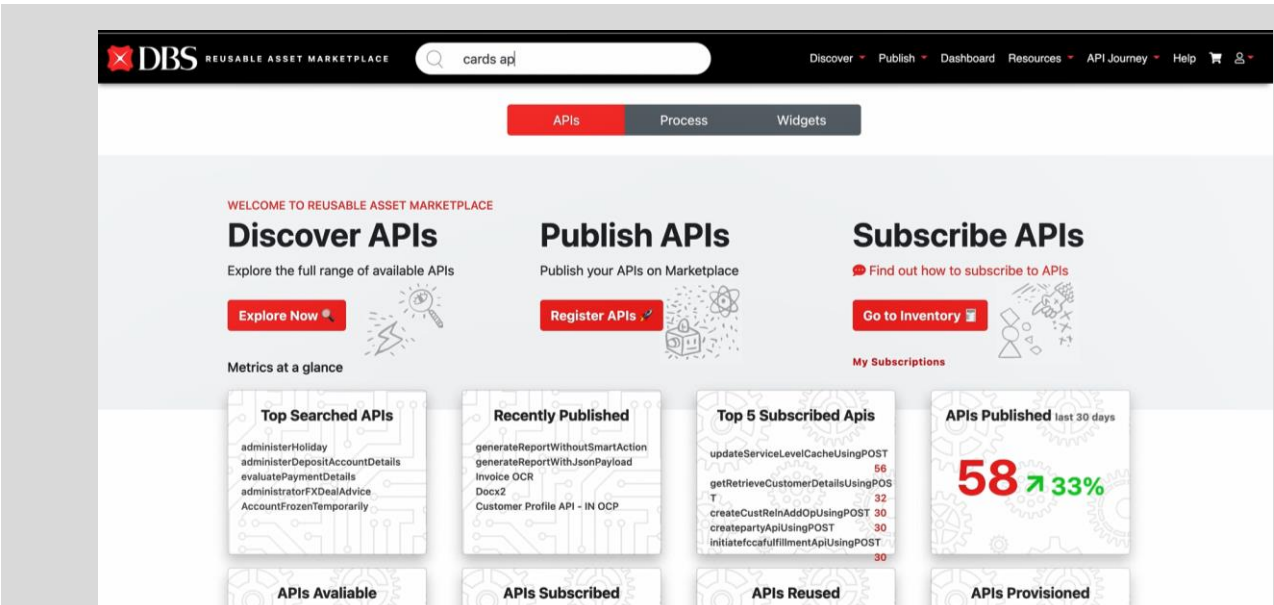
Enabling on-demand capacity



# API-driven architecture increases connectivity with ecosystem partners

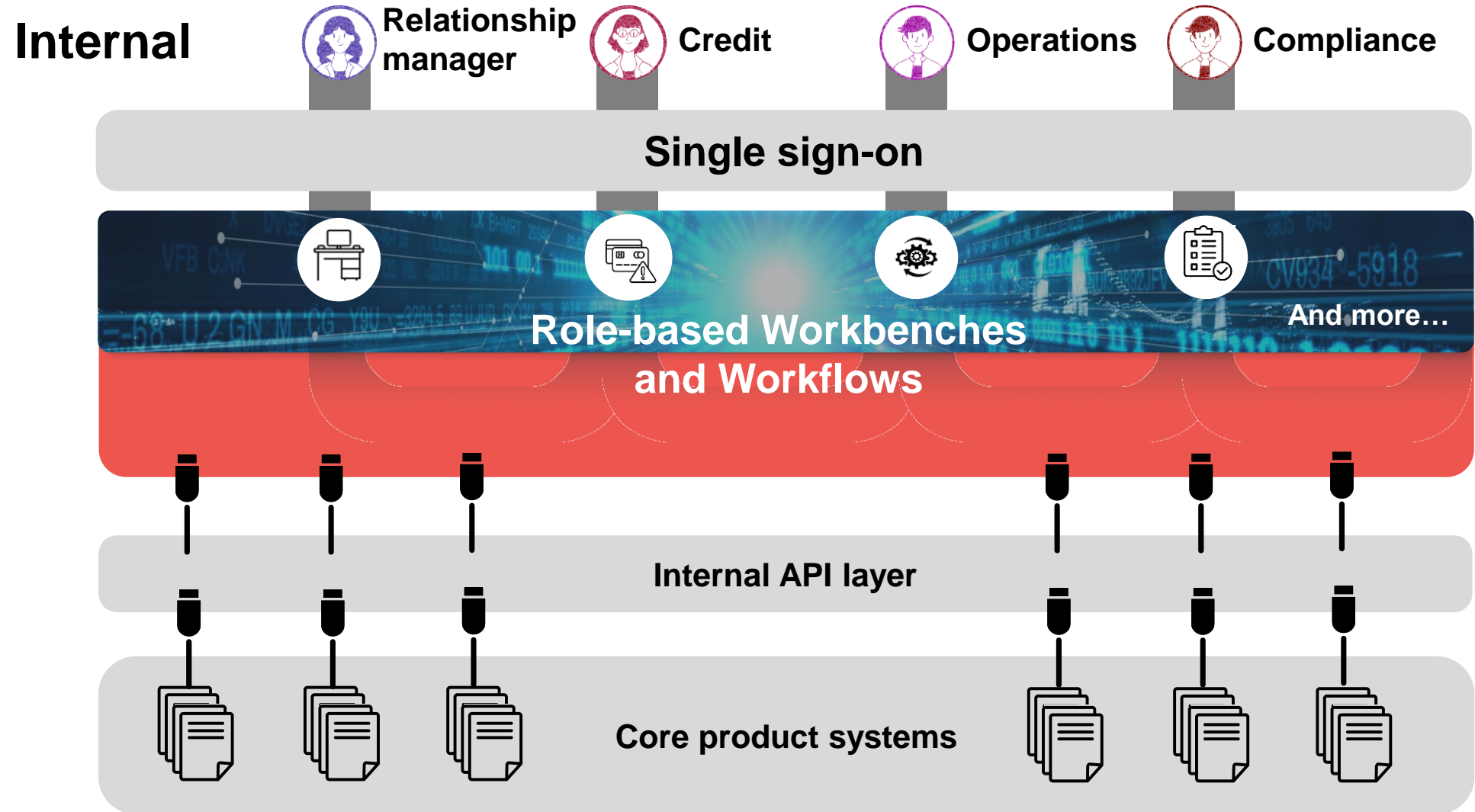


	2018	2022	
External APIs	~150	~1,500	10X ↑
External API volumes	~4M	~420M	100X ↑
Internal API volumes	~200M	~4.1B	20X ↑





# Internal APIs also enabled us to develop our Workflows and Workbenches



# Maturing our Site Reliability Engineering (SRE) practice to scale safely and securely

Learnt from

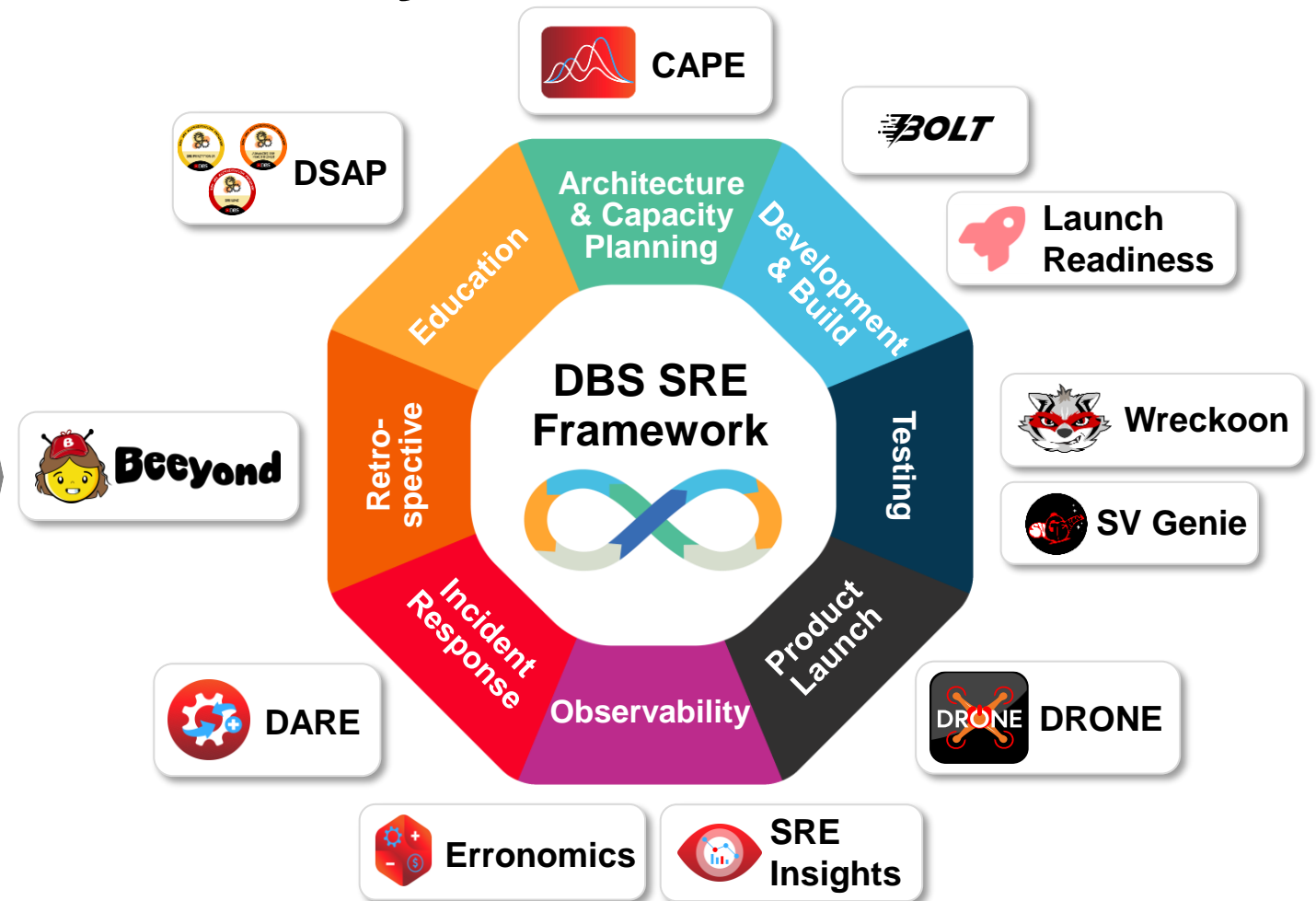
Google

aws

NETFLIX

LinkedIn

...And created  
our SRE  
framework



# Experiment with new technologies to create business opportunities

## Blockchain / smart contract technology foundational capabilities



Tokenisation, wallet management



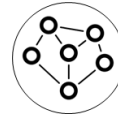
Compliance, legal & surveillance



Automated market maker & liquidity pool management



Operational efficiency for both public / permissioned chain



Node-as-a-service, cross-chain interoperability

### Origination & issuance

### Trading & execution

### Clearing, settlement, & custody



Tokenised digital capital market issuance



Security Token Offering origination & tokenisation



Tokenised carbon trading exchange



Security Token Offering trading & execution



DeFi trading



Digital asset custody & servicing



Next-gen clearing & settlement

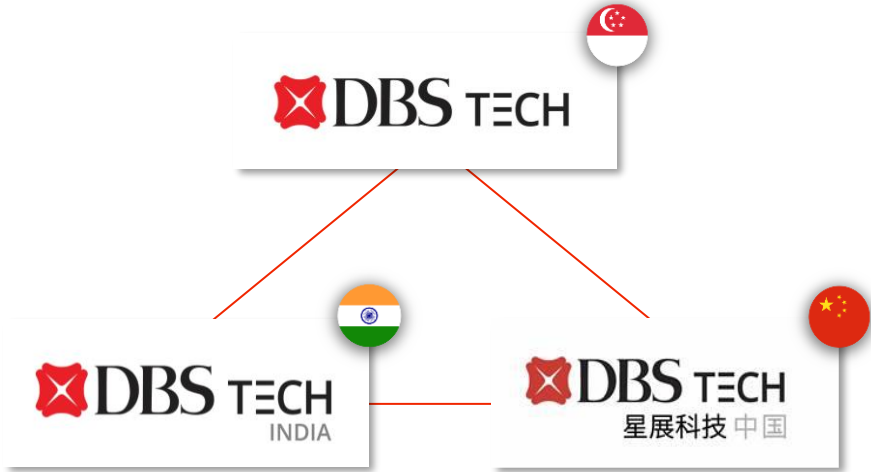


Programmable money

# Our people – a decade-long transformation

Diversified our global talent pool

12,000 technologists



*\*To be established in mid-2024*

... hiring from big tech, design firms

- Google, Apple, HUAWEI, aws, dentsu
- SAP Concur, IBM, Red Hat, Infosys, frog
- Cognizant, ORACLE, ANT FINANCIAL, Capgemini, Booking.com
- Hewlett Packard Enterprise, SEAGATE, Grab, Lenovo, accenture
- Microsoft, 淘宝网 Taobao.com, SAMSUNG, ... and more

# More technologists than bankers – Having a breadth of talents and skill sets



## Data

### Analytics

- Data Scientist
- Big Data Analyst
- Quant Dev/Modeller
- Reporting Specialist

### Data Technology

- Data Engineer
- Machine Learning Engineer
- Data Architect



## Tech

- Full Stack & Mobile Web Developer
- DevOps Engineer
- Application Architect
- Cloud, Infra, SRE Engineer
- Cyber & Application Security
- 5G, IoT, Blockchain



## Design

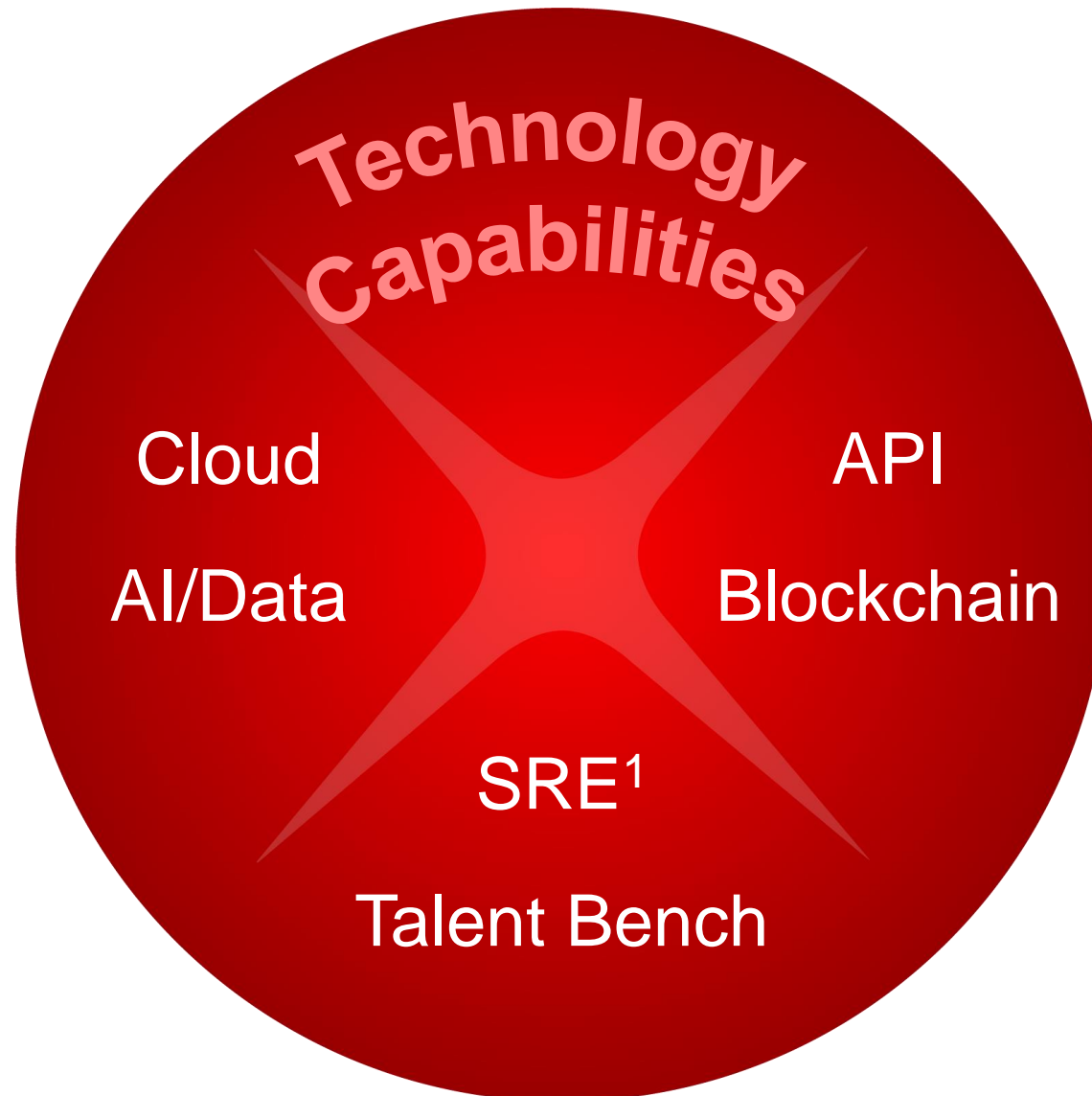
- Digital Product Designer
- Design Researcher
- COE/System Designer
- UX Writer/Engineer



Growing our own timber

Attracting >1,000 young talents from the polytechnics and the universities

# Unlocking our sustainable advantage





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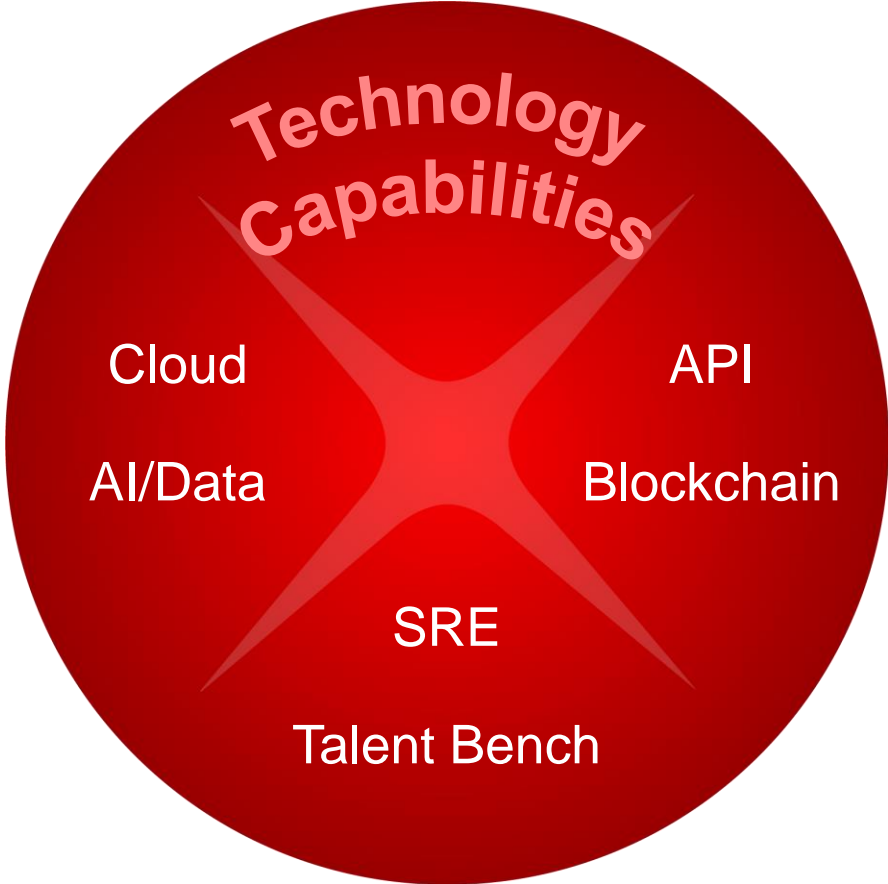
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**New Way of Working**

Han Kwee Juan

Country Head, Singapore

# Technology is leveraged uniquely to scale growth





# Technology is leveraged uniquely to scale growth



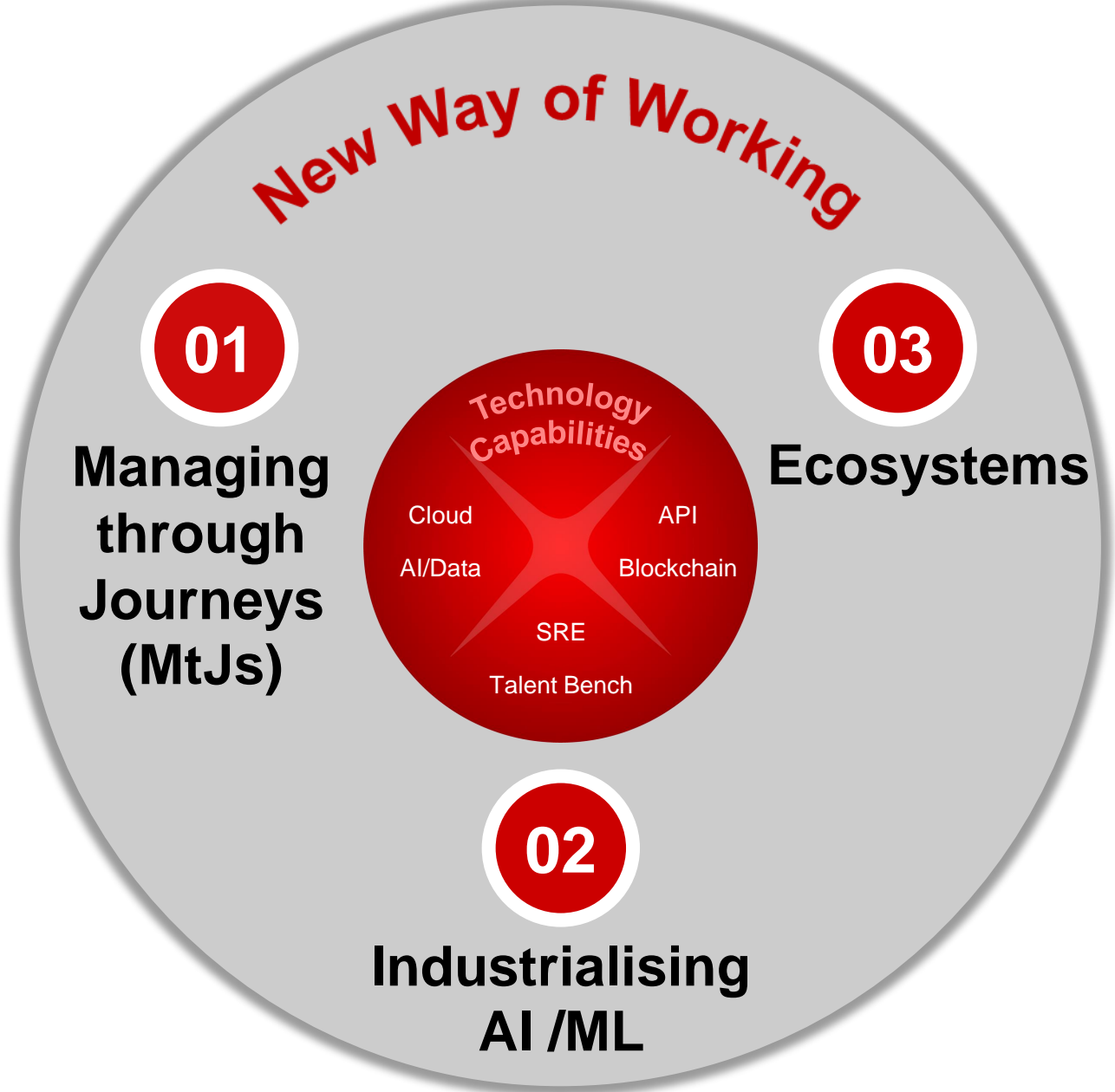
# Technology is leveraged uniquely to scale growth



# Technology is leveraged uniquely to scale growth



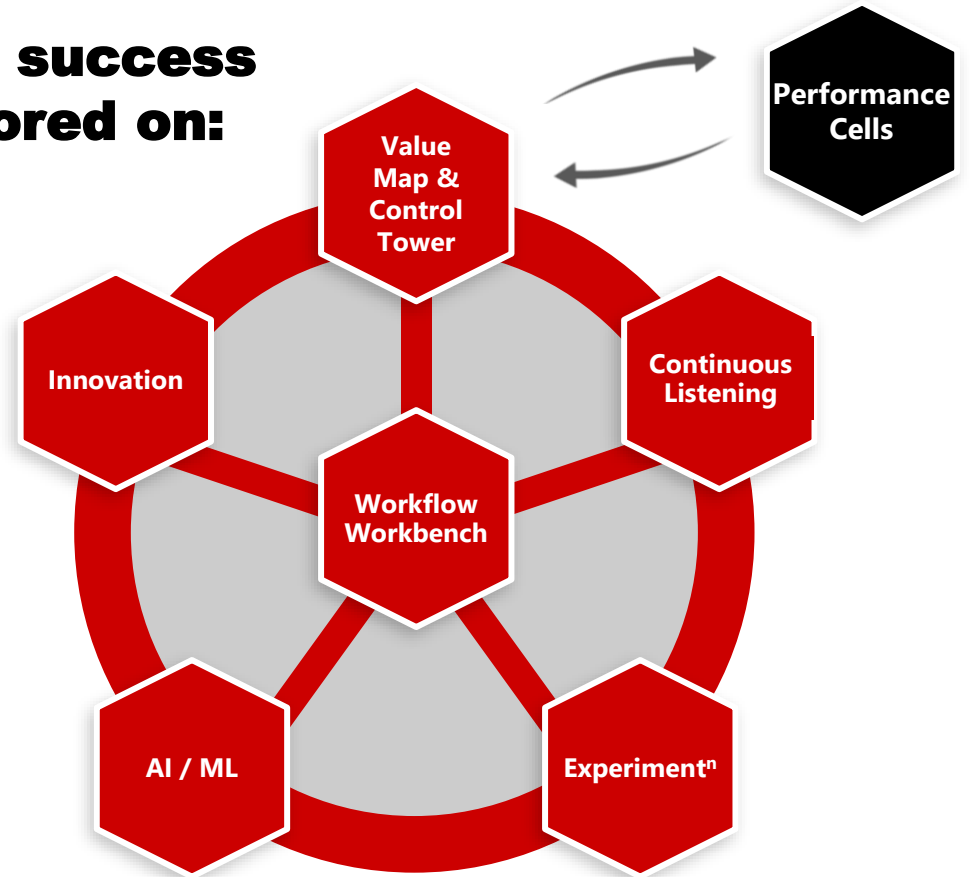
# Technology is leveraged uniquely to scale growth



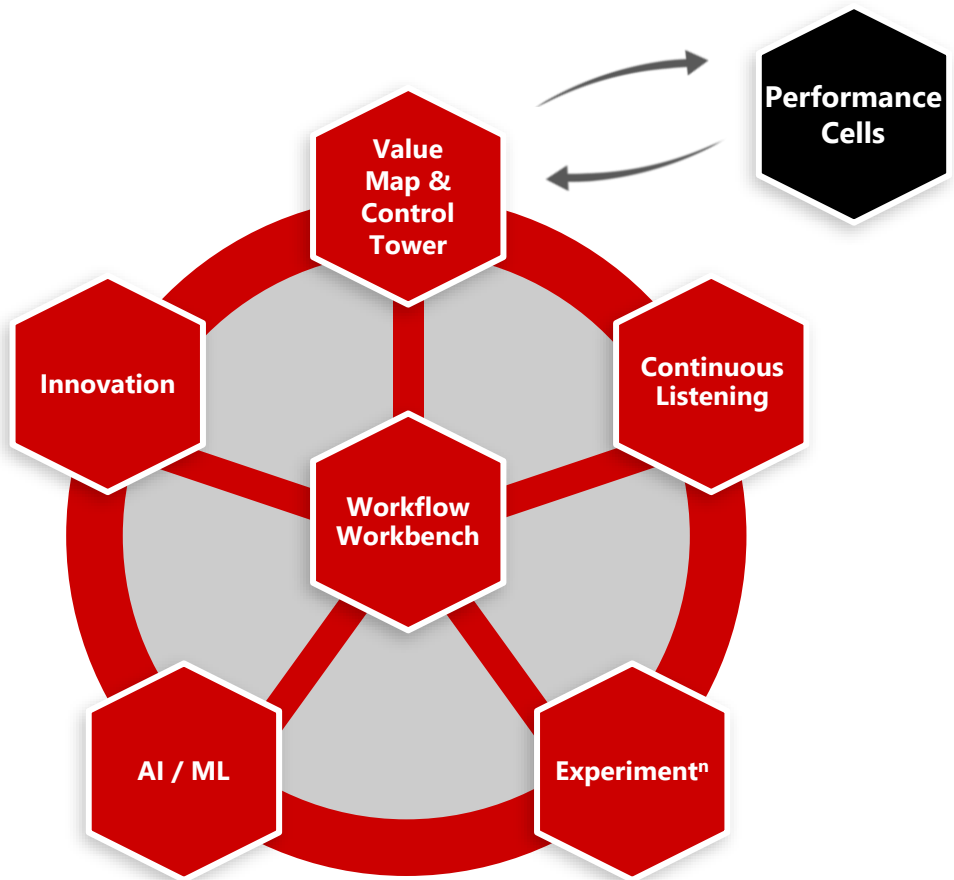
# 01 Managing through Journeys (MtJs)

- Multi-functional teams working as one to deliver differentiated customer experience
- Shift from a vertical siloed organisation into a horizontal organisation
- Achieve Agile at Scale
- Drive revenue growth and increase productivity

**Current success is anchored on:**



# 01 MtJs enable speed and agility

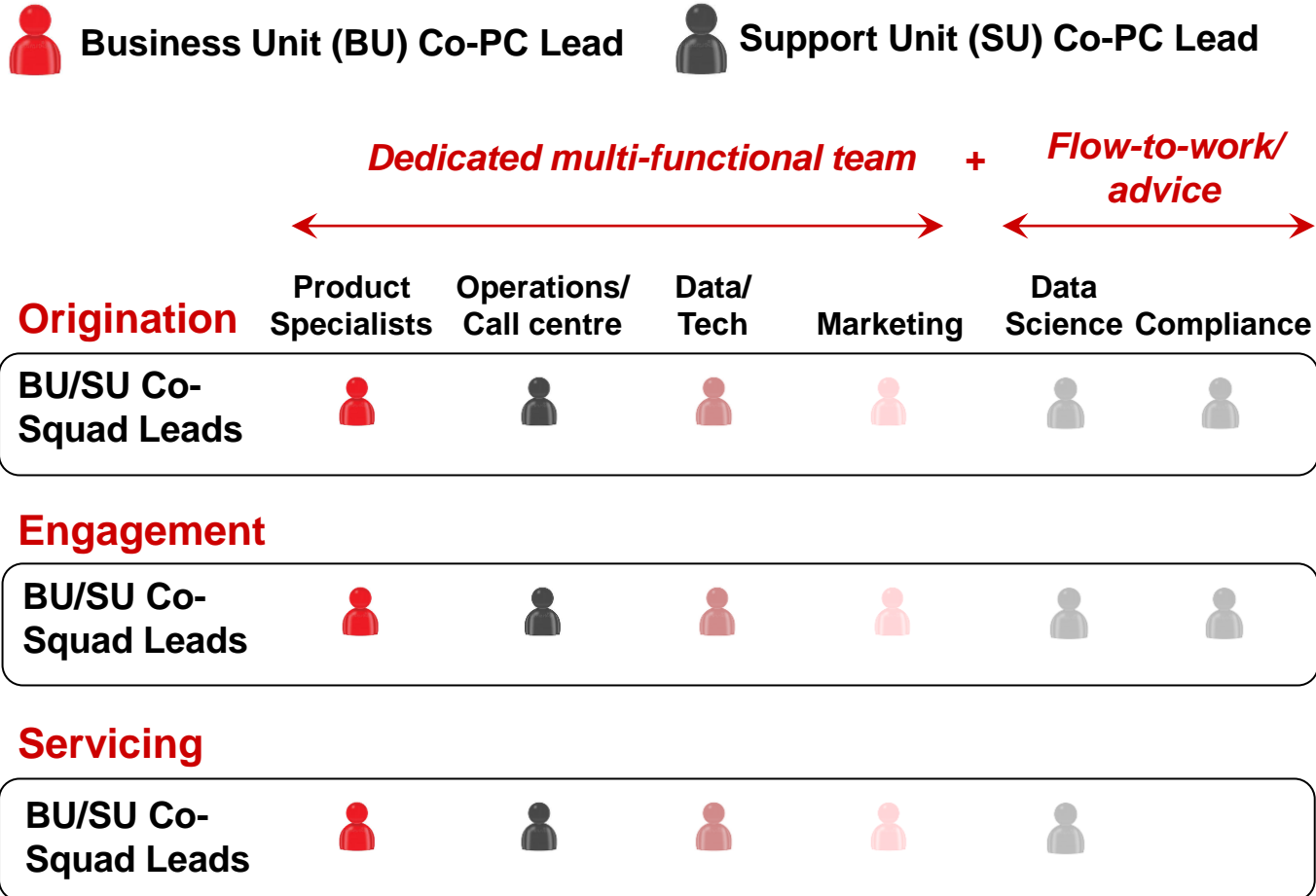


**Continuous and reinforcing flywheel**

- **Performance Cells (PC)** are cross-functional teams organised horizontally and aligned on common KPIs
- **Workflow Workbench** enables orchestration of work and ease of collaboration within the PC
- **Value Maps** establish relationships between defined levers, drivers and outcomes for customer journeys
- **Control Tower** provides real time data to drive timely interventions
- **Continuous Listening** employs behavioural science techniques in customer feedback sessions
- **AI / ML** and **Experimentation** enable the discovery and delivery of product and service **Innovation**

# Performance Cells – organised horizontally + shared KPIs

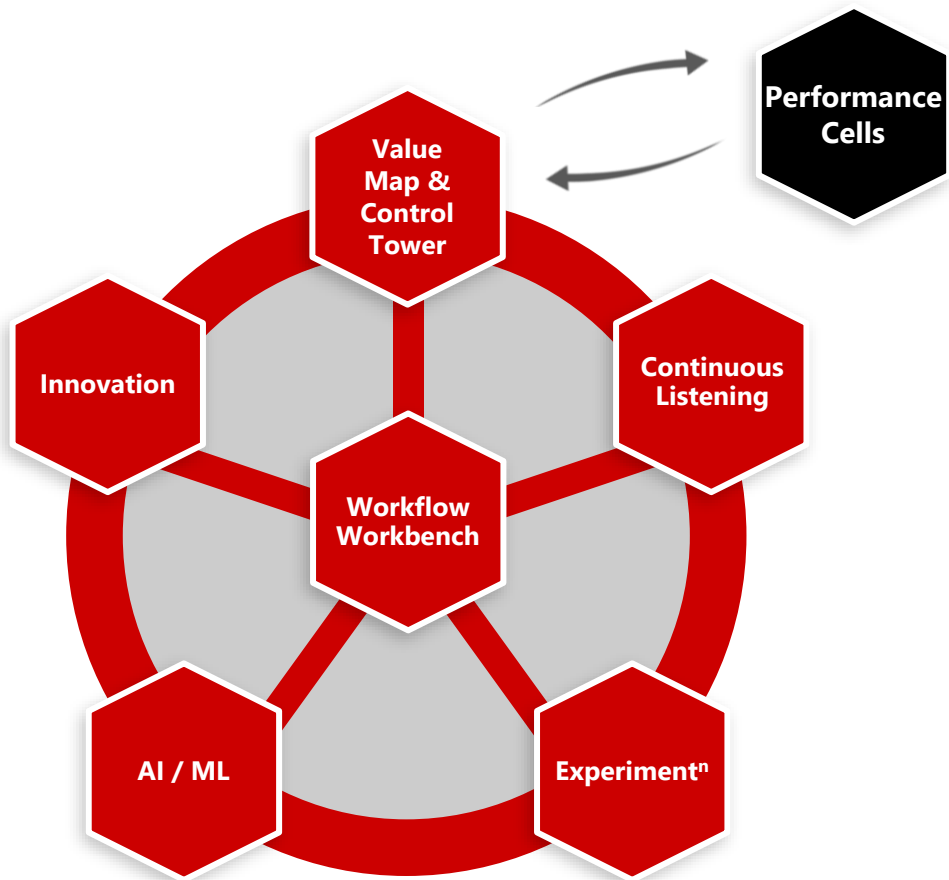
## Performance Cell (PC)



## Performance Management Architecture (PMA)

Outcomes / Weightage	Metrics	Target	Actual
Customer (1/3)	<ul style="list-style-type: none"> <li>5-star rating</li> <li>Straight-through processing</li> <li>System availability</li> <li>...</li> </ul>	xx	yy
Business (1/3)	<ul style="list-style-type: none"> <li>Income</li> <li>New-to-bank acquisition</li> <li>...</li> </ul>	xx	yy
Employee (1/3)	<ul style="list-style-type: none"> <li>Employee satisfaction</li> <li>Productivity</li> <li>...</li> </ul>	xx	yy

# 01 MtJs enable speed and agility



**Continuous and reinforcing flywheel**

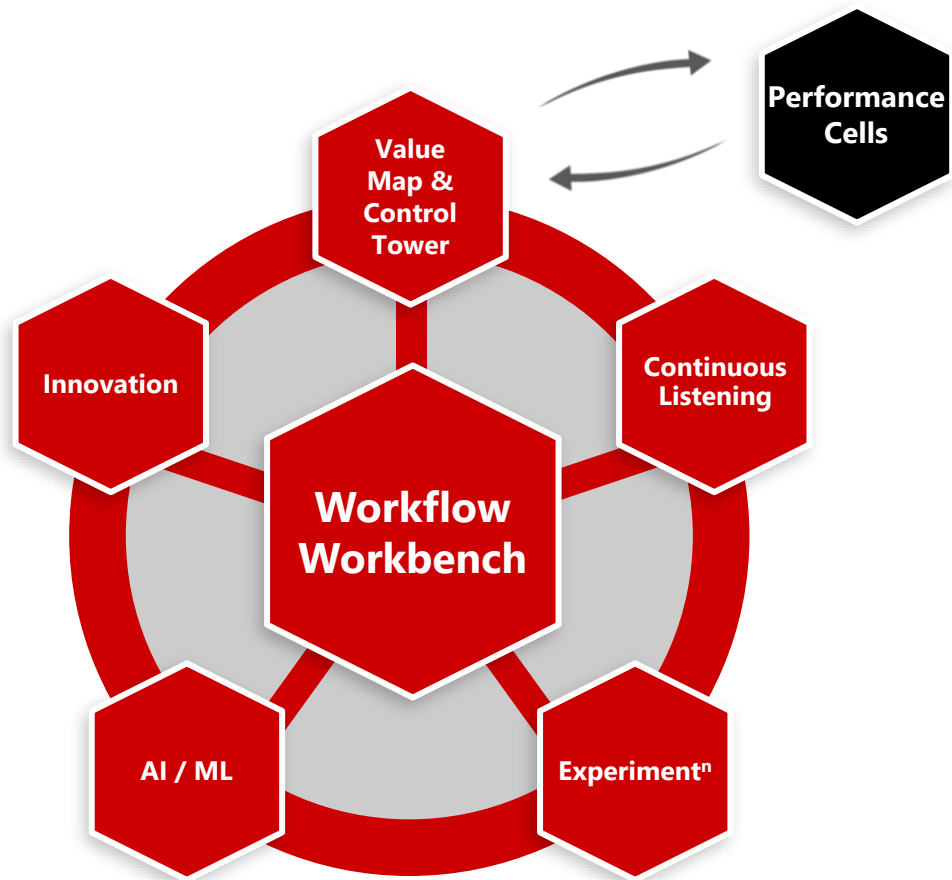
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The background features a dark blue gradient with a network of white lines and dots on the left side. Several gears of various sizes and colors (light blue, white, and dark blue) are overlaid on the network, creating a mechanical and technological aesthetic.

**Orchestrating work and ease of collaboration**

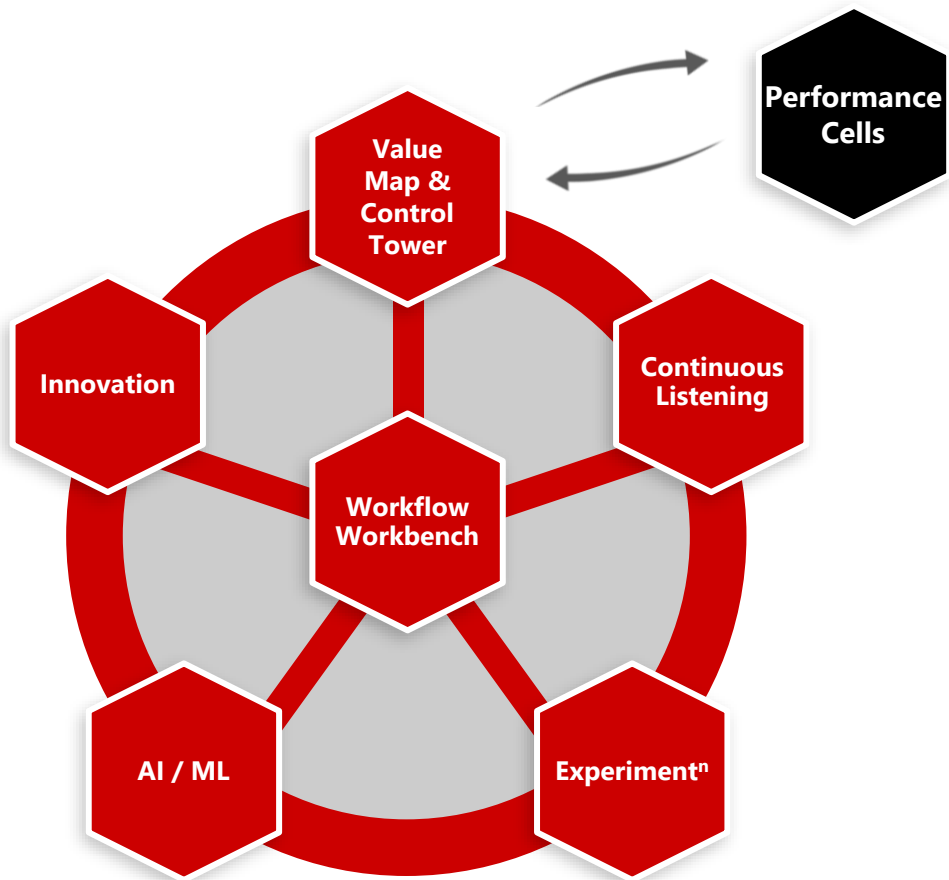
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**Continuous and reinforcing flywheel**

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# 01 MtJs enable speed and agility



**Continuous and reinforcing flywheel**

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# Value Maps & Control Towers provide insights and drive outcomes

**Value Maps** establish scientific relationships between defined levers, drivers and outcomes

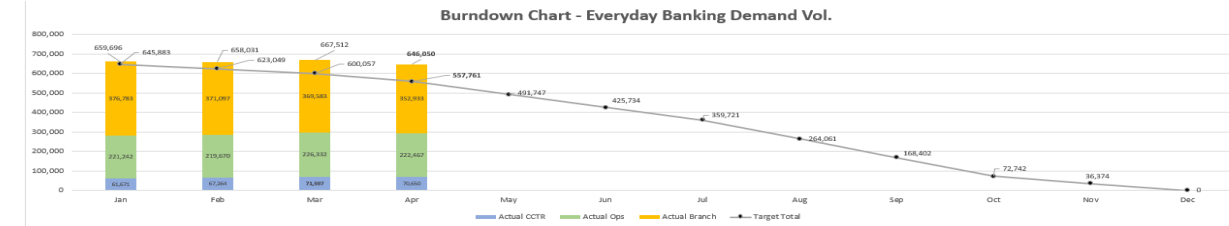
**Control Towers** reflect timely data on business drivers and customer indicators to enable interventions



## Everyday Banking - Overall Tracking of Demand Drivers (Burn-down Charts)



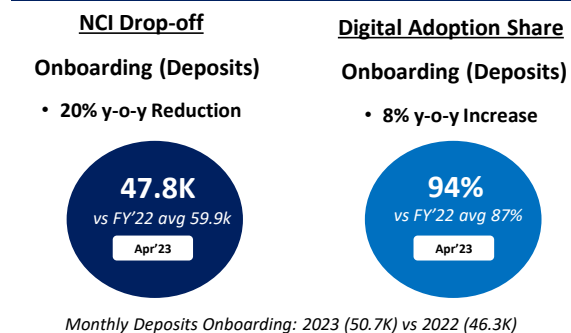
### Level 1 - Overall Demand Monthly Target Volume Reduction



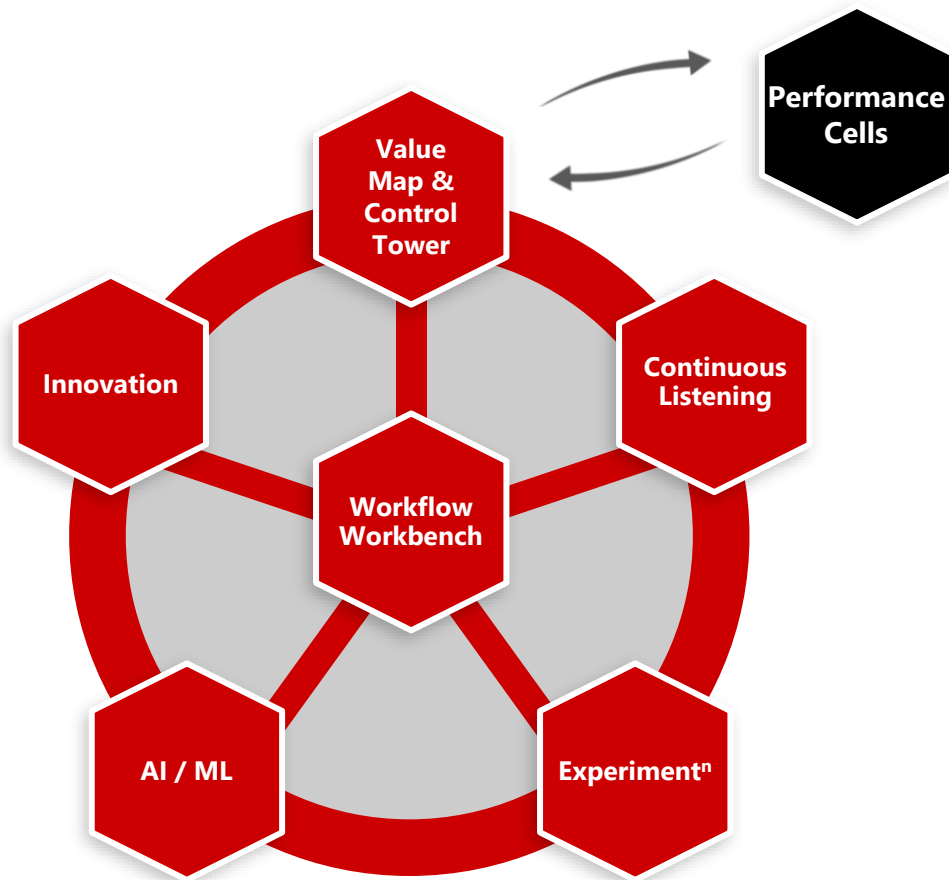
### Level 2 - Branch Demand Monthly Target Volume Reduction



### Negative Customer Impact Drop off & Digital Adoption Tracking



# 01 MtJs enable speed and agility



**Continuous and reinforcing flywheel**

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# Continuous Listening & Experimentation enable Innovation at scale

## Continuous Listening

- A ritual of regular interviews with customers on their experiences with DBS
- PCs are trained in behavioural science and observation techniques
- 346 immersions conducted in 2022

### 1-to-1 customer interviews



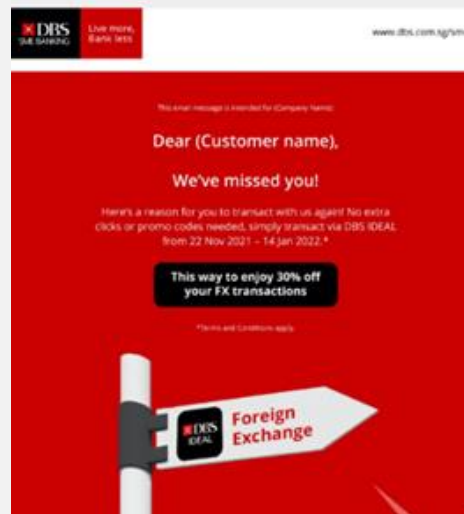
**Interview:**  
Interacting with customer through virtual channel (on DBS premise)



**Observation room:**  
PCs observe the interview through a live-feed

## Experimentation

- Leveraging Data and AI/ML models to rapidly test and sharpen solutions
- Scaled to 1600+ experiments in 2022



**Experiments:**  
**FX Pricing**  
9% to 12% lift

**TT Pricing**  
0% to 5% lift

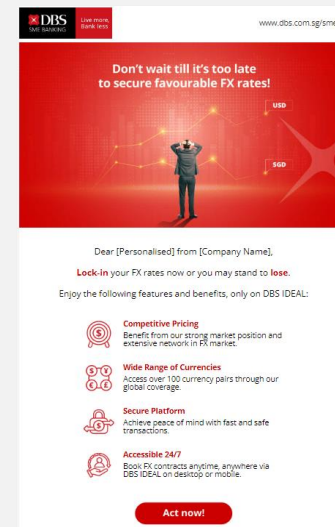
**Emotive Message**  
47% to 100% lift

**A/B Testing:** We learnt that **emotive messaging** is more effective than pricing discounts

**Customer Satisfaction improved from 4.2 to 4.46**

## Innovation

- Innovation is embedded and accelerated within PCs
- >600 innovation ideas generated, 50 ideas being validated for acceleration



**Secure FX product**  
to be launched in SG, to fulfill hedging needs of SME clients

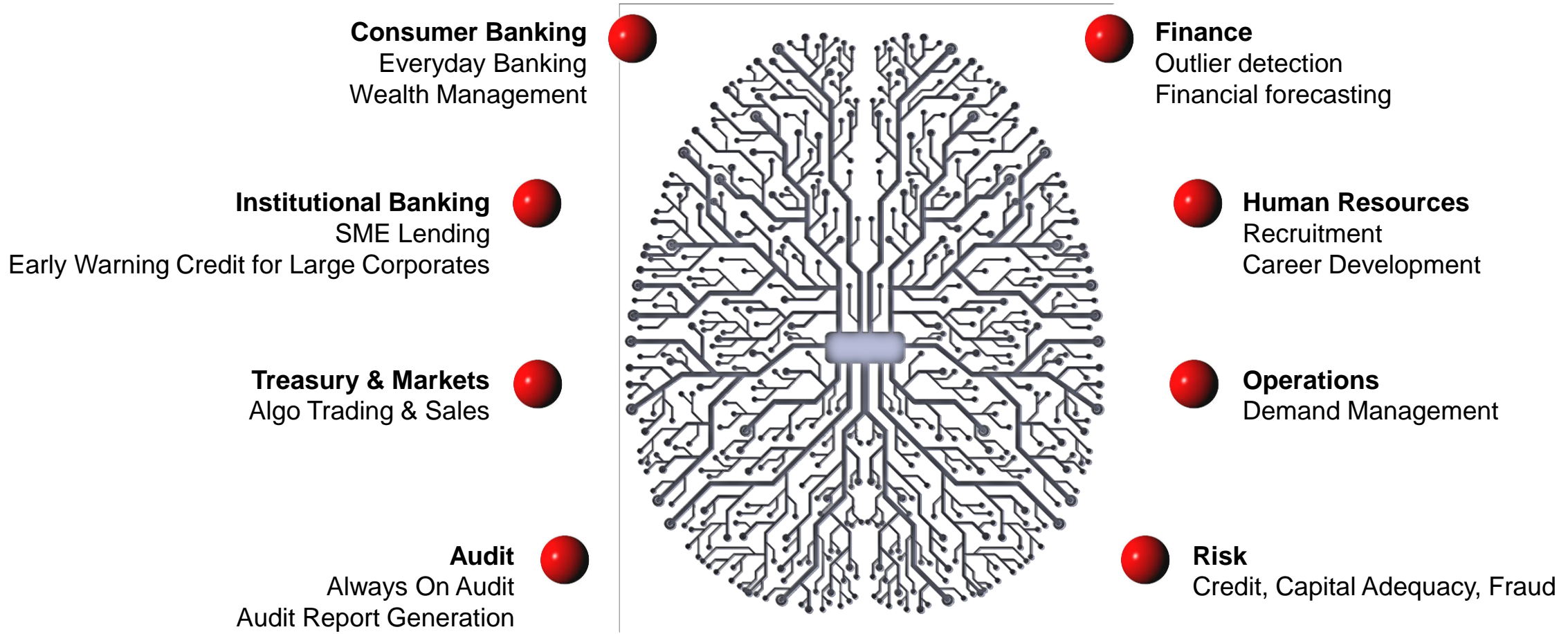


**Pay & Transfer soft launched on Card+ app in HK** to pay small merchants, P2P transfer, etc.

# Technology is leveraged uniquely to scale growth



# 02 Industrialising AI/ML across the bank



**>600 Models, 300+ use cases, \$178m economic value in 2022**



# Digital payment fraud prevention

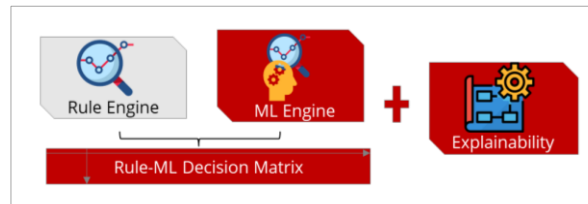
## Background

- Increased frequency of scams against customers' accounts
- Recovering money is often difficult

**Real-time fraud prevention is critical**

## Solution

**AI / ML models trained on 300+ features from 10 databases on behaviour profiling and fraud patterns**



## Outcome

### Uplifted effectiveness

**24%**

increase in loss prevention

**5x** better

prediction rate vs pure rules-based fraud detection

**> 1 million**  
daily transactions

**< 10 milliseconds**  
processing time

### Enhanced efficiency

**27%** automation

released alerted txns without human intervention

**99.4%** accurate

high precision rate in automatic processing

### Customer impact

**↑** 10x compliments more than complaints

**↓** decreasing average loss per customer

# Driving economic value in CBG through cognitive banking

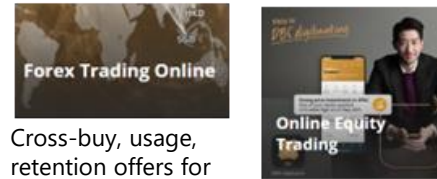
## Background

- Customers wanted to be engaged more effectively with relevant content for their needs
- RMs needed a method to prioritise which customers required advisory and on what topic

## Solution

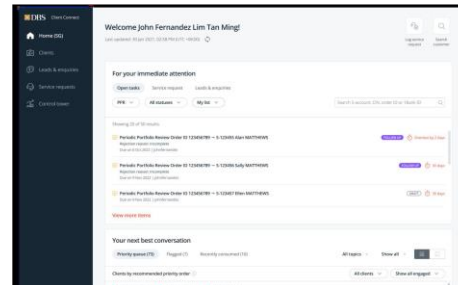
**200+ AI / ML models leverages on ~16k of data features**

### Next Best Nudges



Cross-buy, usage, retention offers for all products + CVPs for new micro segments

### Next Best Conversations



## Outcome

**2x Economic value generated year-on-year**

**\$95.5m**  
economic value generated in 2022

**\$200m**  
economic value targeted in 2023

**Increased customer engagement with relevancy**

**6 markets**

launched consistent engagement approach

**7.5m**  
customers engaged

**344m**  
nudges sent

# Technology is leveraged uniquely to scale growth



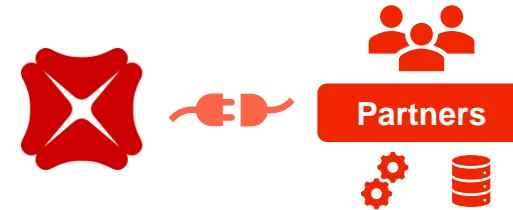
# 03 Scaling ecosystem partnerships

New Way of Working

Bilateral relationship



Ecosystem play



Objectives



Acquiring customers



Growing balance sheet & fee income



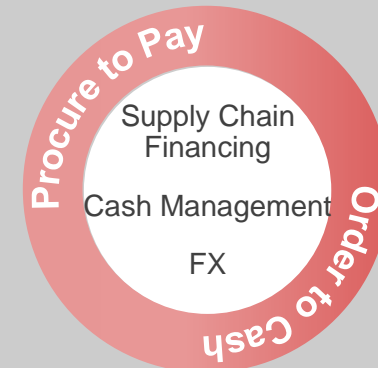
Increasing engagement

Strategy

CBG



IBG

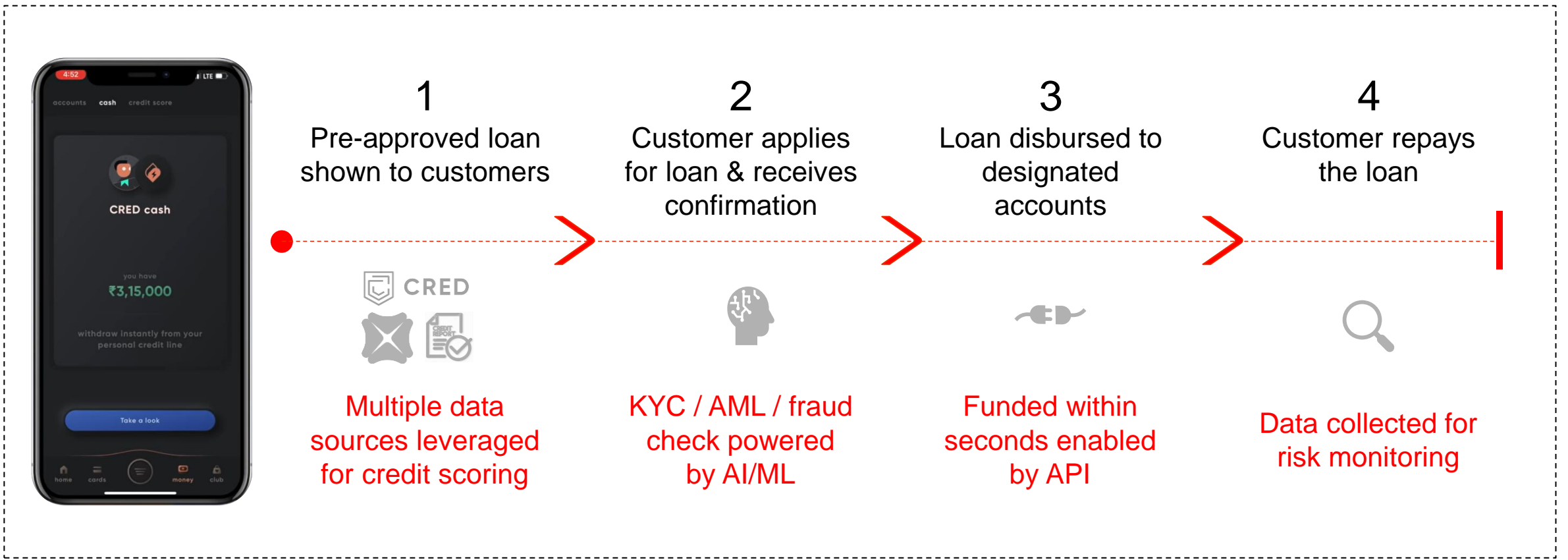


# Consumer finance partnerships



## CRED

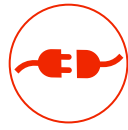
A leading payment platform in India with over 11 million credit card customers



Other partners (non-exhaustive)

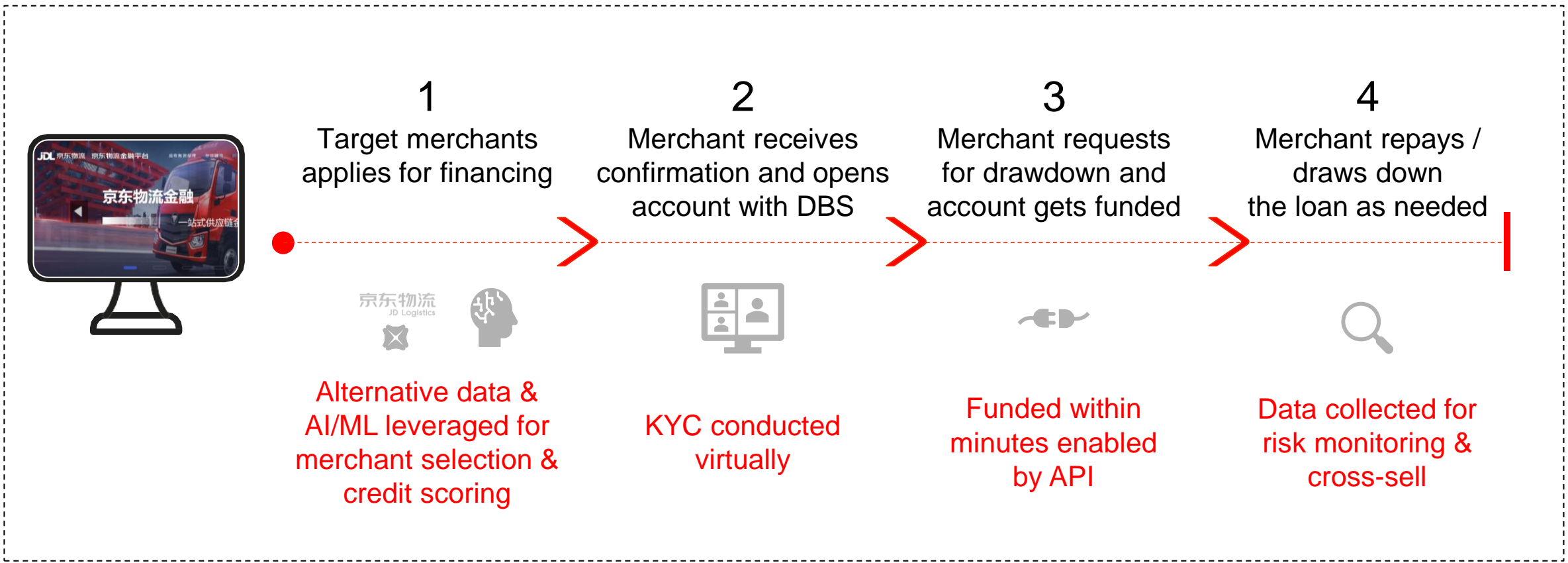


# Supply chain financing partnerships



京东物流  
JD Logistics

A leading logistics platform in Greater China; part of JD.com



Other partners (non-exhaustive)

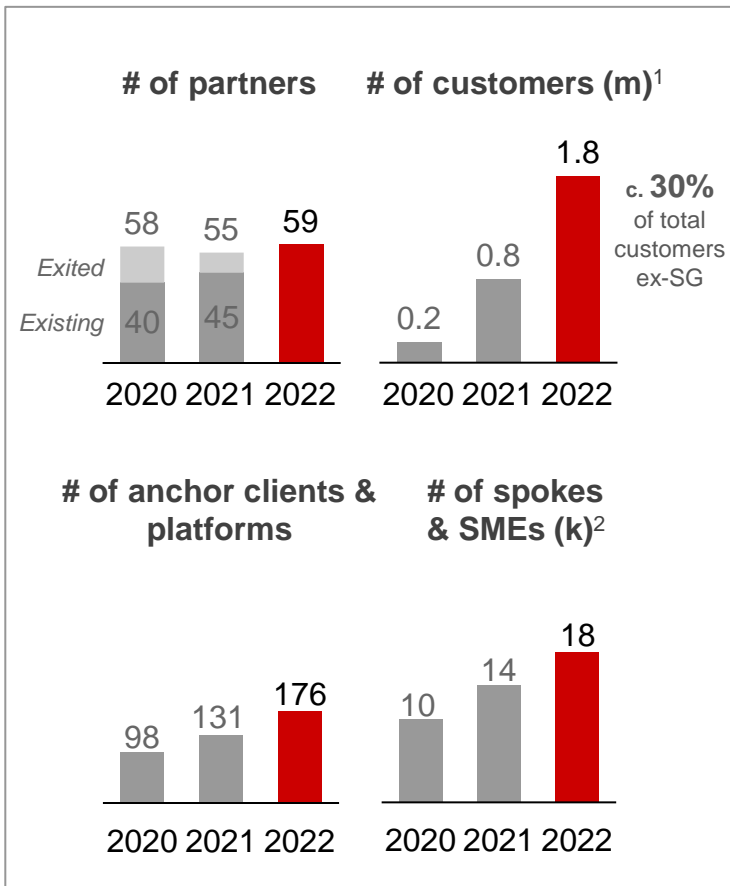


# Value captured from ecosystems

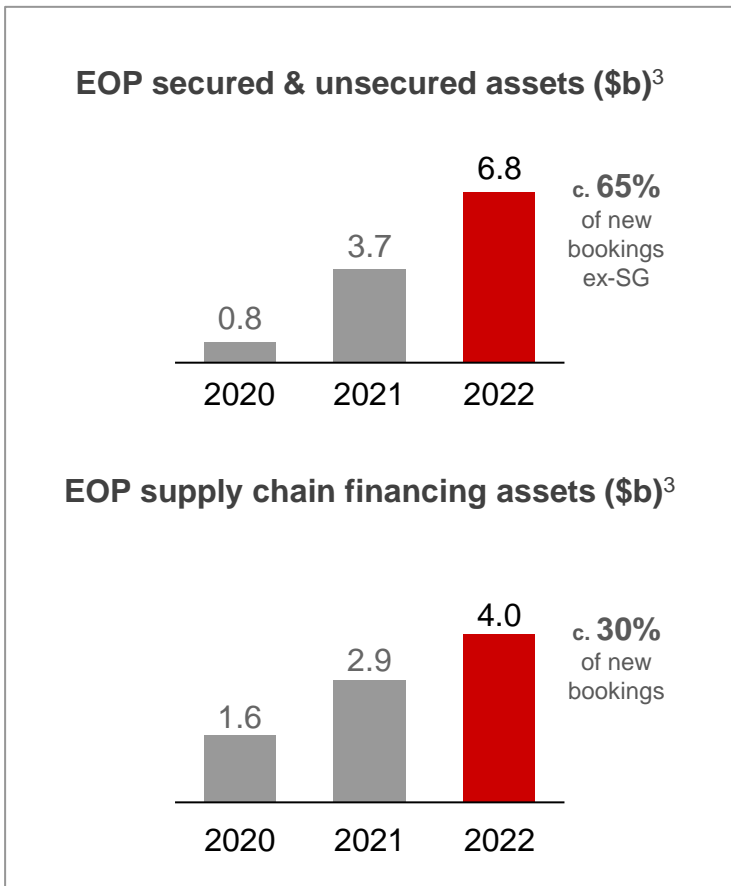
CBG

IBG

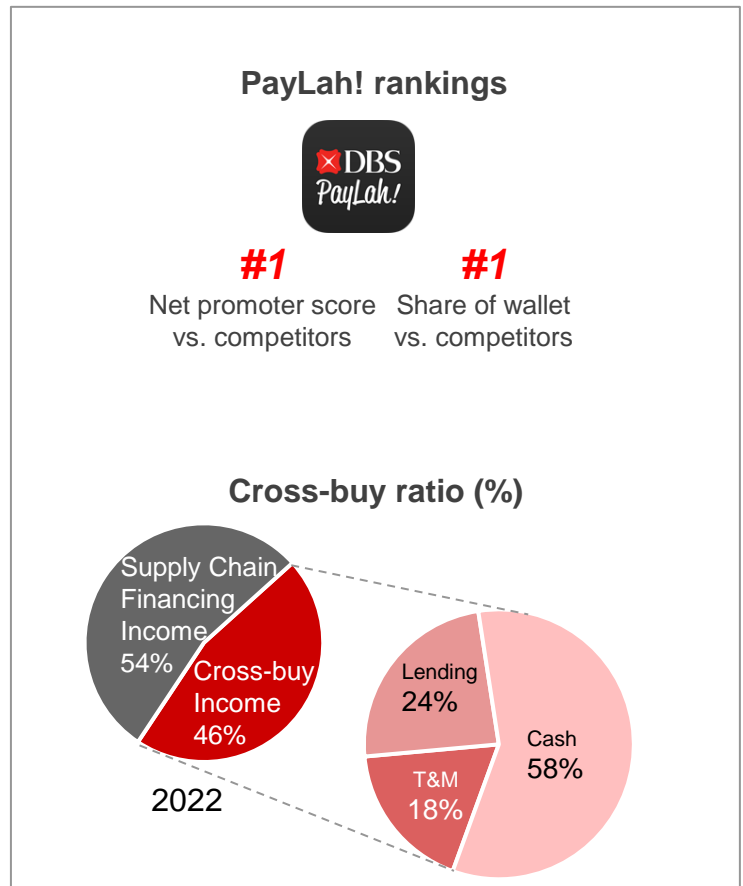
## Customer acquisition



## Balance sheet growth



## Deepened engagement



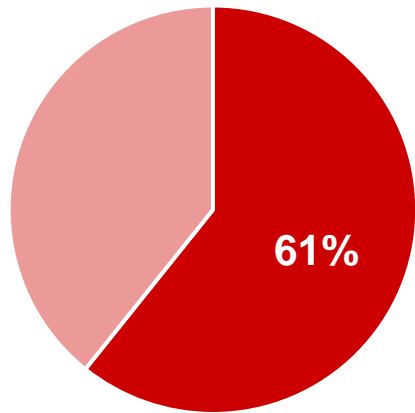
Footnote:

- (1) No. of EOP customers from Ecosystems (excluding Singapore)
- (2) No. of EOP Supply Chain Financing spokes & SME customers from Supply Chain and Accounting Platforms
- (3) Based on constant currency terms; % contribution to new volume booked in FY22 for selective products with Ecosystem lending presence

# Looking ahead...

## Managing through Journeys

CBG & IBG revenue



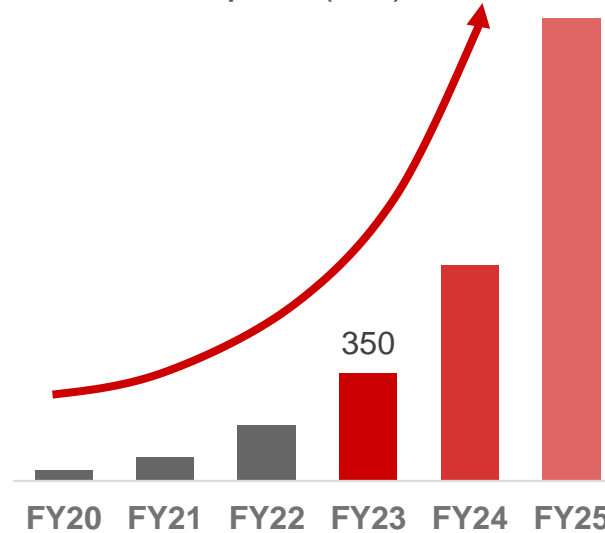
■ MtJ ■ Non-MtJ

*Excluding Private Bank and Treasures Private Client revenue*

- 69 MtJs across Consumer and Institutional Banking
- 6 markets, >6,000 staff
- Covering S\$7.9b revenue

## Data/AI

Business impact (\$m)

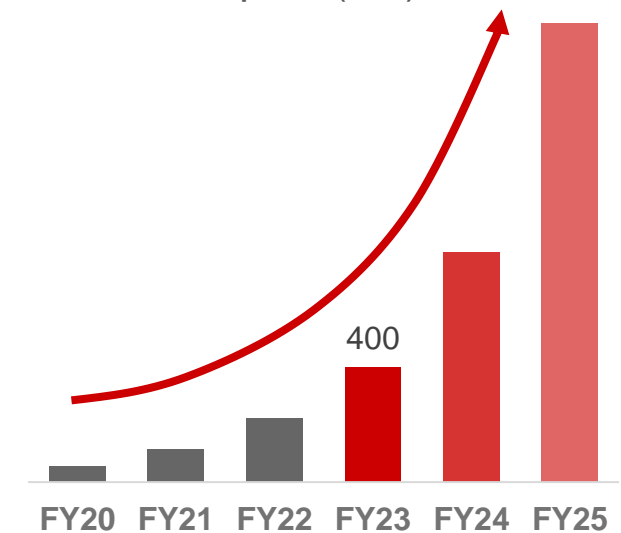


*Economic Outcome: covers incremental revenue, credit/ fraud losses saves and productivity gains*

- Economic outcome from revenues and expenses
- Pervasive across the bank
- Expertise to leverage on new AI technology

## Ecosystems

Financial impact (\$m)



*Revenue + Cost Savings; Based on constant currency terms*

- Growing number of strategic partnerships
- Embed more products into new Ecosystems
- Significant revenue contribution in growth markets





**DIGITAL**

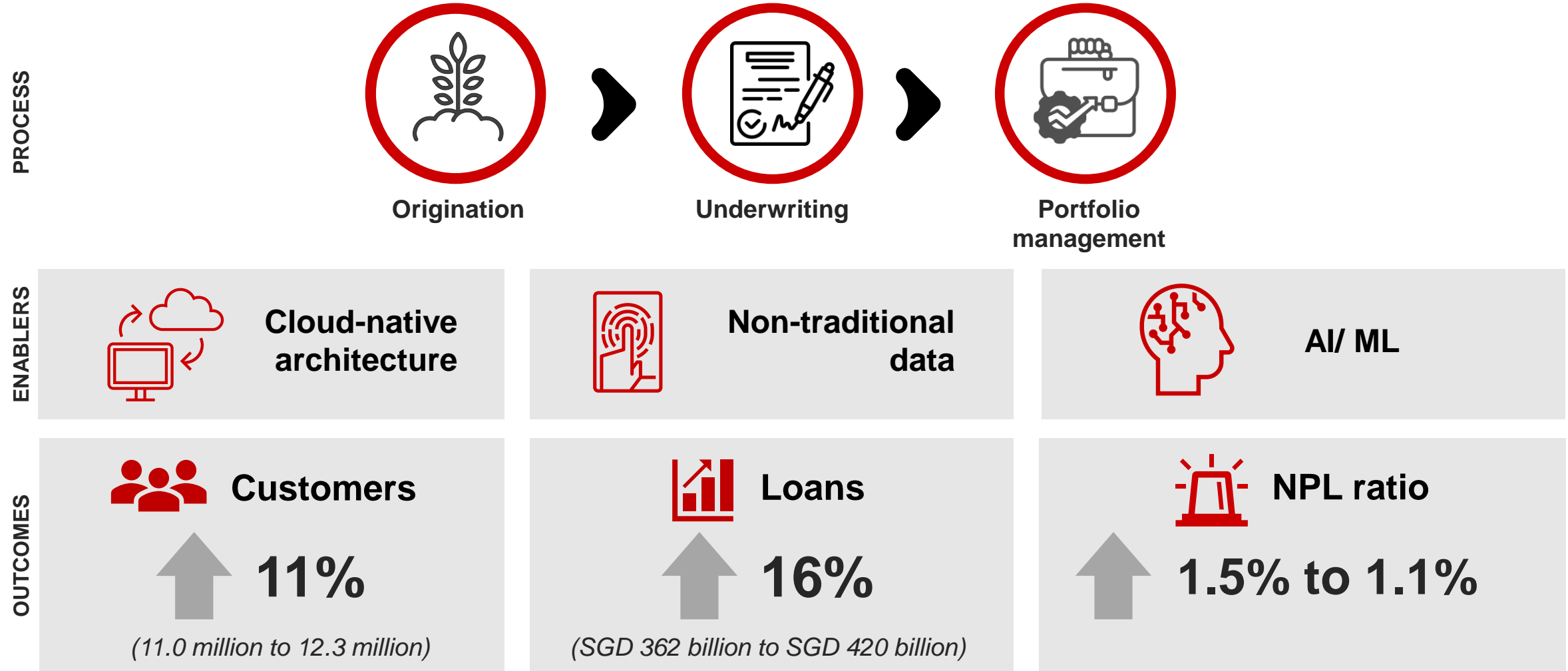
**TRANSFORMATION 2.0**

I n v e s t o r   D a y   2 0 2 3

## **Credit Risk Management**

Soh Kian Tiong  
Chief Risk Officer

# We have reimagined our credit process to drive scale and effectiveness



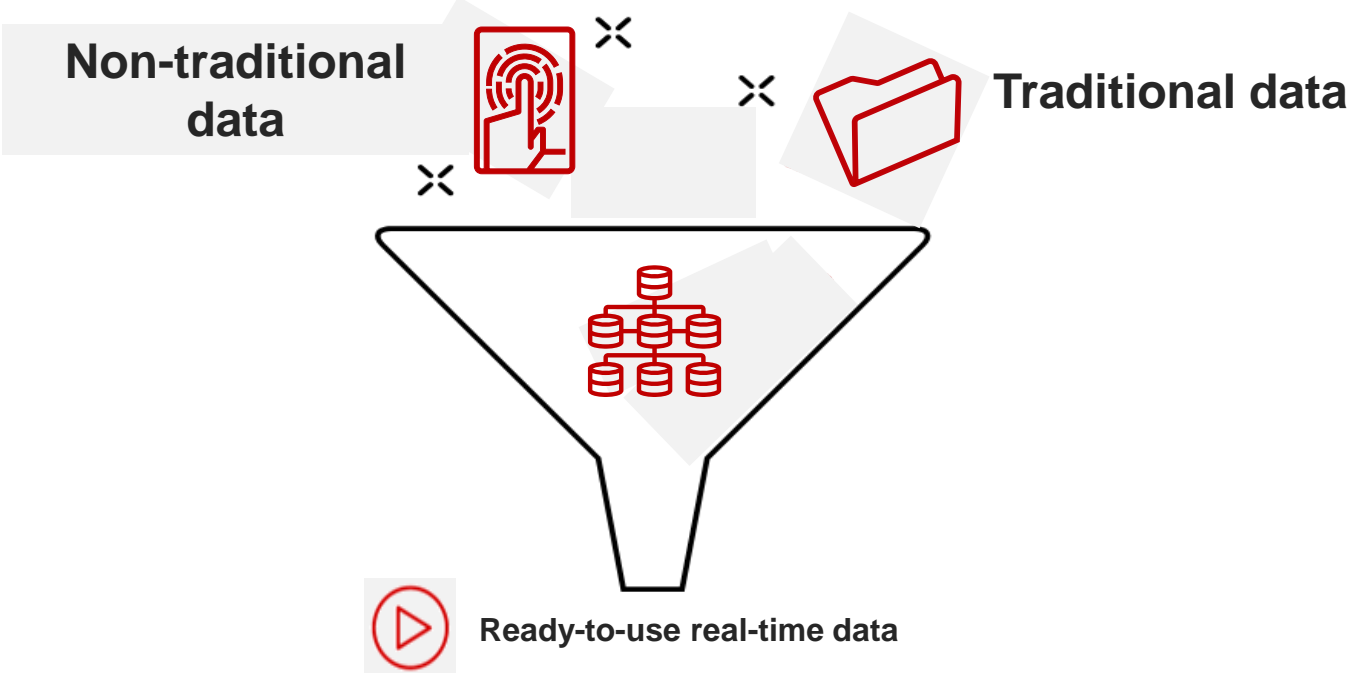
2019 vs. 2022



# New tech architecture yields efficiencies at scale



# Catalysing origination and portfolio management with data



## Origination

- Underwrite new segments/ markets
- Strengthen fraud detection



## Portfolio management

- Deploy advanced analytics to drive early warning

# At scale new origination powered by data and analytics

## New Markets



### Customers with inadequate traditional credit data

- Lack of credit history but with rich digital footprint
- Untimely financial information
- New economy workers



## Data



### Traditional

- Financials
- Payslips
- Credit bureaus
- Tax information



### Non-traditional + real-time

- Bank transaction
- Buyer behaviour
- Lifestyle information
- Supply chain transaction
- Inventory information



## Underwriting Model



### Digital credit scoring models



### Impute income model

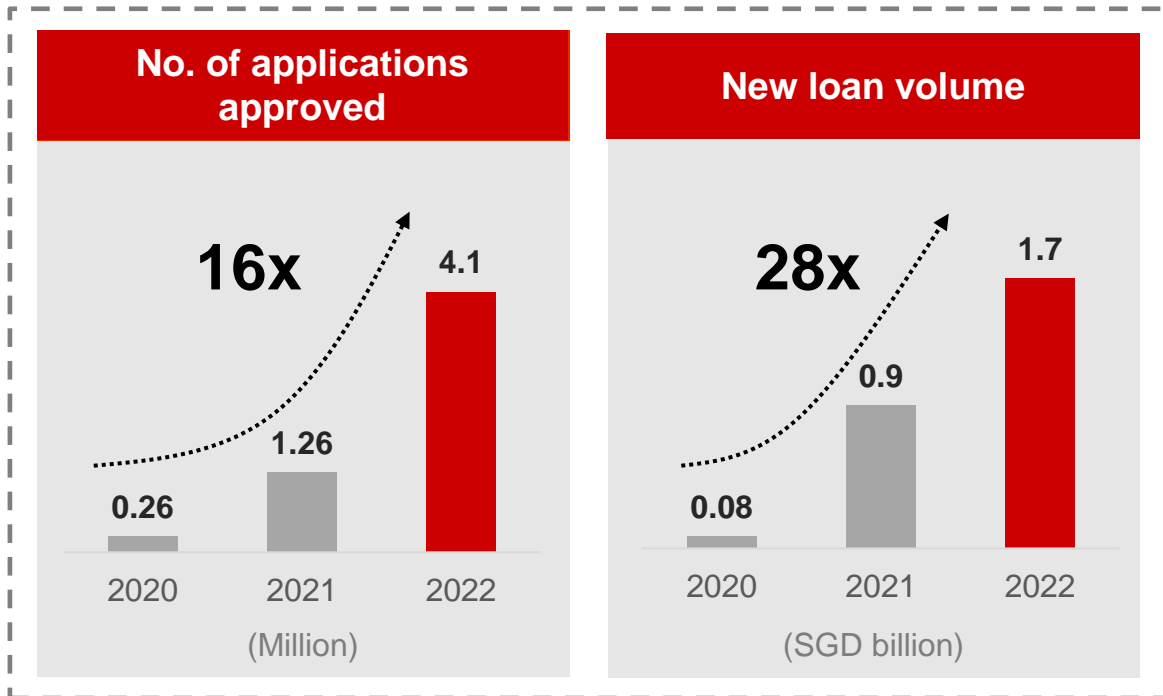


### Drawdown transaction validation

# Capacity for growth as we access new segments

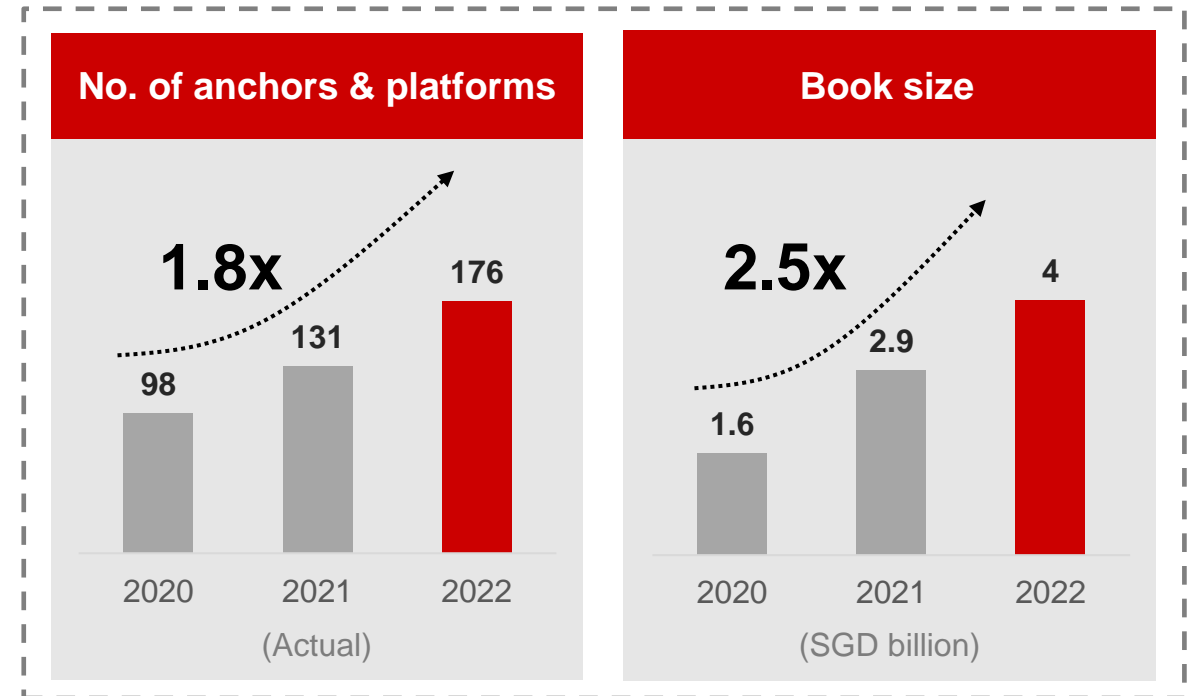
## Consumer banking ecosystems (Unsecured lending)

- Instant credit decisioning via real-time APIs
- Scale consumer lending with minimal incremental costs

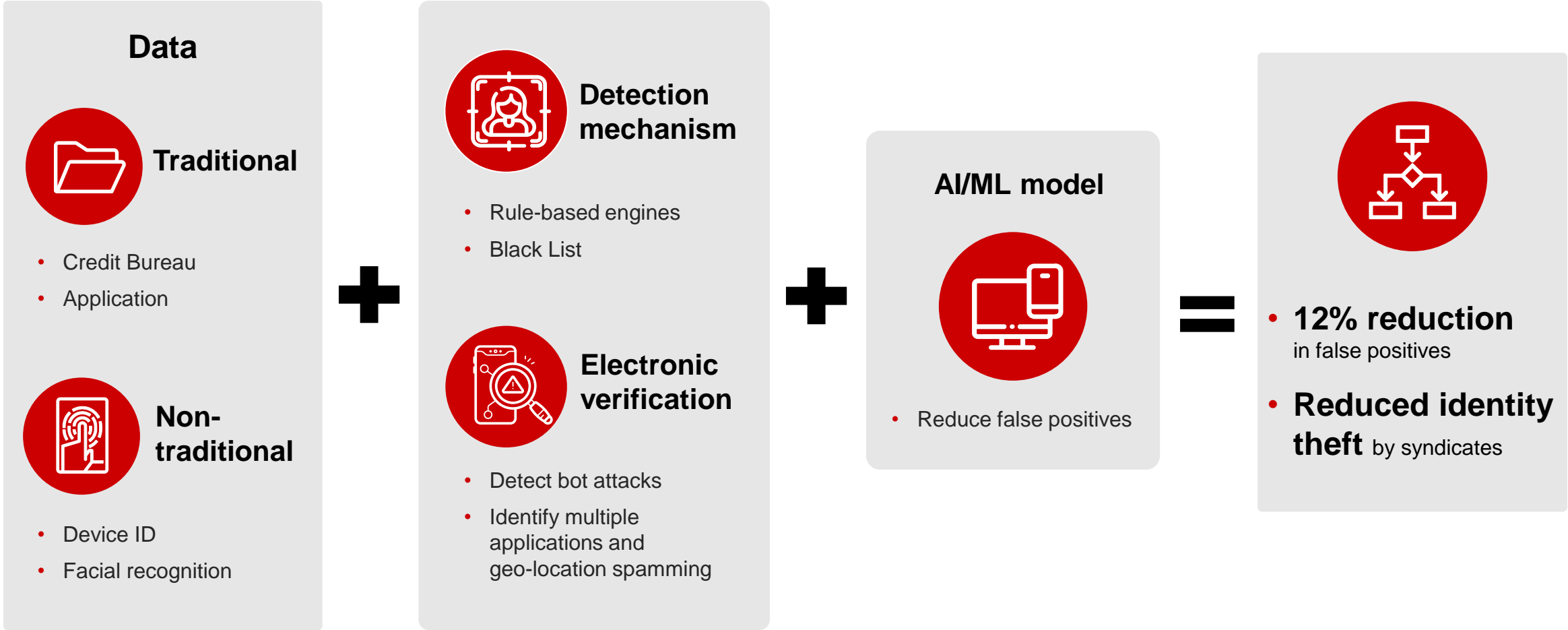


## Corporate banking ecosystems

- Ability to onboard thousands of suppliers within minutes
- End-to-end digital design for low manual intervention

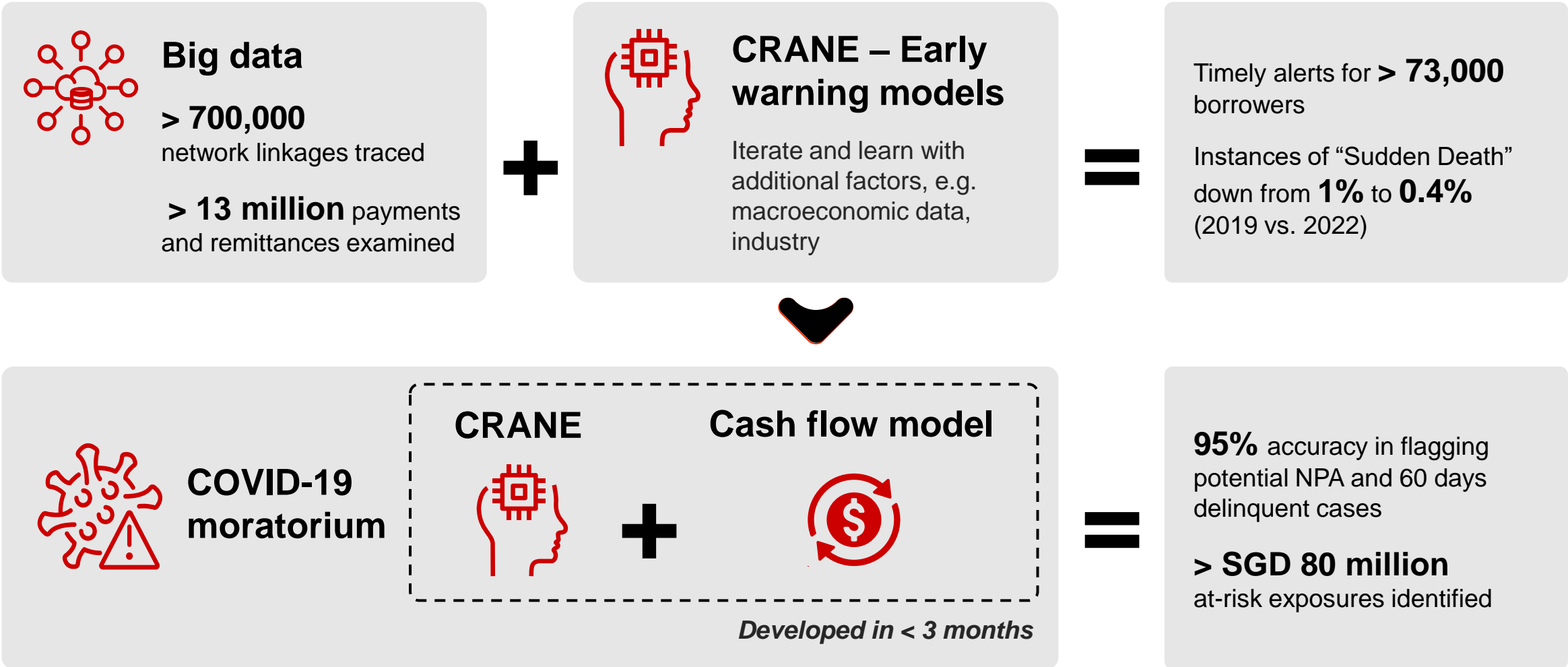


# Strengthening fraud detection amidst growing business



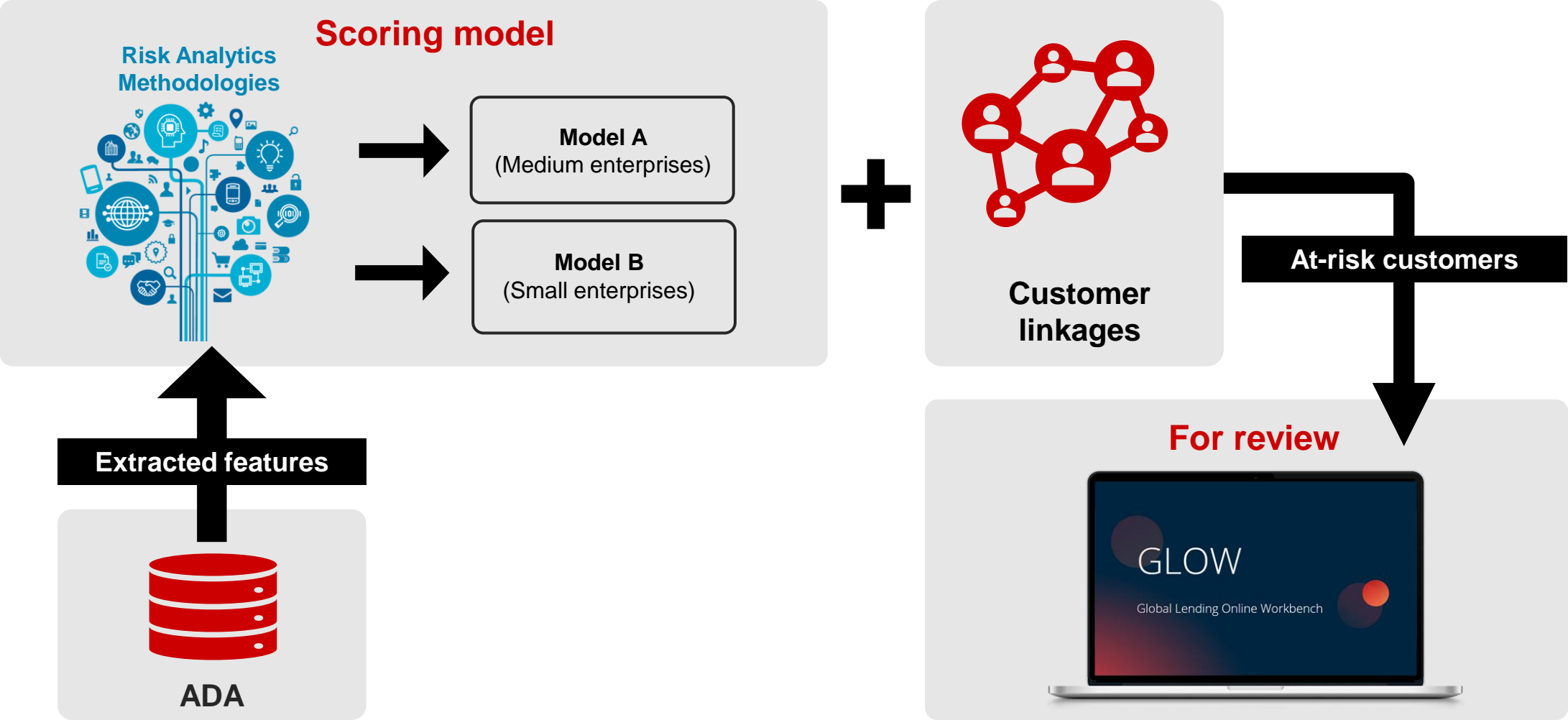


# Early warning enabled by predictive models; shorter time to enhance existing models

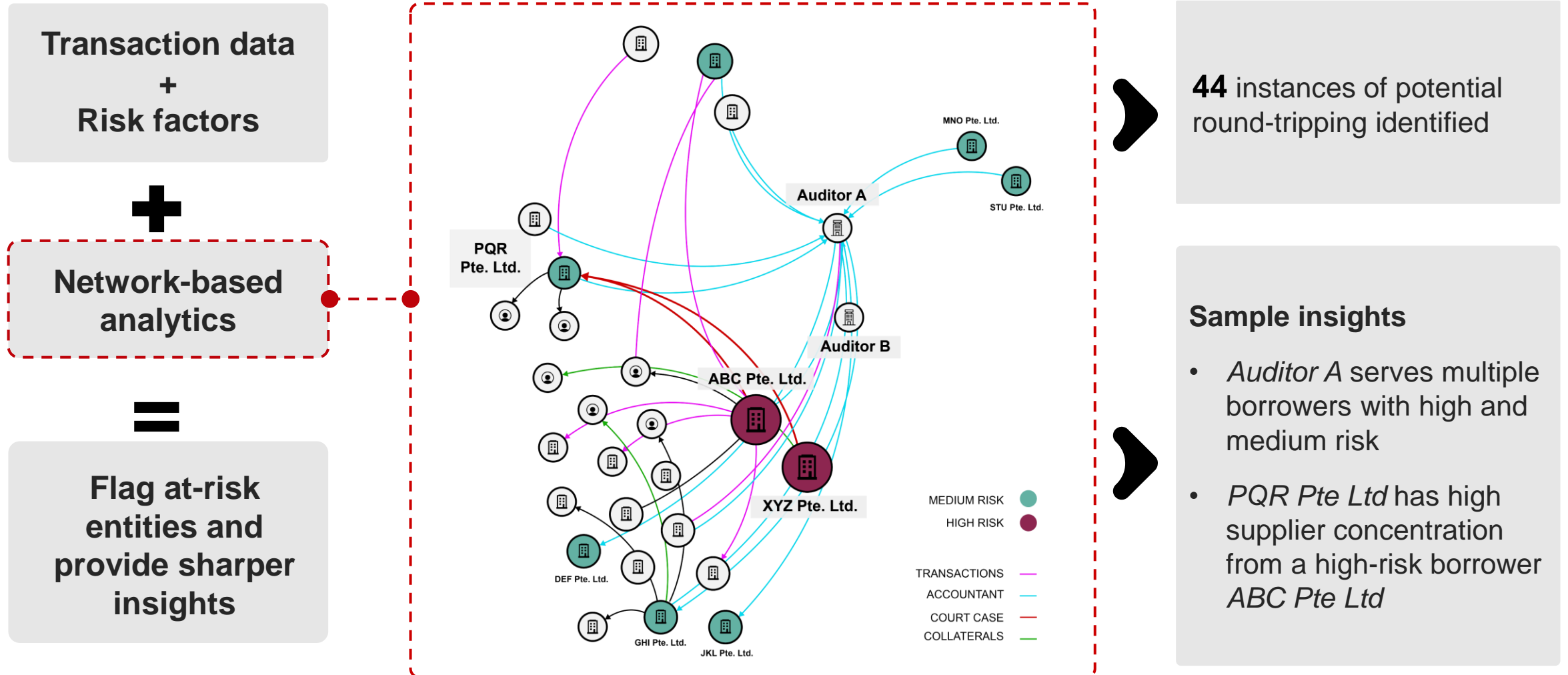




# AI/ ML enables more proactive monitoring

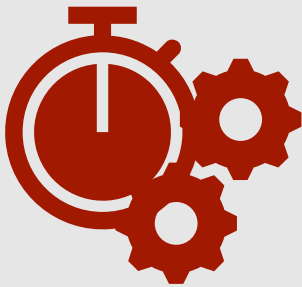


# Network-based analytics captures risks that are difficult to identify manually



# Looking ahead ...

**Continue to  
power productivity**



**Penetrate  
new markets**



**Sharpen tools to  
drive portfolio  
effectiveness**





**DIGITAL**

**TRANSFORMATION 2.0**

I n v e s t o r   D a y   2 0 2 3

## **Consumer and SME**

Shee Tse Koon

Group Head, Consumer Banking Group & Wealth Management

# Agenda

- 01** Where we left off: **Digital outperformance continues**
- 02** What we have done: **Enhanced our digital proposition to reduce cost, grow revenue, and gain market share**
- 03** Where we are going: **Grow customer wallet share**

# Agenda

- 01** Where we left off: **Digital outperformance continues**
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# Recap of our 2017 thesis: Digitalisation has led to superior financial and operating performance

Consumer and SME (Singapore, Hong Kong)

## How we changed the business

### Acquire

- Ecosystem strategy for wider outreach
- Data-driven digital marketing and search engine optimisation
- Digital onboarding

### Transact

- Paper-less, straight-through processing
- Seamless, omni-channel

### Engage

- Embed ourselves in the customer journey
- Contextualise research and marketing for cross-sell

## Superior returns on Digital segment

Digital customers have **lower CIR and higher ROE**

Digital customers are **more engaged and do more transactions**

Digital customers have **higher income and lower cost-to-serve as a % of income**



# Digital customers continue to outperform Traditional customers

Consumer and SME (Singapore, Hong Kong)

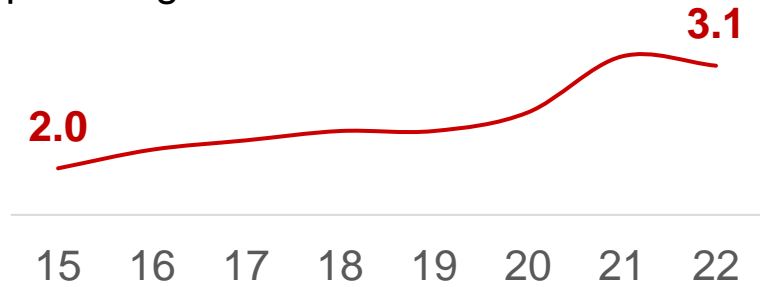
## Engagement via digital

Product holdings multiple of digital vs. traditional

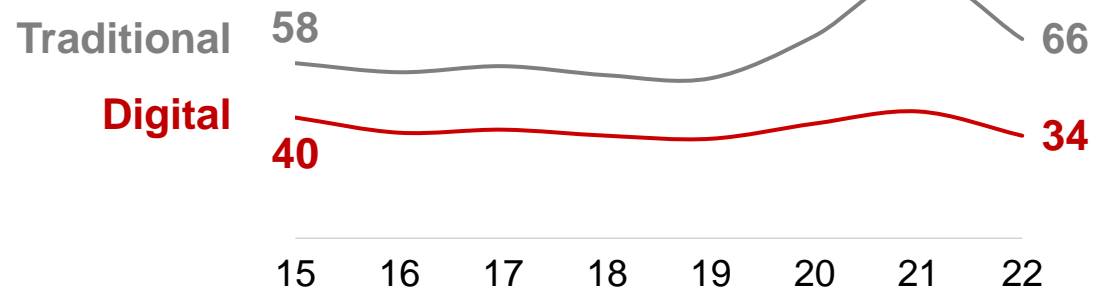


## Income via digital

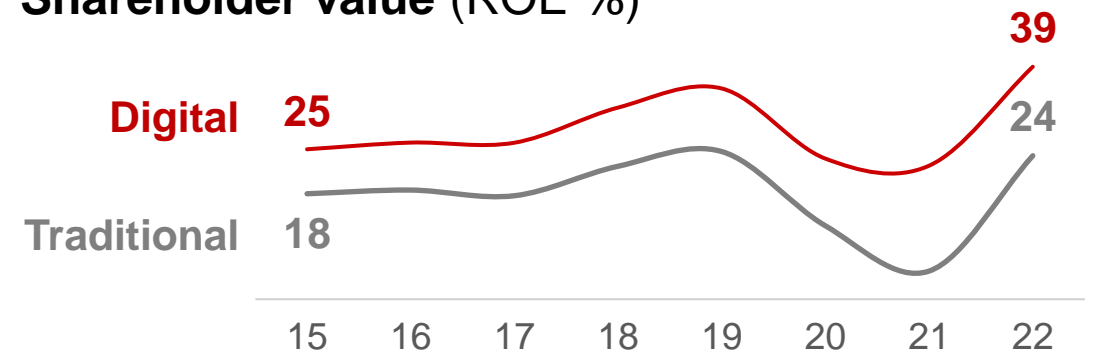
Income multiple of digital vs. traditional



## Cost-income ratio



## Shareholder value (ROE %)

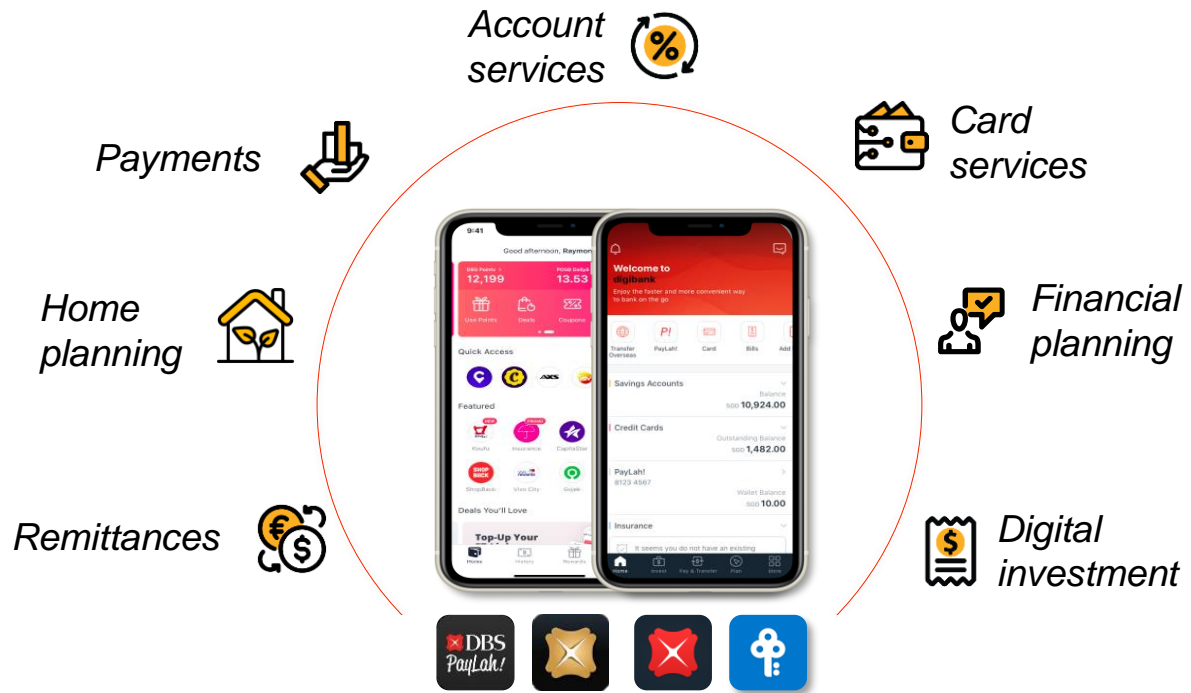




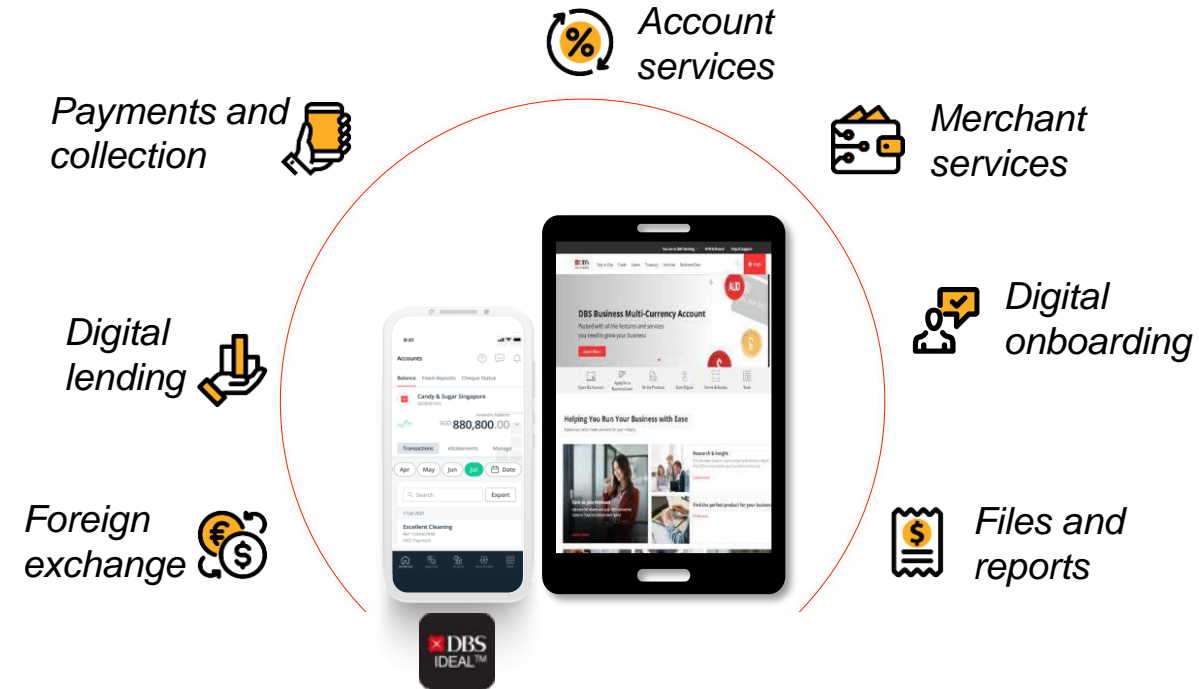
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- 01** Where we left off: **Digital outperformance continues**
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# A comprehensive digital proposition in Singapore. Fully embedded in the customer journey



**Companion App for  
consumer banking  
(Digibank and PayLah!)**



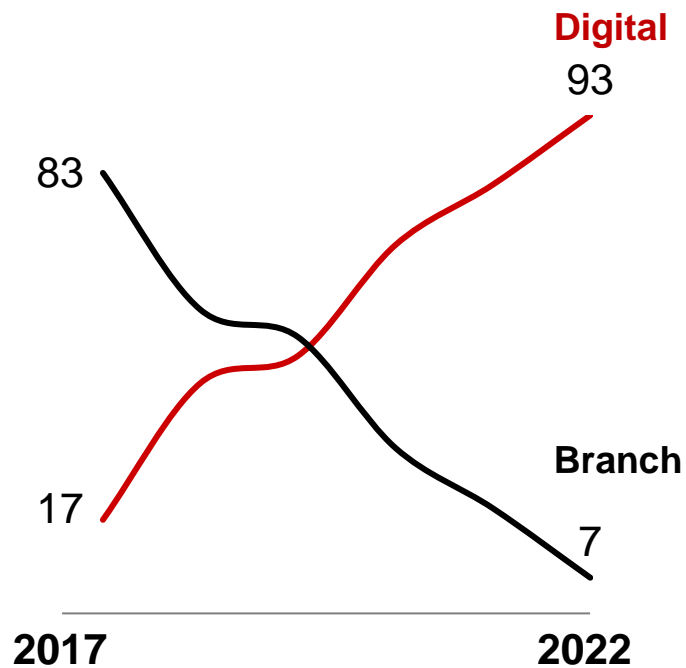
**Multi-channel for  
SME banking  
(IDEAL app & Public Web)**

# Digitalisation has lowered cost-to-acquire and cost-to-serve

## Digital onboarding

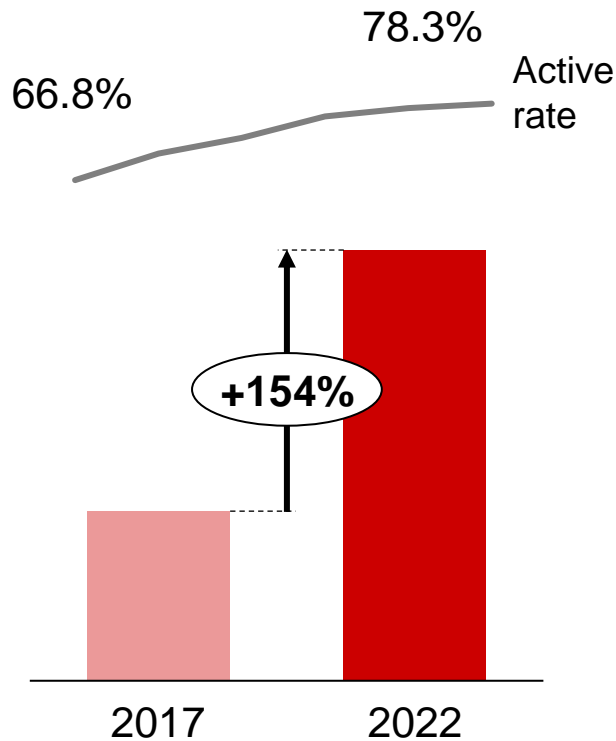
Increased digital channel share, with shift from desktop to mobile

Digital onboarding (%)



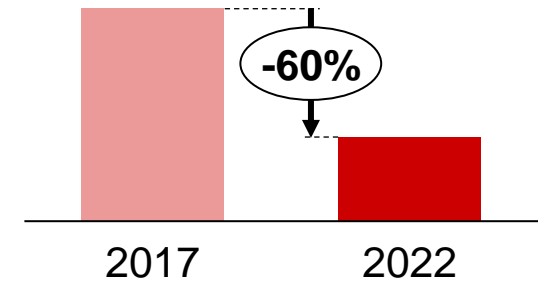
## Digital transactions

Increased active digibank rate, and digital transaction volume

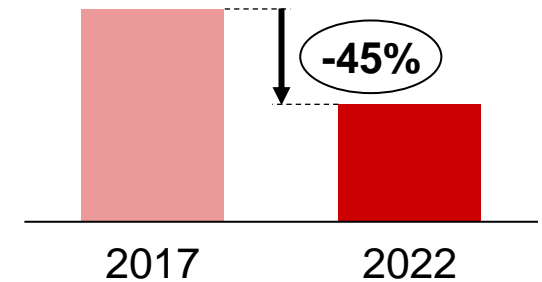


## Financial outcomes

Lower cost-to-acquire per account



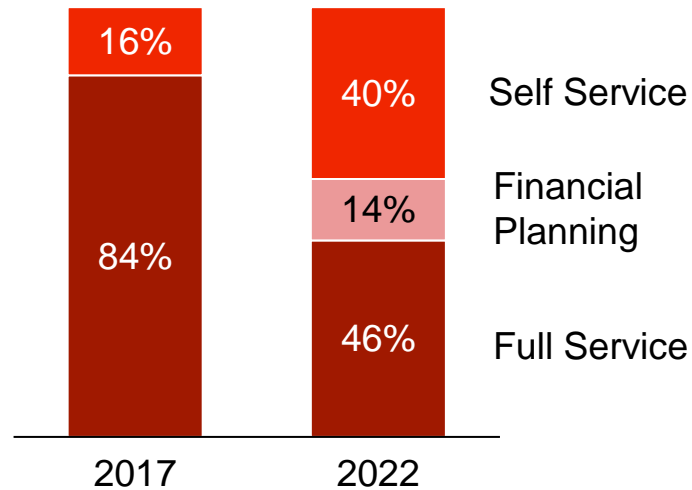
Lower cost-to-serve per transaction



# Network and servicing transformation have reduced costs

## Phygital banking

Manned touchpoints optimised through reduction in branch arrivals

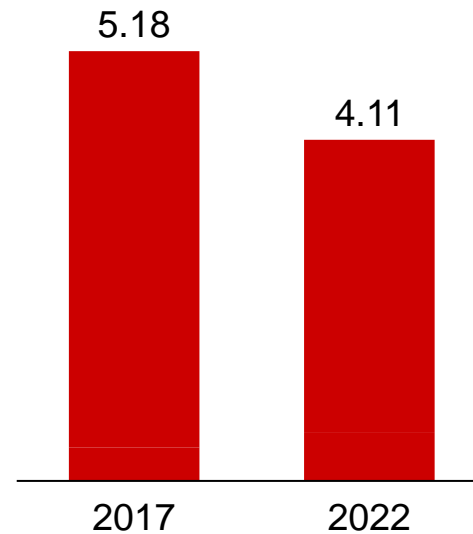


67% reduction in branch arrivals

## Call center servicing

Manned calls reduced through digital-first servicing

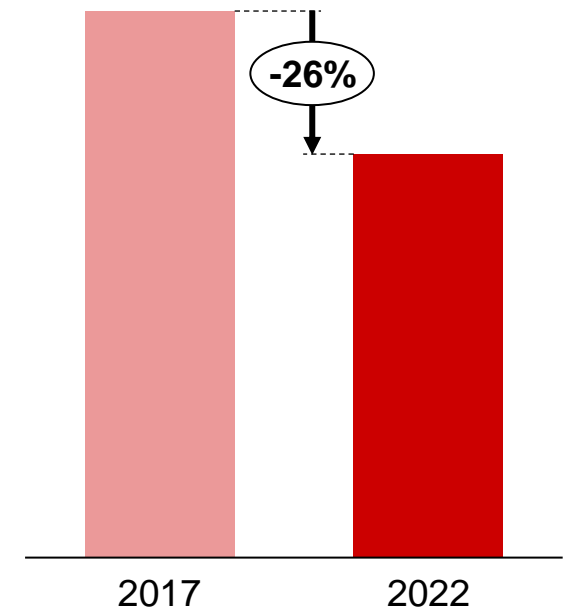
Demand volume (m)



Proactive & predictive interception  
Data-driven help & support  
Personalised chat bot

## Financial outcomes

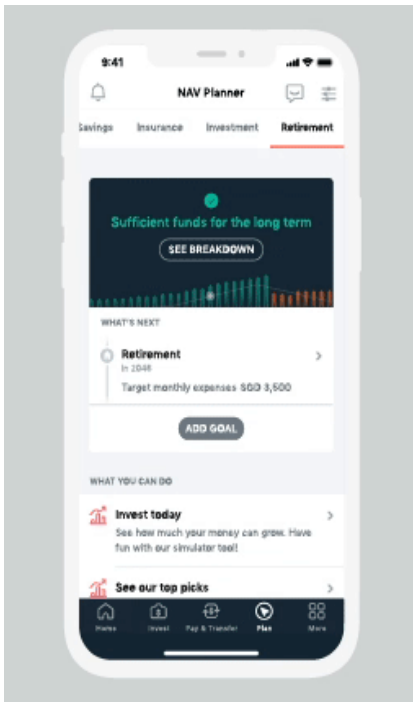
Lower branch and call center costs (\$)



# Data and AI/ML have enabled access to new segments: Democratisation of wealth



## DBS digital advisor

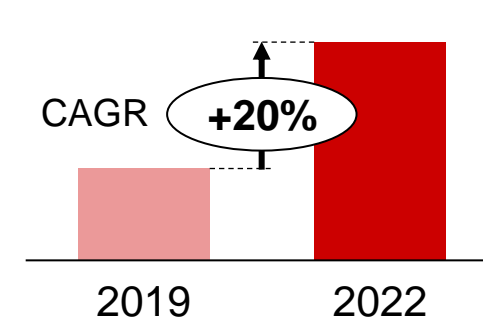


- 1 One-stop tool for financial planning
- 2 Open banking for holistic view of customers' financials
- 3 Hyper-personalised and contextualised nudges
- 4 Digital fulfilment through DIY investing solutions
- 5 Bite-size budget investment portfolio with digiPortfolio
- 6 Online to offline tele-advisory service for customers who need more help

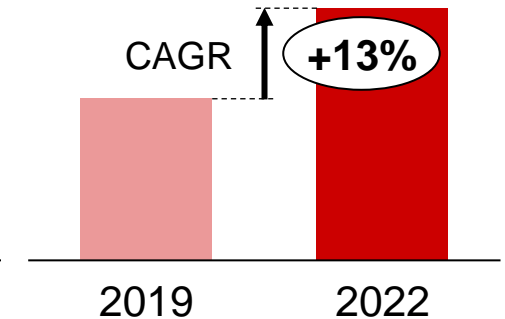
**3M** customers engaged with **280M** nudges  
**2.7M** transactions generating **\$47B** trading volume  
**6X increase** in premium for digital insurance

## Financial outcomes

Higher investment  
AUM (\$)



Higher investment  
income (\$)



Banca regular  
premium market share

39% to **47%**  
#1 in SG

CPF market share

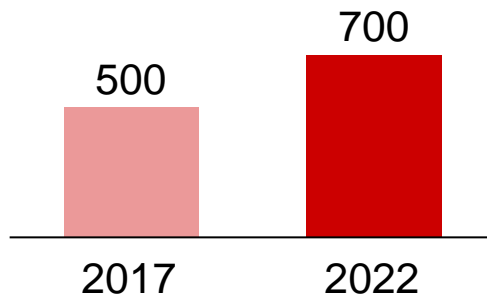
**SRS** 48% to **62%**  
**CPFIA** 42% to **44%**

# Redesigning the Treasures business has increased wealth revenue

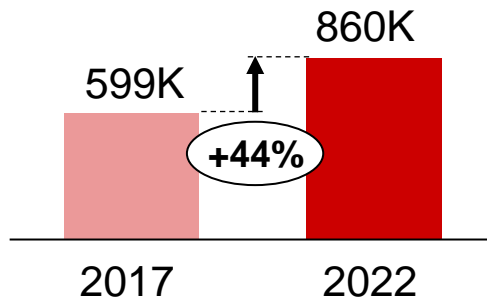
## RM performance

### Higher RM productivity

# of clients per wealth manager



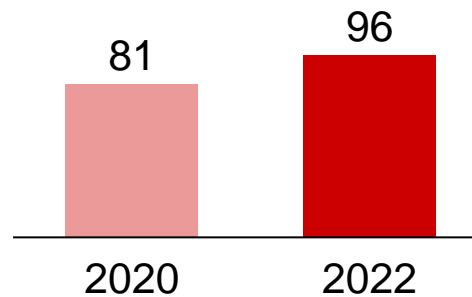
Productivity per RM per annum (\$'000)



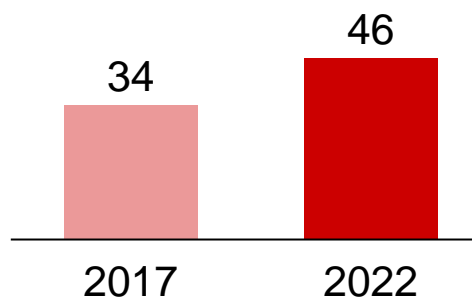
## Customer engagement

### Deepened engagement through Next-Best-Nudges

% customers who received nudges

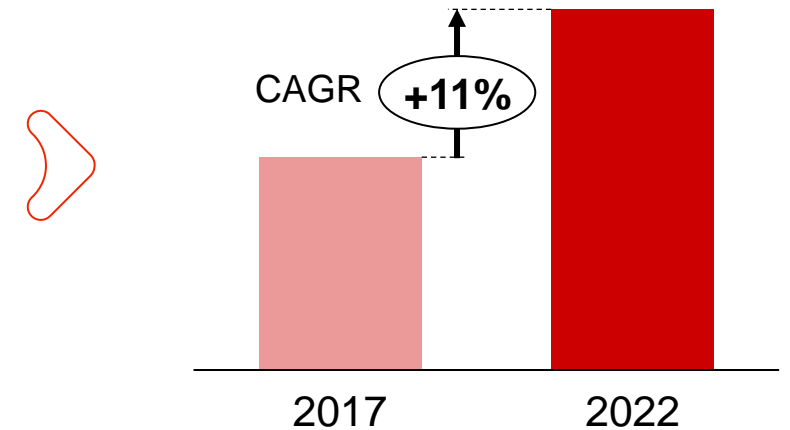


% of customers with wealth products



## Financial outcomes

### Higher Treasures investment & insurance income (\$)

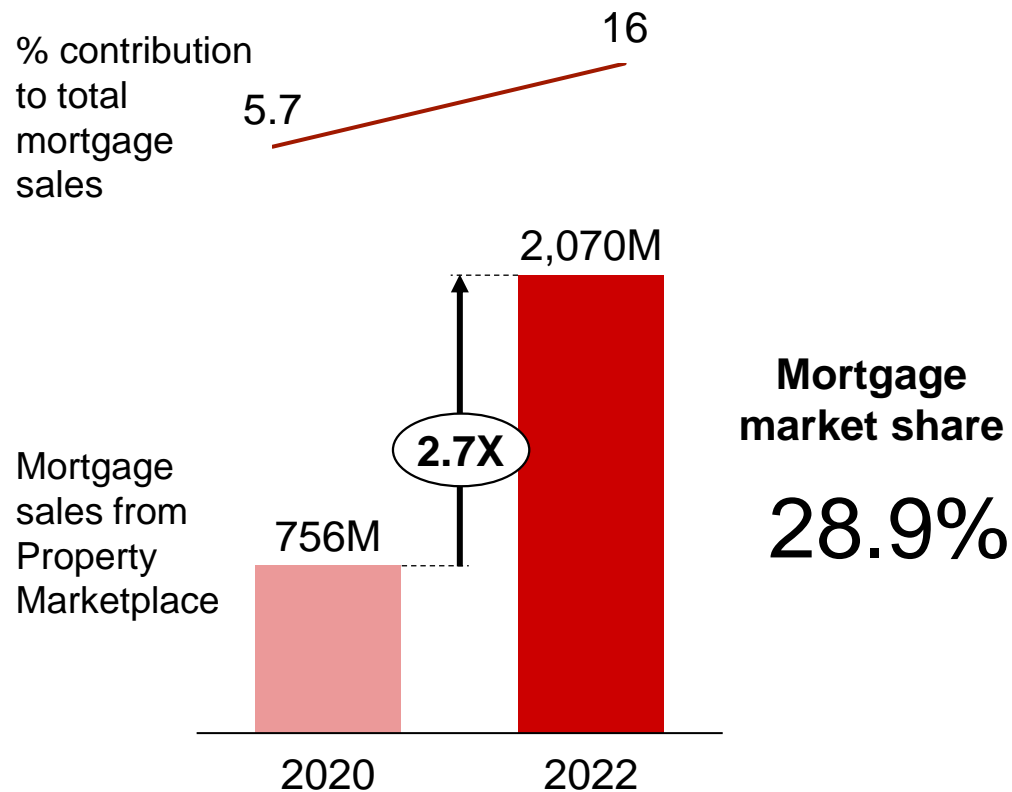


Strong growth in fee income:

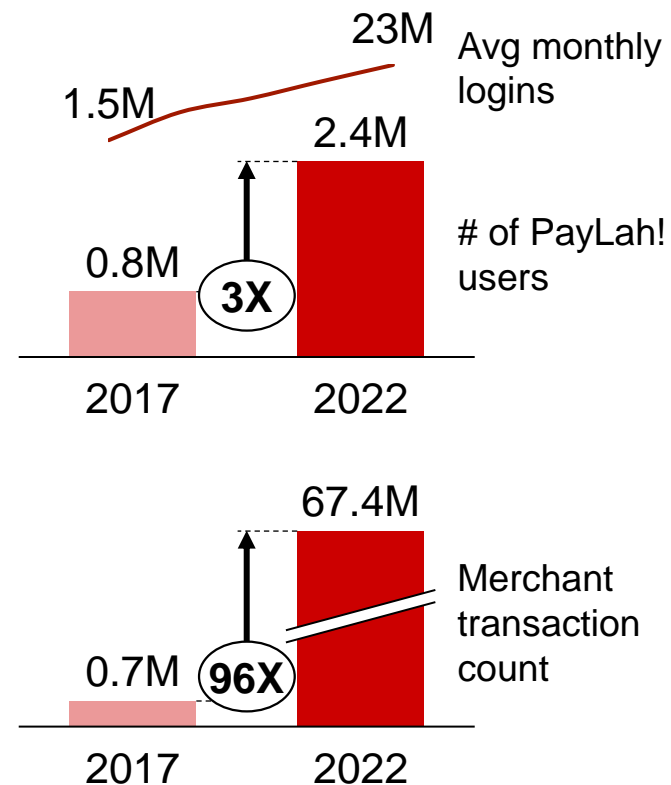
- Higher digital engagement
- Greater RM assisted transactions

# Ecosystems and marketplaces have enabled customer acquisition, extended distribution and improved customer stickiness

## Increased mortgage sales with Property Marketplace



## Increased ubiquity of PayLah



## Deposits market share

52% to **54%**

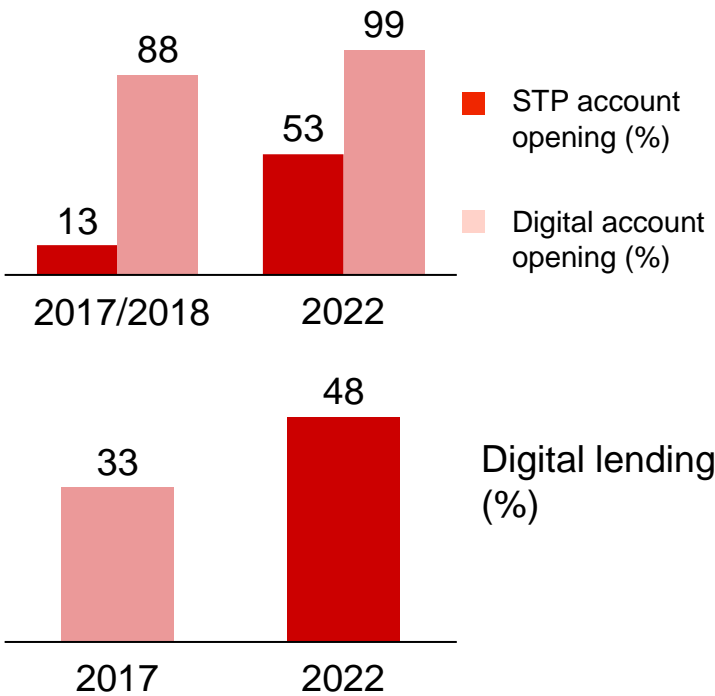
## Cards market share

18% to **22%**

# The digitalised SME operating model has scaled up acquisition, transaction and engagement and enabled access to new segments

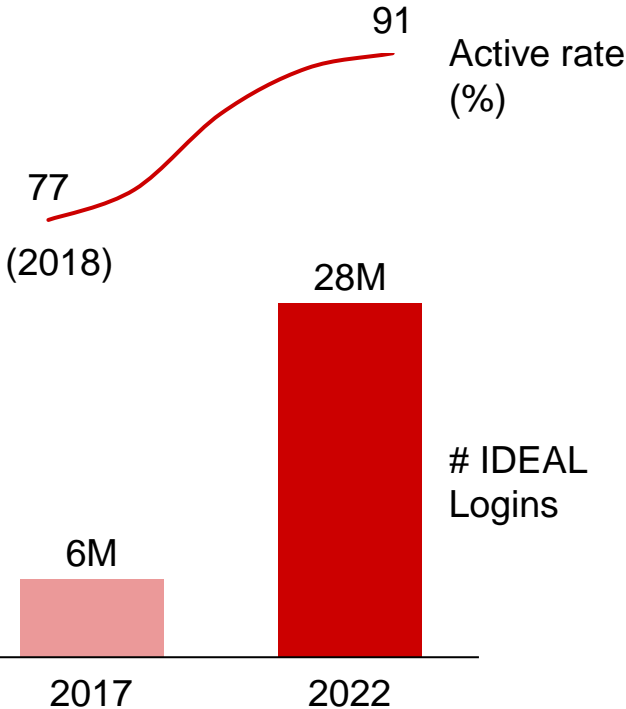
## Acquire

Increased digital onboarding and lending



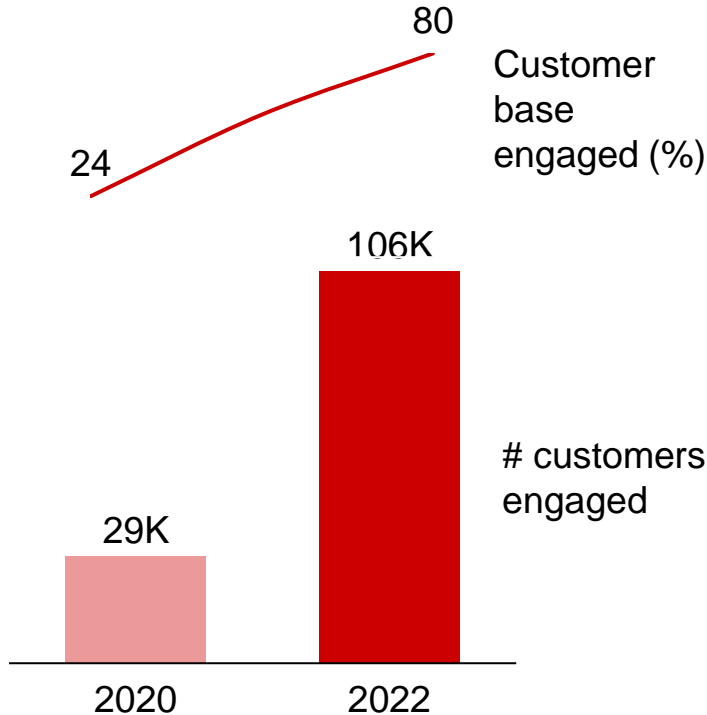
## Transact

Increased activity on IDEAL



## Engage

Increased SME customers receiving digital nudges



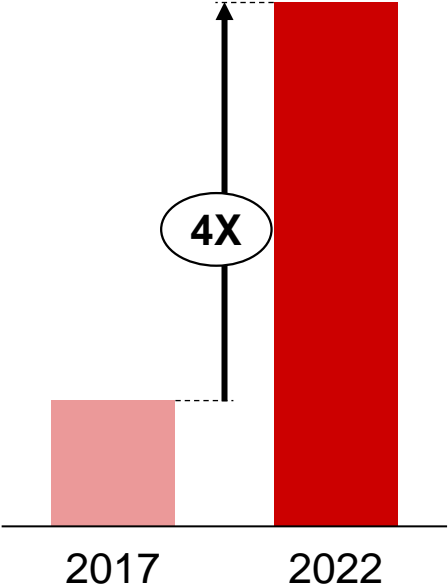
Active rate: # of customers who have done 1 cash transaction on IDEAL in a year / # of customers who have IDEAL



# This has given rise to higher revenue, fee income and balance sheet growth

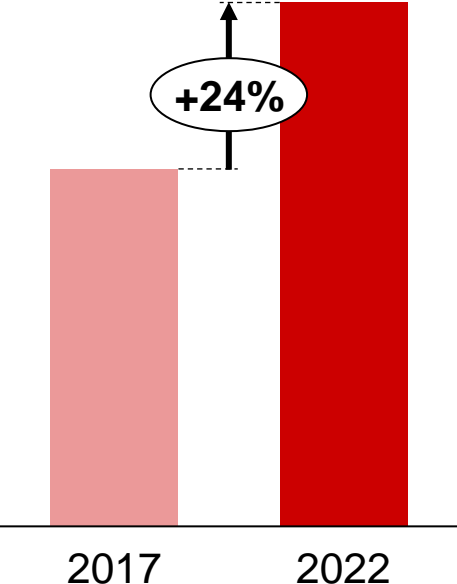
## Loan balances

Increase in unsecured loan book (\$)



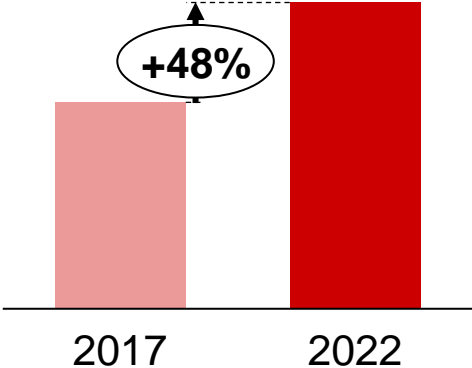
## FX revenue

Increase in fee revenue per customer (\$)



## Customer revenue

Increase in revenue per customer (\$)



Growth in share for micro-SME unsecured loans  
18% to **34%**

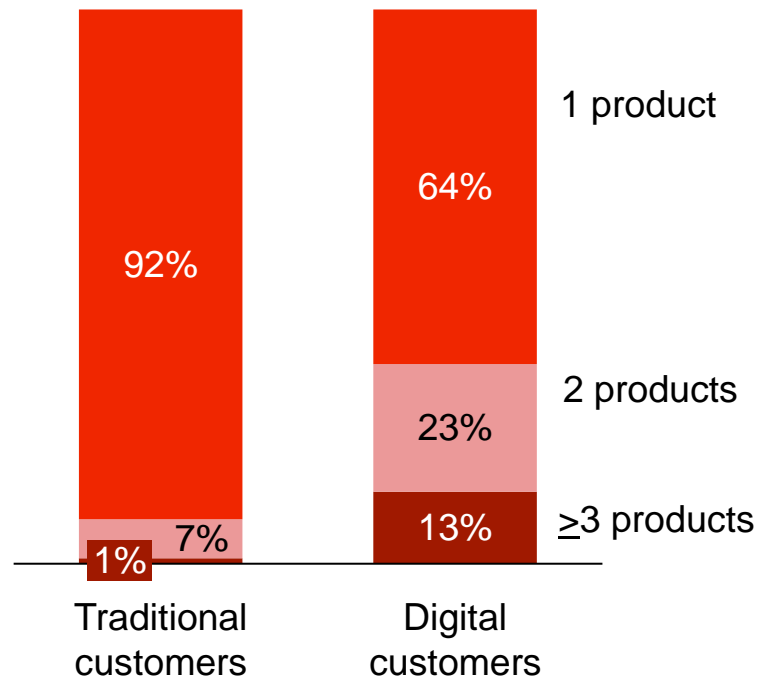
# Agenda

- 01** Where we left off: **Digital outperformance continues**
- 02** What we have done: **Enhanced our digital proposition to reduce cost, grow revenue, and gain market share**
- 03** Where we are going: **Grow customer wallet share**

# Opportunity to grow customer wallet share especially in investment and insurance

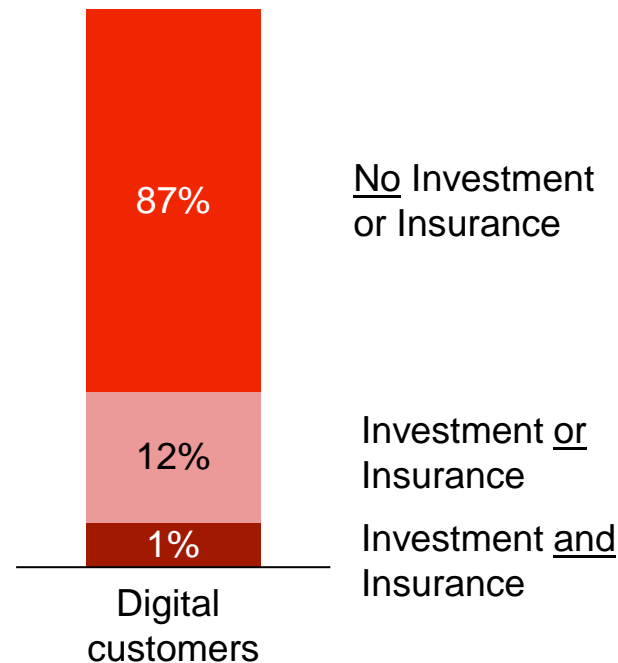
## Product holding

64% of digital customers hold only 1 product. Opportunity to grow wallet share further

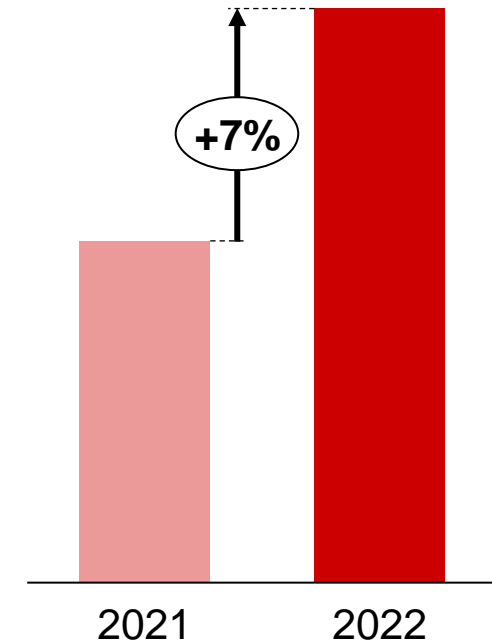


## Investment and insurance holding of digital customers

87% of digital customers yet to hold investment or insurance



Encouraging growth in customers taking up investment and/or insurance

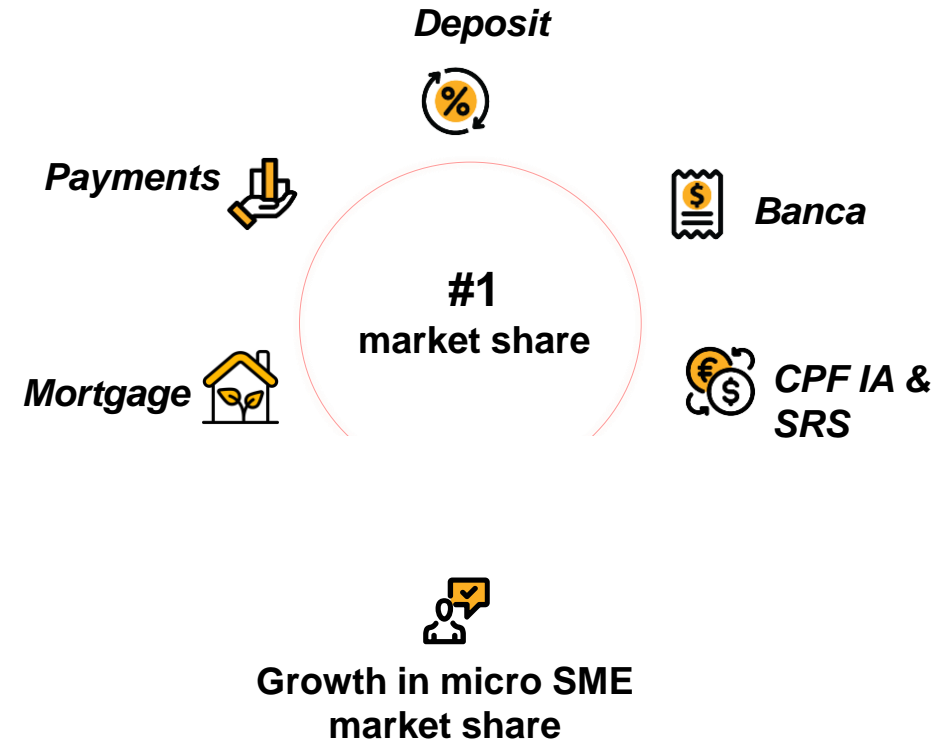


# This is DBS Digibanking. Distinctive. Comprehensive. End-to-end.

**01** Where we left off: **Digital outperformance continues**

**02** What we have done: **Our robust digital proposition has spurred cost reductions and revenue growth**

**03** Where we are going: **We will continue to grow customer wallet share**



# This is DBS digibanking ✖





**DIGITAL**

**TRANSFORMATION 2.0**

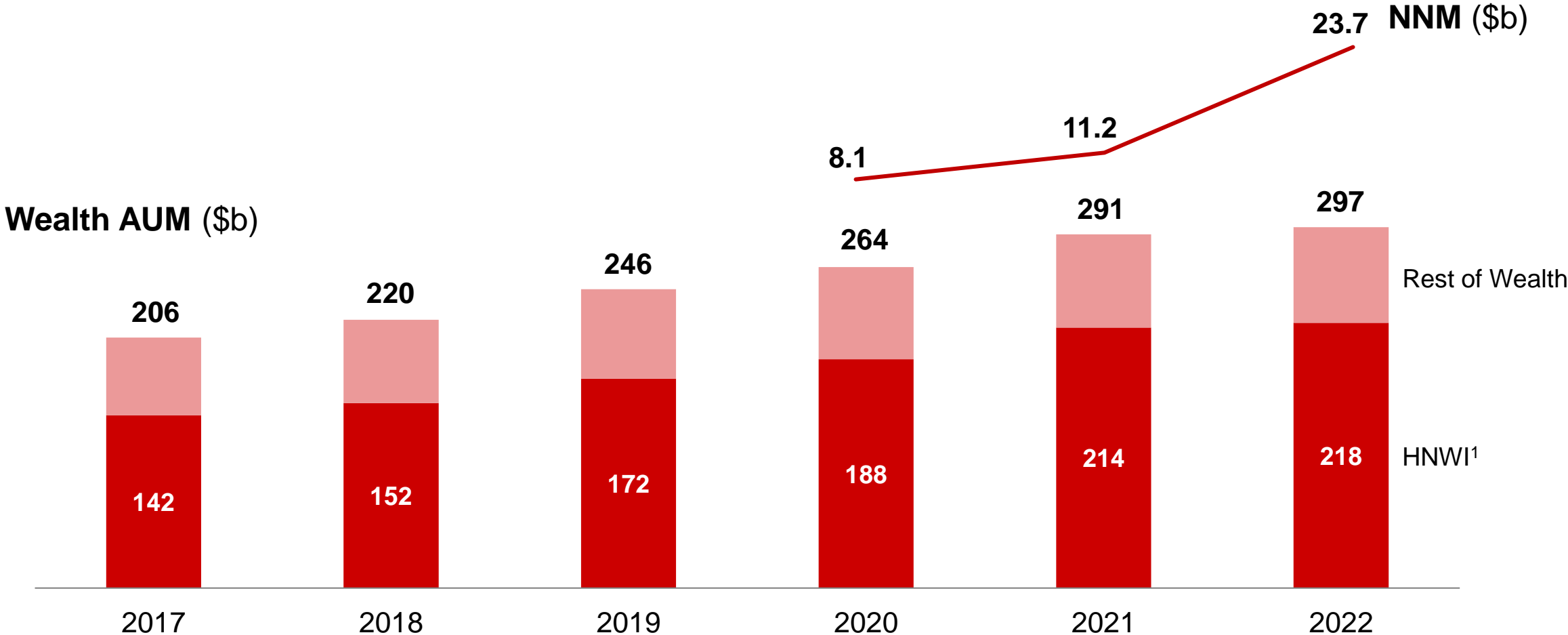
I n v e s t o r   D a y   2 0 2 3

## **Private Banking**

Joseph Poon

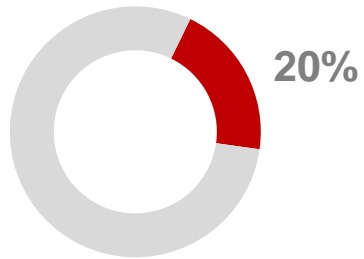
Group Head, Private Banking

# Bolstering wealth AUM growth with our Private Banking franchise ...



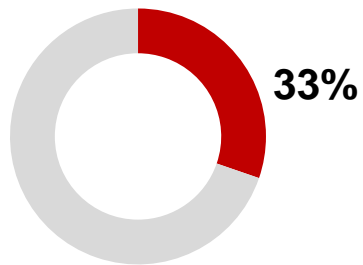
# ... through our differentiated client engagement

## Growing new client base

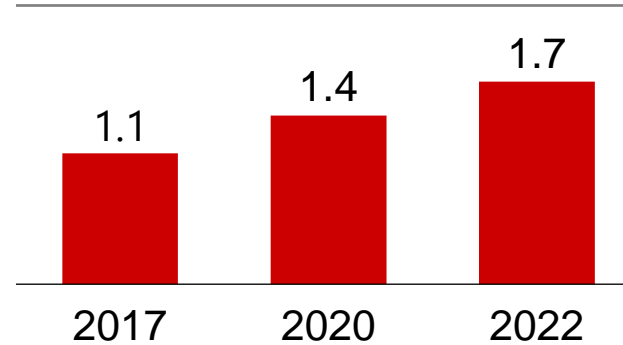


3-year NTB acquisition over total client base

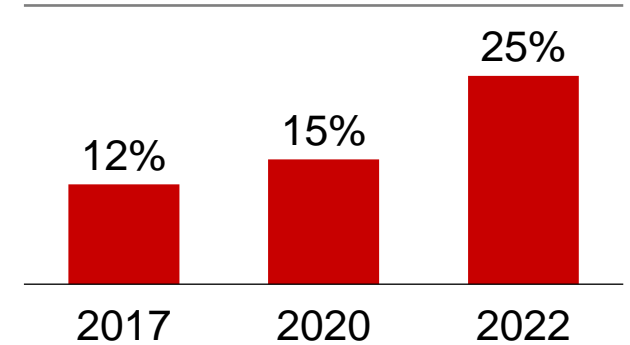
## Dominant SG SFO<sup>1</sup> market share<sup>2</sup>



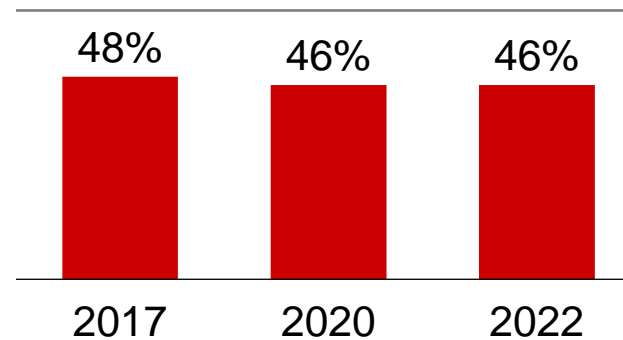
## Income (\$b)



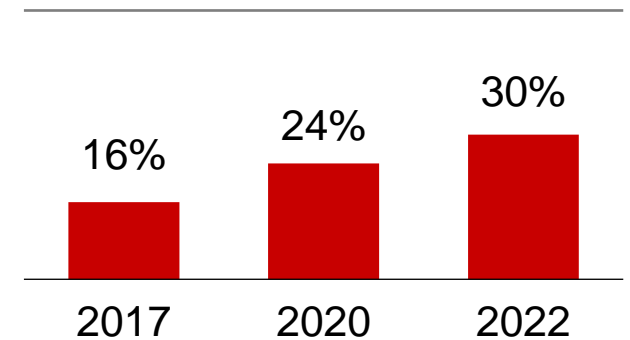
## Recurring fee (as % of fee income)



## Cost-to-income (%)




## ROE (%)



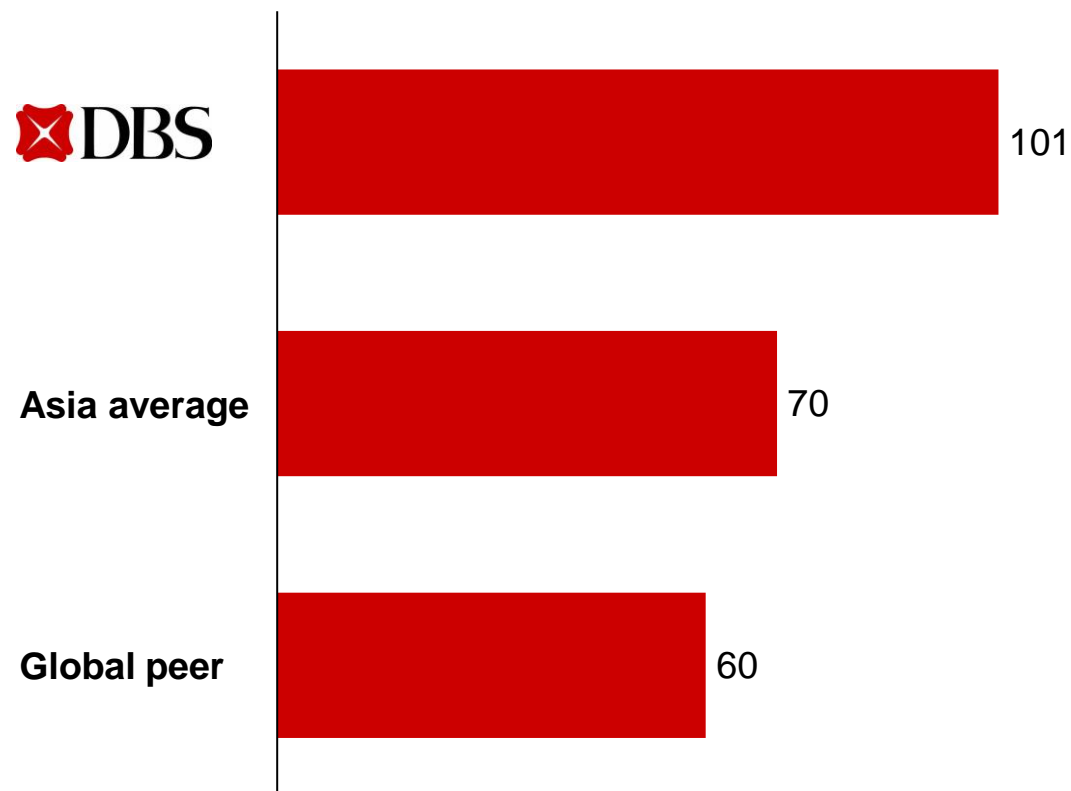


# We have become a top tier private bank in Asia and we outperform on return on AUM

## Top 10 ranked private banks in Asia 2022

	<i>AUM USD'b</i>
1 UBS Global Wealth Management	437
2 HSBC	305
3 Credit Suisse AG	165
4  DBS	162
5 Morgan Stanley PWM	143
6 Standard Chartered Private Bank	137
7 Julius Baer	135
8 J.P. Morgan Private Bank	134
9 Bank of Singapore	120
10 LGT	99

## Return on AUM<sup>1</sup> (bp)



1. 2022 for DBS

Top 10 ranked source is Asia Private banker; Return on AUM source is McKinsey Private Banking Survey 2022

# Scaling-up through our “3P” Strategy

## People



Training across

- Skills of the future
- Investment banking
- Strategic advisory

## Proposition



- Shifting focus from Transactions to Advisory
- Managing wealth holistically, across personal and business needs
- Providing impact investment and philanthropy solutions

## Phygital



- Arming RMs with data to re-define client experience
- Sharing curated, actionable insights, aligned to client risk-profiles
- Building digital platforms with AI/ML-backed capabilities
- Updating portfolios in real-time, with 24/7 transaction capabilities

# Moving from physical ...

**RM preparation**

**Client engagement**

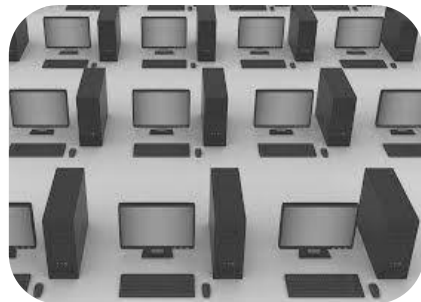
**Transaction processing**

***Pain points /  
challenges /  
bottle necks***

Inefficiencies given multiple databases and information overload

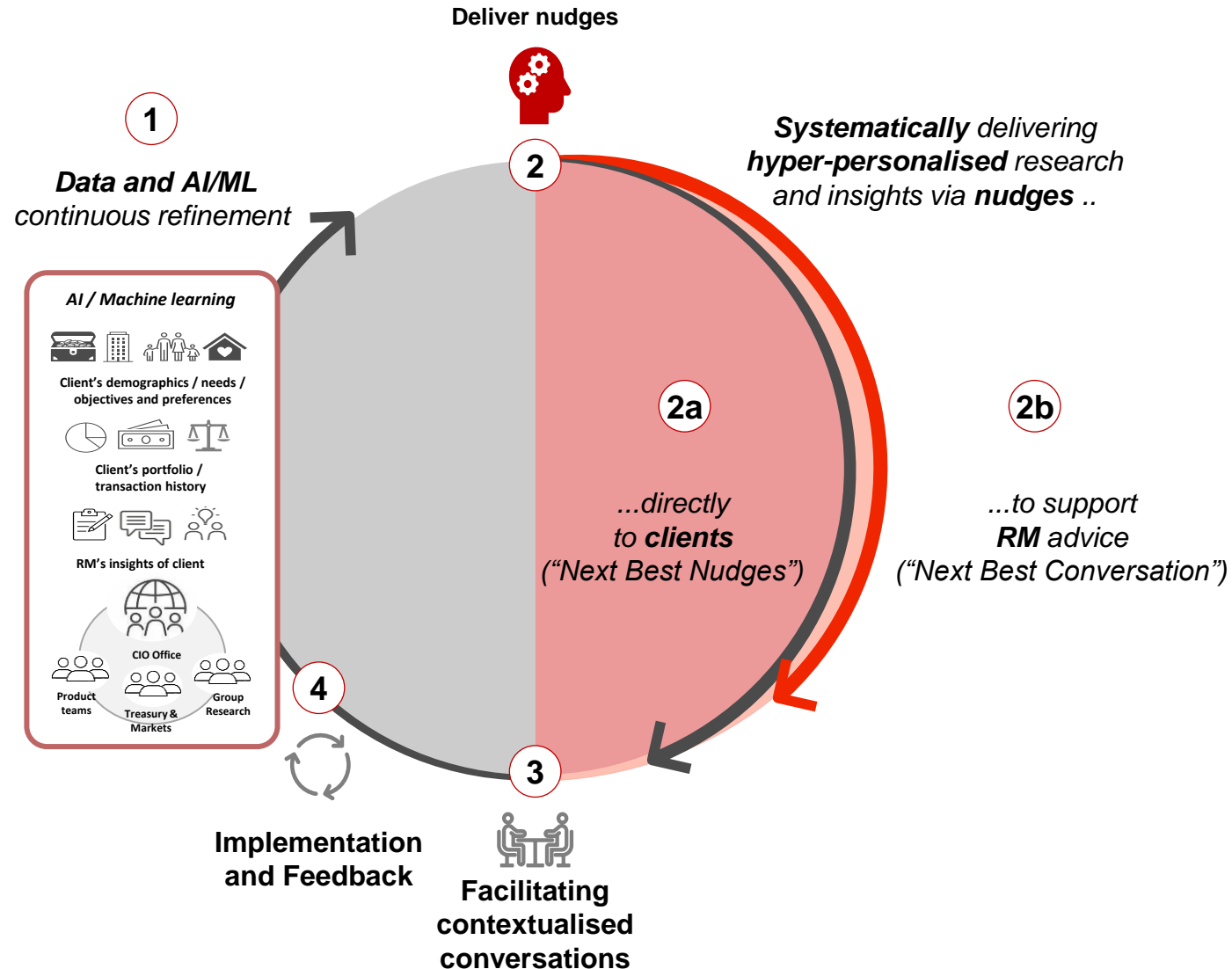
Generic “One-size-fits-all” approaches with rapidly outdated physical collateral

Non-integrated systems, with total reliance on RMs for transactions



# ... to “Phygital” to redefine client experience

Arming RMs with the power of technology and data to re-define client experience



# Data and AI/ML at the core of client engagement

## 1 Curating deep data insights to develop bespoke recommendations



### 16,000+ curated data points

- Individual client profile
- Portfolio / product holdings
- Investment activity / transaction history
- Responses to previous nudges
- Browsing history
- RM call notes
- Account planning



### Predicting needs and interests

- 30+ AI/ML models generating personalised nudges

### Supplementing with additional Info

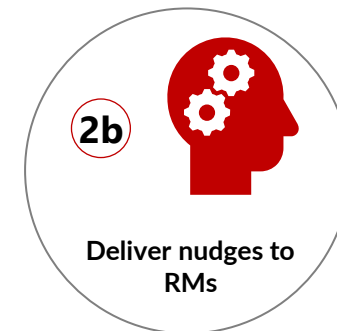
- Real-time inputs (e.g. market data feed)
- Batch inputs (e.g. CIO/Group Research content)



### “Next Best Nudges”



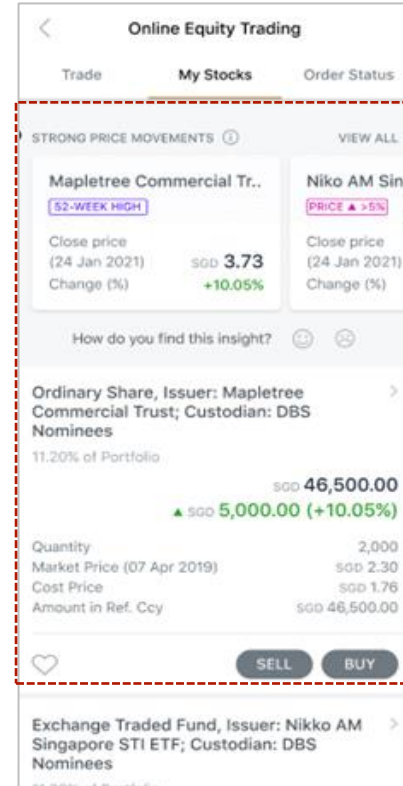
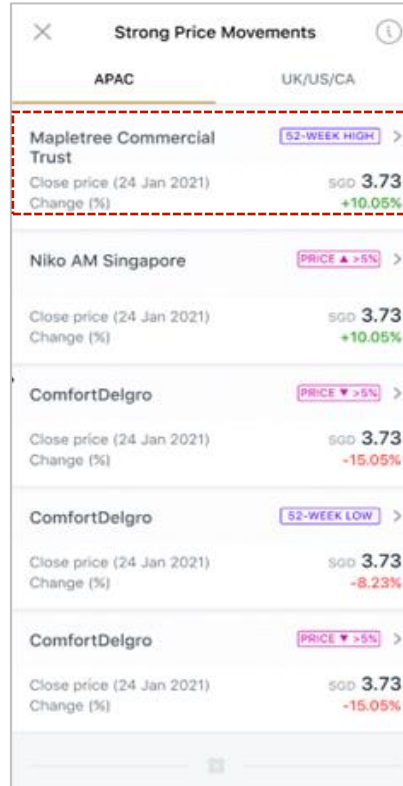
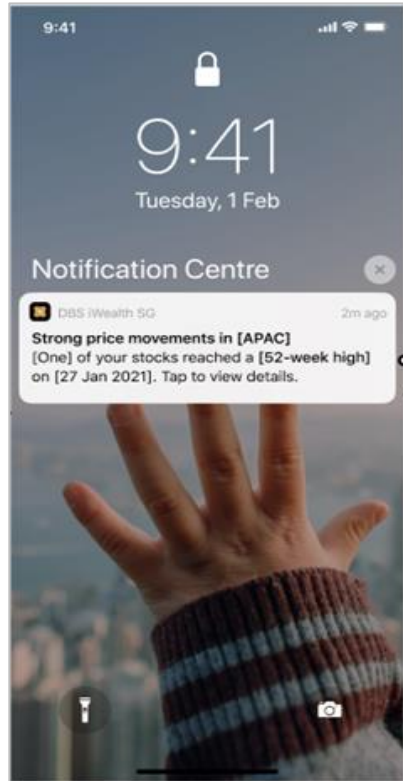
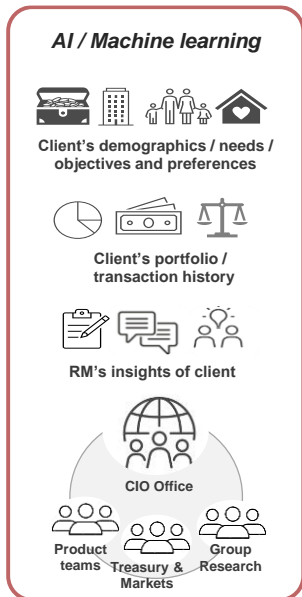
### “Next Best Conversation”



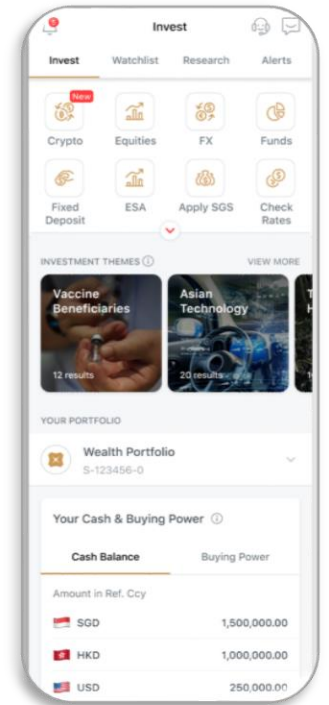
# AI-assisted hyper personalized nudges, sent directly to clients at the right time to allow “Self-directed Execution”



## Equity 52-week high/low



**Call to Action**




**Digibank Wealth**

# Creating “Awareness” of market events impacting client’s holding and portfolio risk appetite ...




## Gold as a portfolio hedge


### 16 June 2022: Investing in commodities

 **DBS digibank** 5m ago  
#ideas2invest: As the world forges a path of progress, commodities - the physical building blocks of the global economy - will see ever-growing demand. This provides tailwinds for those involved in the value chain of commodity production. Tap to read more.

### 8 Sep 2022: Gold for long play

 **DBS digibank** 3m ago  
#ideas2invest: Gold will continue to be supported by fundamental demand in the long term. Nonetheless, we remain conservative on gold in the short term owing to expected higher interests. Tap to read more.

### 3 Mar 2023: Gold still has its sparkle

 **DBS digibank** 3m ago  
#ideas2invest: China joins the list of countries that are stocking up on gold, with the PBOC announcing yet another increase in its gold reserves in January. This trend of increasing central bank buying has been going on since late last year, peaking in 3Q

*Series of timely nudges* →

# ... arming RMs with real time information ...



Client  
Connect

The screenshot displays a dashboard titled "Your next best conversation". It features a navigation bar with filters: "Priority queue (43)", "Flagged (7)", and "Recently consumed (10)". There are also dropdowns for "All topics" and "Show all".

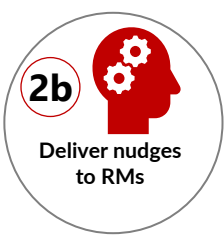
The main content area is titled "Households by recommended priority order" and includes a legend for recommendation levels: "Most recommended" (dark green), "Highly recommended" (medium green), and "Recommended" (light green). A list of households is shown, with "Michelle & family" (Household ID: 1234567) highlighted with a red dashed border and a red arrow pointing to the right.

The detailed view for "Michelle & family" shows:

- Household ID: 1234567, No. of members: 2 members
- Strong interest in Gold** (NON-MANDATORY) ⌚ 10 days left
- Client's portfolio asset allocation in gold is below the model portfolio for her risk profile (Aggressive). Client has read 4 articles relating to Gold investment ideas. Gold will continue to be supported by fundamental demand in the long term. Nonetheless, we remain conservative on gold in the short term, owing to expected higher interest rates ... [Show more](#)
- Michelle has high unrealised gains** (NON-MANDATORY) ⌚ 3 days left
- The unrealised gain of \$224,782 is 7% beyond their IOS threshold ( 29% vs 22% ) and has risen from 22% as of last month. Historical Val= \$779,348 Current Val= \$1,004,130. Biggest gainers Ord Sh, Raffles Medical Group Ltd ( \$181,630 ) | Ord Sh, DBS Group Holdings Ltd ( \$48,033 ) | Ord Sh, Oversea-Chinese Banking Corp Ltd ( \$21,977). Determine if the ... [Show more](#)
- Product Downgrade** (NON-MANDATORY) ⌚ 10 days left
- The Client holds assets that have recently been downgraded. Client holds SGD \$288,888 in Perp, Nordea Bank Abp, 8.888% ( ISIN= US65557DAL55 ) - which was downgraded from BUY to HOLD on 16MAR2022. Please see the Bond Pitch Book for an alternative recommendation. Analyst reports for downgraded Bond are also available in the Credit ... [Show more](#)



# ... arming RMs with real time information ...



Client Connect

TAN Ling Wei, Michelle

Tan Ling Wei Michelle  
S-123456 | Single | 3 portfolios | AI indicator: Yes

Total net assets (09 May 2023) <sup>1</sup>  
USD 41,252,521.99

Total assets: USD 41,252,521.99 | Total loans: USD 0.00 | Total derivatives: USD 0.00 | Total unrealised P/L: ▲ USD 2,309,053.54

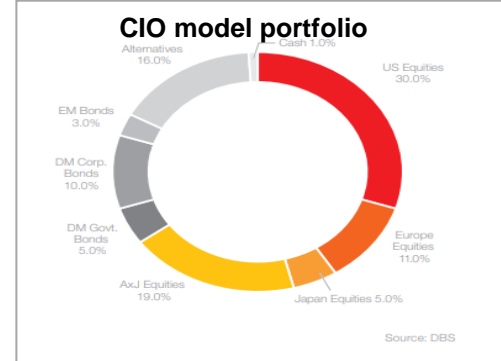
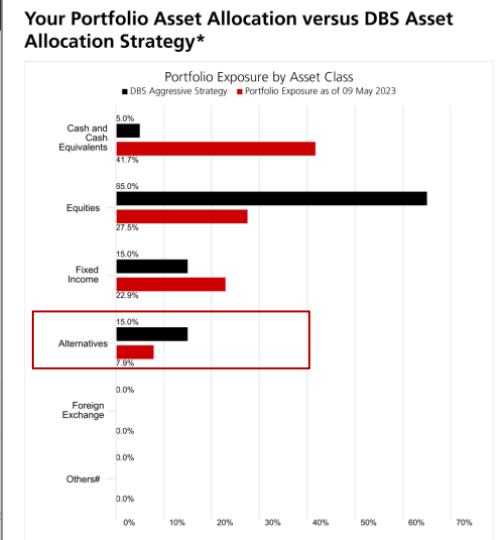
Holdings Account details Relationships

Last updated: 22 Feb 2022, 02:58 PM (UTC +08:00)

Verified balance As of 22/02/2022 Ccy: USD

Holdings name	Value USD	Currency / Current price	Currency / Cost price	Quantity	Asset
S-123456-0 (Client Portfolio)   Ref. ... <small>ESG coverage ratio 86.19%</small>	41,252,521.99	-	-	-	-
Cash and cash investments	17,231,883.03	-	-	-	-
Investment portfolio	24,020,638.96	-	-	-	-
Equity	11,348,504.44	-	-	-	-
Alternatives	3,233,856.00	-	-	-	-
S-123456-0 Gold (Ounce) USD CO ...	3,233,856.00	USD 2,021.1600	USD 1,777.9088	1,600	XAU USD 389,202.00

## Your Investment Profile and Asset Allocation Strategy



### AGGRESSIVE

	TAA	SAA	Active
<b>Equities</b>	<b>65.0%</b>	<b>65.0%</b>	
US	30.0%	30.0%	
Europe	11.0%	15.0%	-4.0%
Japan	5.0%	5.0%	
Asia ex-Japan	19.0%	15.0%	4.0%
<b>Fixed Income</b>	<b>18.0%</b>	<b>15.0%</b>	<b>3.0%</b>
Developed Markets - Government	5.0%	4.0%	1.0%
Developed Markets - Corporate	10.0%	7.0%	3.0%
Emerging Markets	3.0%	4.0%	-1.0%
<b>Alternatives</b>	<b>16.0%</b>	<b>15.0%</b>	<b>1.0%</b>
Gold	2.0%	5.0%	-3.0%
Private Assets & Hedge Funds	14.0%	10.0%	4.0%
Private Equity	7.0%	4.9%	2.1%
Hedge Funds	4.0%	4.0%	
Private Debt	3.0%	1.1%	1.9%
<b>Cash</b>	<b>1.0%</b>	<b>5.0%</b>	<b>-4.0%</b>



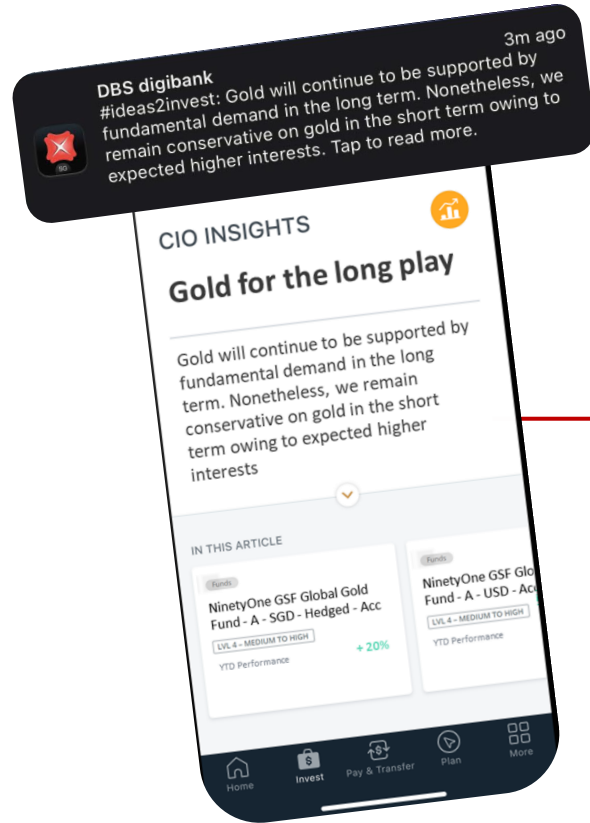
# ... leading to informed discussion between RM and client



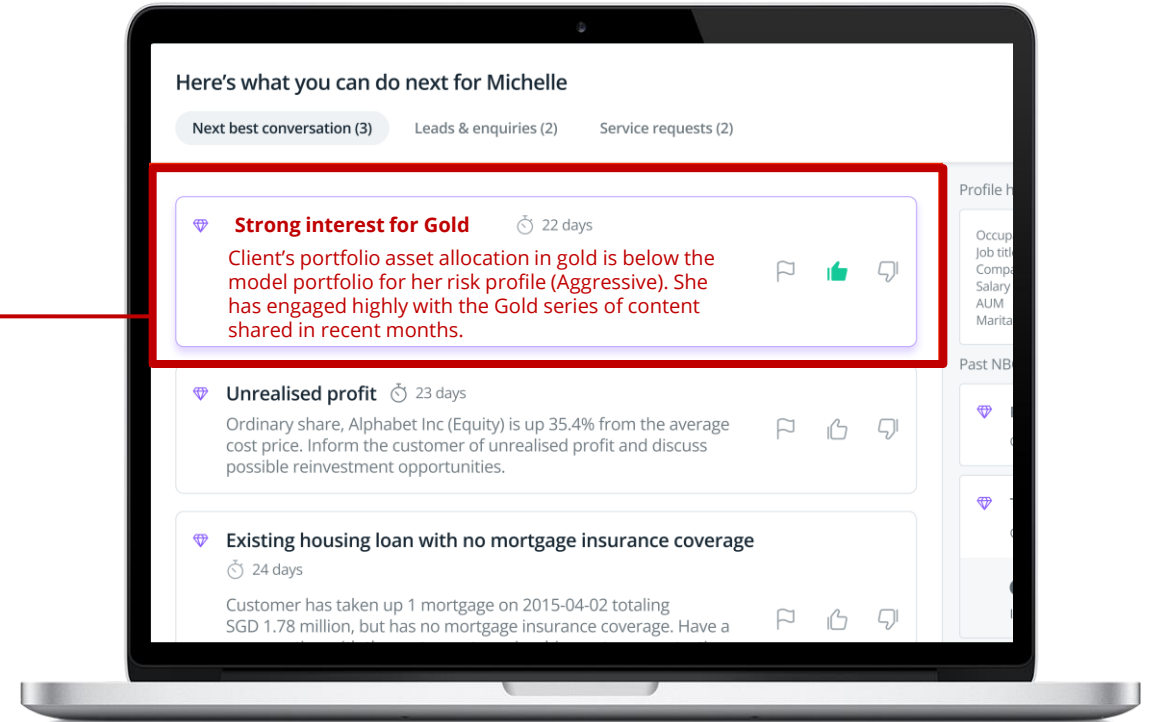
‘Next Best Nudge’



‘Next Best Conversation’



Delivering differentiated client engagement



Client Connect



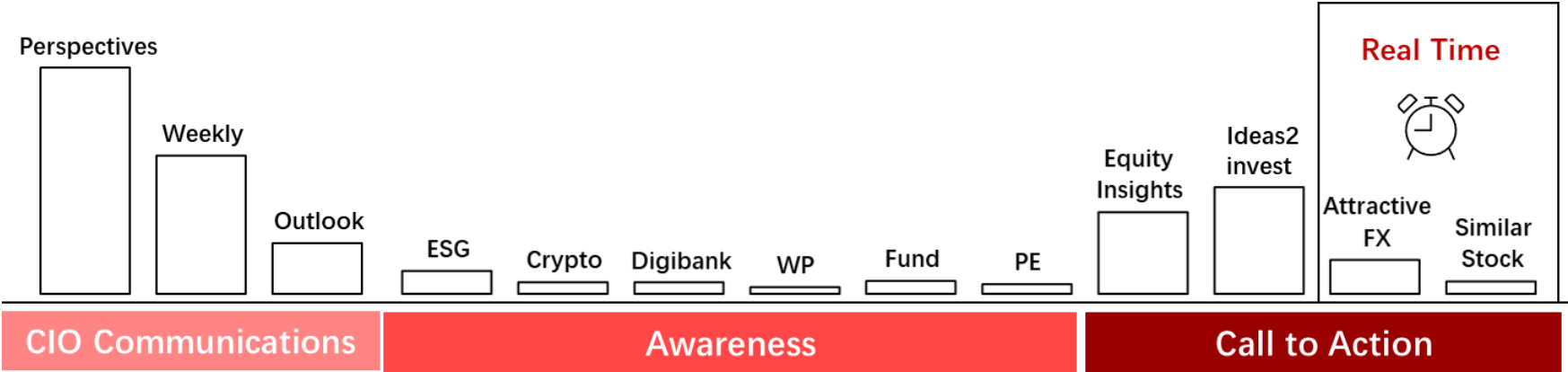
Digibank Wealth



# Driving value from 'Phygital'

>1.4m  
nudges sent

Nudge Library





**Higher uptake of legacy planning**



**Better utilization of early-matured investments**



**Increased client actions on unrealised gain/loss nudges**

# Redefining Private Banking for a new era – personalised, sophisticated and AI-powered solutioning



## Traditional private banks



## Bringing together the best of both worlds

- Future-ready Wealth Managers
- Innovative Products & Solutions
- Phygital platform
  - AI/ML powered insights
  - Hyper-personalised advice
  - Dynamic portfolio optimisation

## Digital-only platforms





***Fundamentally changing “how” we engage our Clients...  
...demonstrating “real” Client / Business outcomes***



**DIGITAL**

**TRANSFORMATION 2.0**

I n v e s t o r   D a y   2 0 2 3

## **Global Transaction Services**

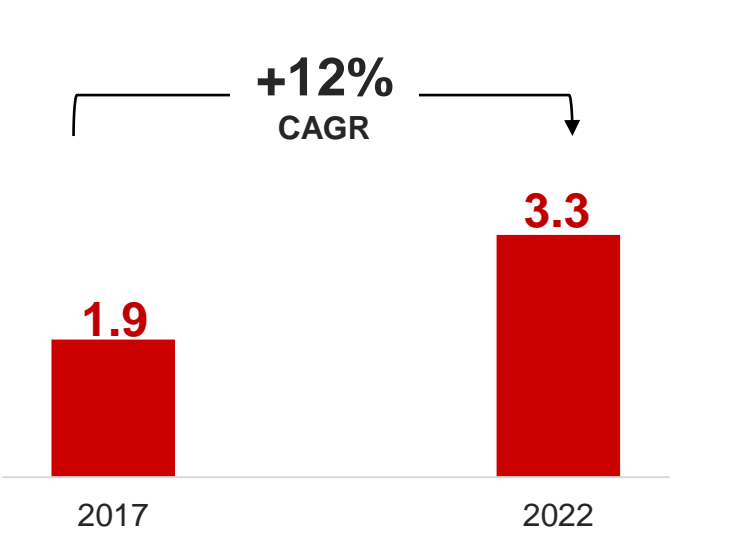
Tan Su Shan

Group Head, Institutional Banking Group

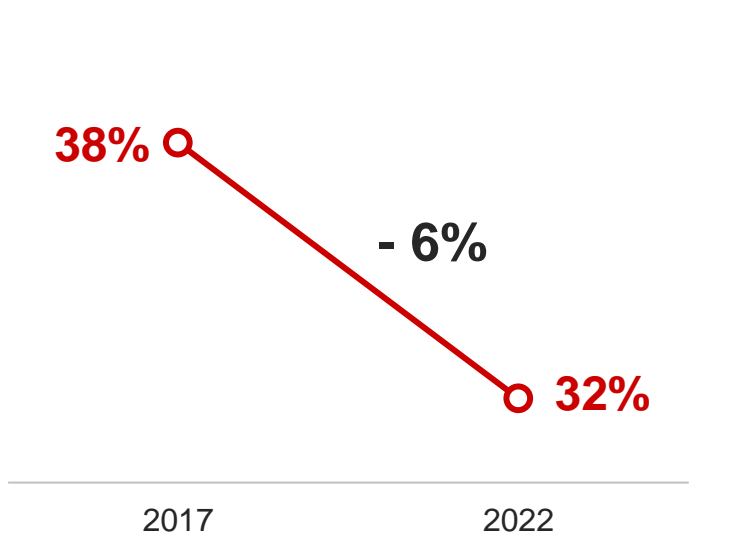
# Digital transformation enabled efficient, scalable and profitable Transaction Banking

<p><b>\$197b</b> GTS deposits 2022</p>	<p><b>~5,000</b> New cash mandates 2017 – 2022</p>	<p><b>110m transactions</b> (\$1T value) on IDEAL 2022</p>	<p><b>&gt;300m API calls</b> from 7m (2019) 2023F</p>
<p><b>Enabled digital E2E supply chain</b></p>			

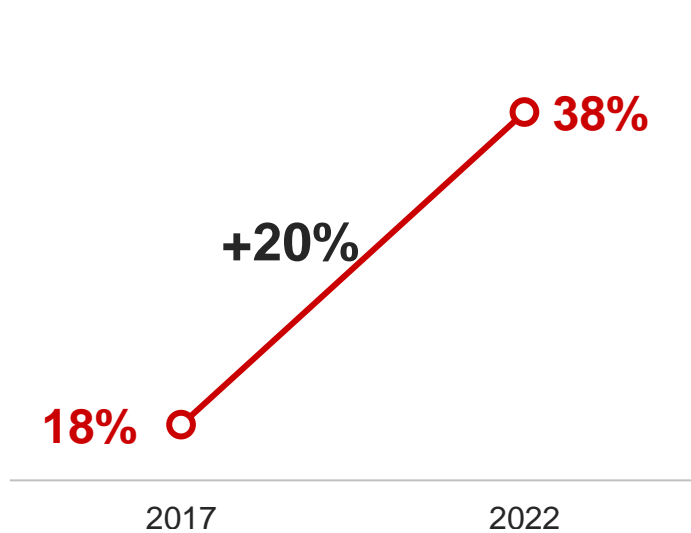
Revenues (\$b)



Cost-to-income (CIR)



Return on Equity (ROE)



# We have leapfrogged established players in our 6 key markets<sup>1</sup>

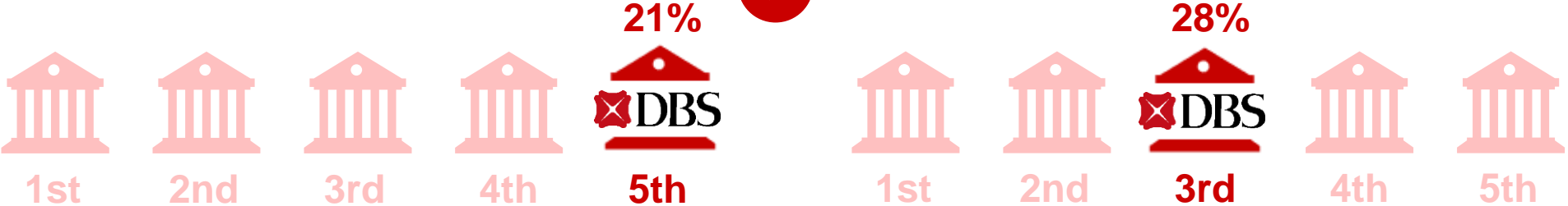
Coalition Greenwich “Voice of Client” – Market Penetration<sup>1</sup>

## Cash Management

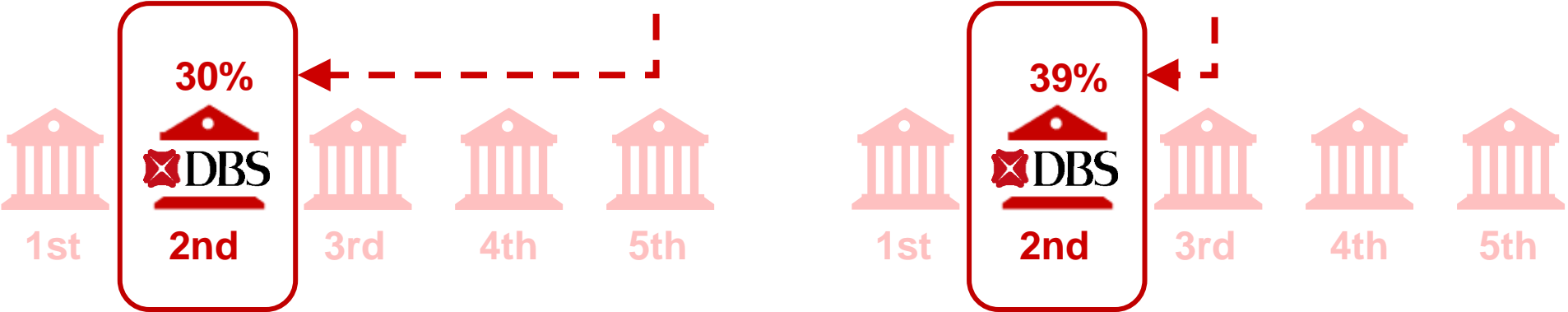
## Trade Finance



2017



2022



1. Source: Coalition Greenwich “Voice of Client” Studies for Cash Management & Trade. Refers to market penetration based on “All Relationships” in DBS 6 key markets (Singapore, Hong Kong, China, Taiwan, India and Indonesia).



# Asia has seen rapid growth in digital economies, powered by big shifts on both demand and supply side



- Demand shift to **online**
- Voluminous, **transactional level processing**
- From batch to **real-time transaction processing**



- **Global trade** shifts & increased intra-Asia Pacific flows
- Just-in-Time to Just-in-Case: Increased demand for **inventory financing**
- **Platforms** are a lot more active in the **supply chain space**

# We have made a paradigm shift in transaction services to enable customers' digital transformational journeys

**Architecting  
product processors**



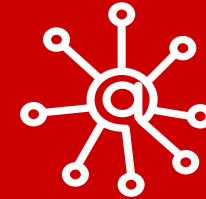
**24X7 availability, scalability &  
cost advantage**

**Leveraging real-time  
rails**

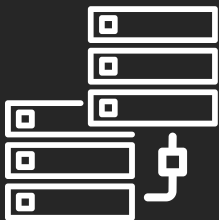


**Instant transactions and  
intelligent routing**

**Intelligent information  
on demand**



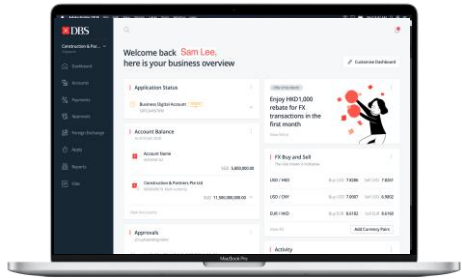
**Instant reconciliation, alerts  
and notifications**



**With connectivity & easy integration enabled through our  
Digital channels, APIs and micro-services**

# Our digital channels and API connectivity enable our clients' business transformation

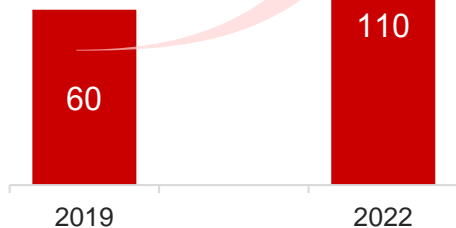
## 1 DBS digital channels – web portal and app



- Customisable interfaces and personalisation powered by APIs and micro-services
- Data-driven engagement and servicing nudges



>80% growth in IDEAL transaction volume ('m) over the last 4 years

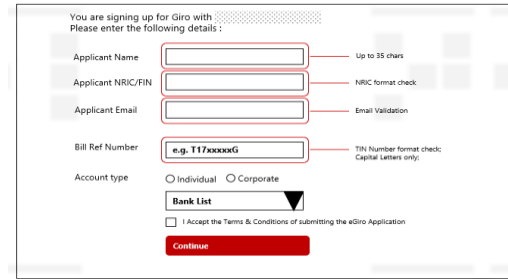


★★★★★  
**4.7/4.9**  
 Web Mobile DBS IDEAL Post Logout Rating (out of 5)

**>20m**  
 Contextual client nudges p.a.



## 2 Embedded finance – via clients' digital channels

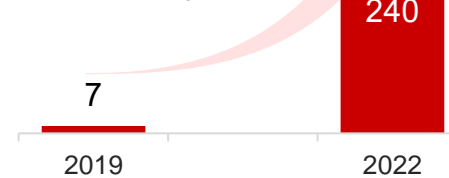


Our APIs & micro-services power clients' digital channels. Some use cases:

- Authorisation set-up of school fees collections
- E-commerce check-out payment services



>32X growth in (client) API call volume ('m) over the last 4 years



>300m API calls in 2023F

**SWIFT GPI**  
 First to launch for clients in SG & HK

# We handle high volumes via instant fulfilment and real-time payment capabilities

Easy to integrate, high throughput & optimised for speed & costs

Enable instant fulfilment use cases which other banks cannot easily do

## Architecting product processors

High concurrent throughput & handle enriched real-time info



**Intelligent information on demand**  
Instant reconciliation, alerts and notifications

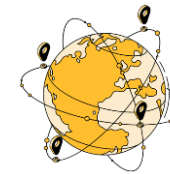
**Leveraging real-time rails**  
(i) Multiple local currencies  
(ii) Intelligent routing of cross-border transfers



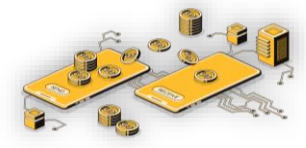
**Business-to-consumer companies**



**Govt transfers & fee collections**



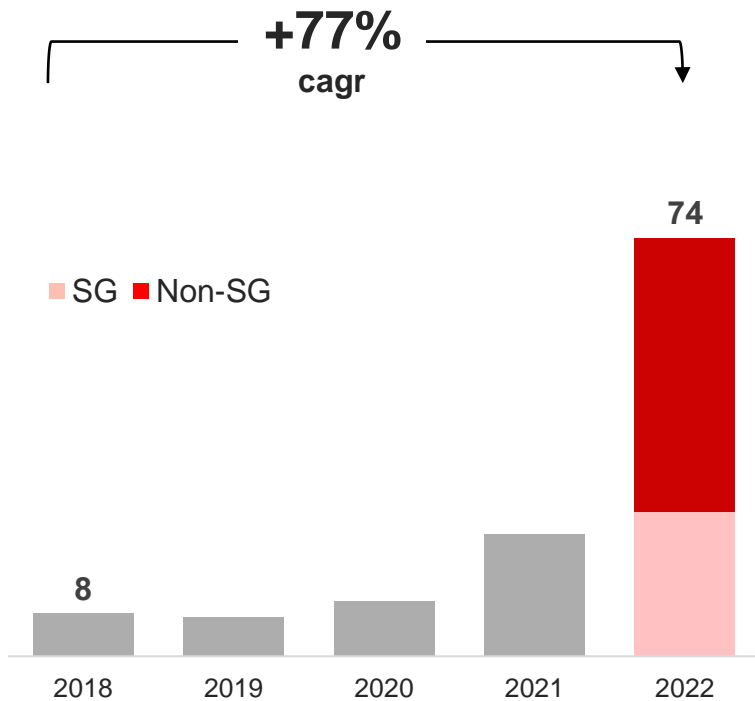
**Payment platforms / aggregators**



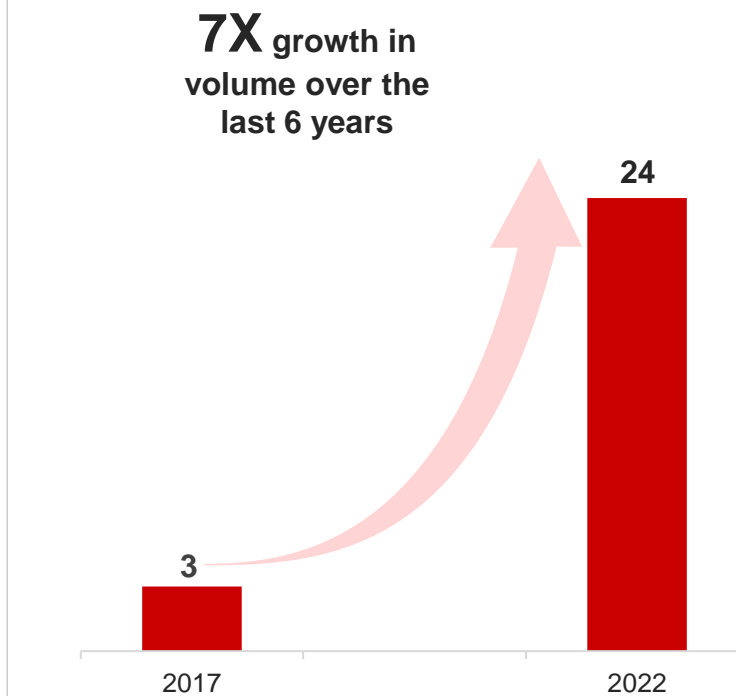
**Non-bank financial institutions**

# Growth in payments business: clients value our ability to perform convenient and efficient transfers

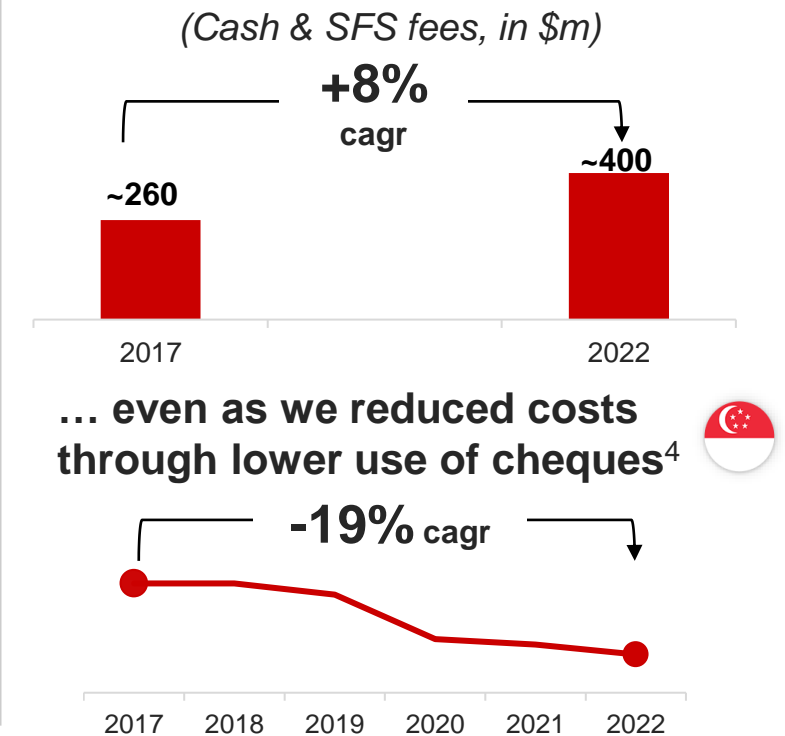
**1 Strong growth in domestic<sup>1</sup> payments...**  
(transaction count, in millions)



**2 & Low value cross-border<sup>2</sup> payments**  
(payment volumes, in \$b)



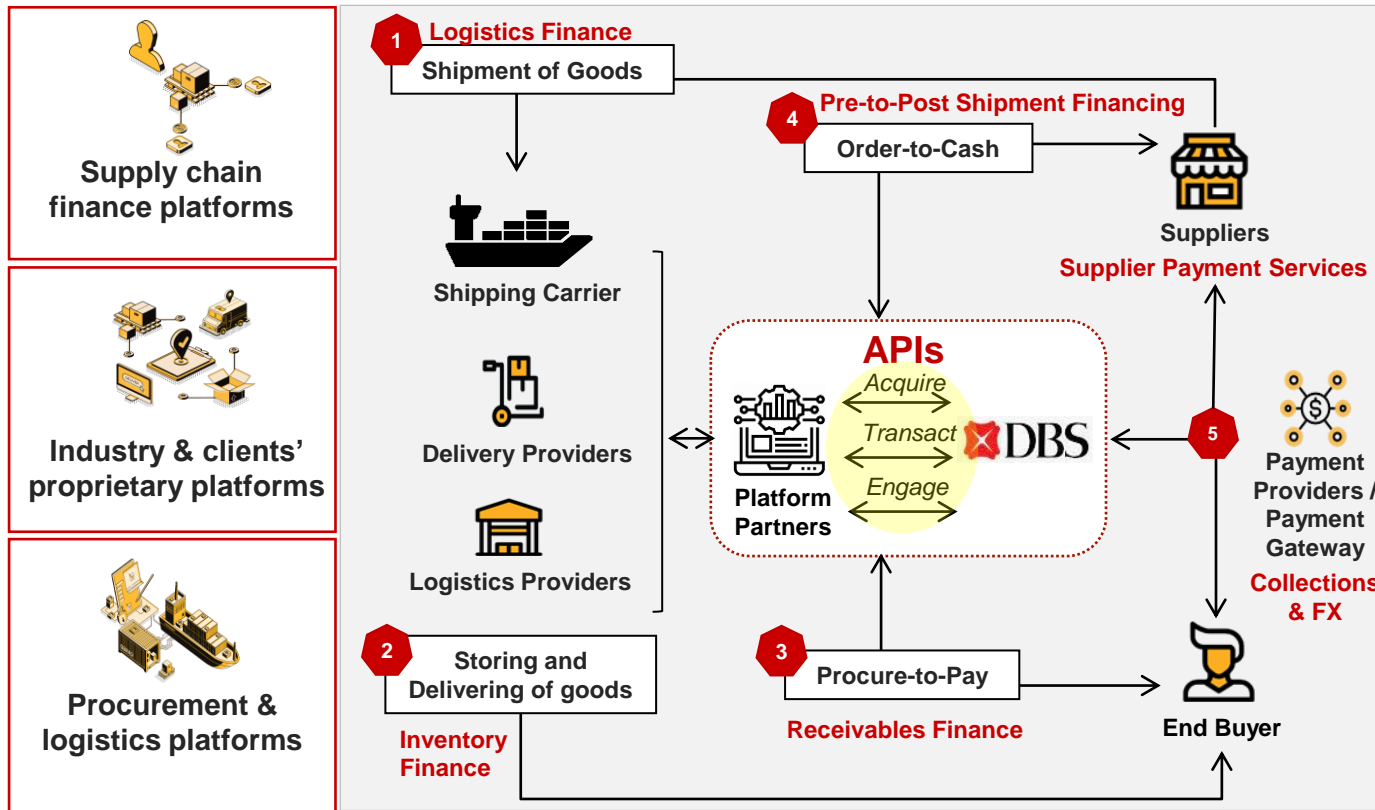
**3 Industry leading fee growth, driven mainly by payments & settlements<sup>3</sup>**



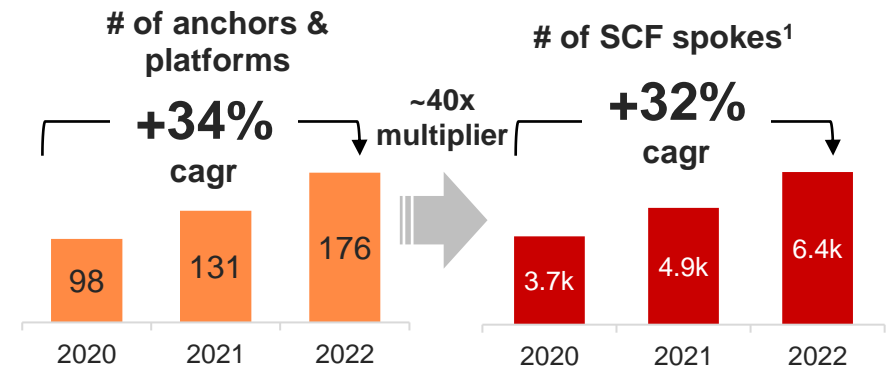
# SCF: Our API and core processing capabilities powered our growth via a platform-led & anchor-led approach

## Connected to platforms & anchors

### Developed multiple use cases across various Business Processes

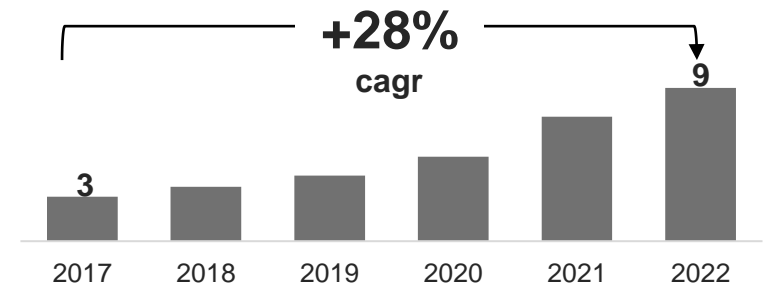


## ...to power growth



### Strong growth for SCF assets, with growth accelerating after FY20

SCF asset EOP balances (\$b)

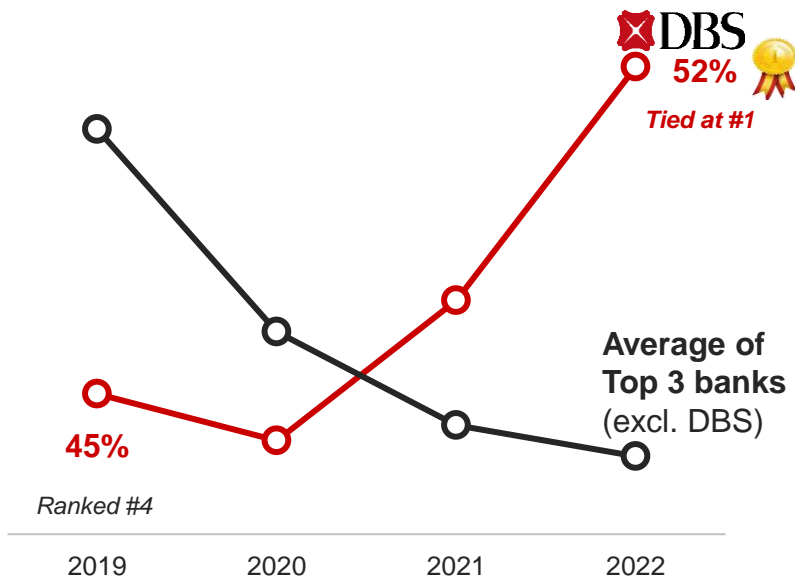


# Increased overall market share gains and relevance of GTS to Group

1

Increased penetration across DBS' 6 key markets<sup>1</sup> & distinctive in helping clients through the pandemic<sup>2</sup>

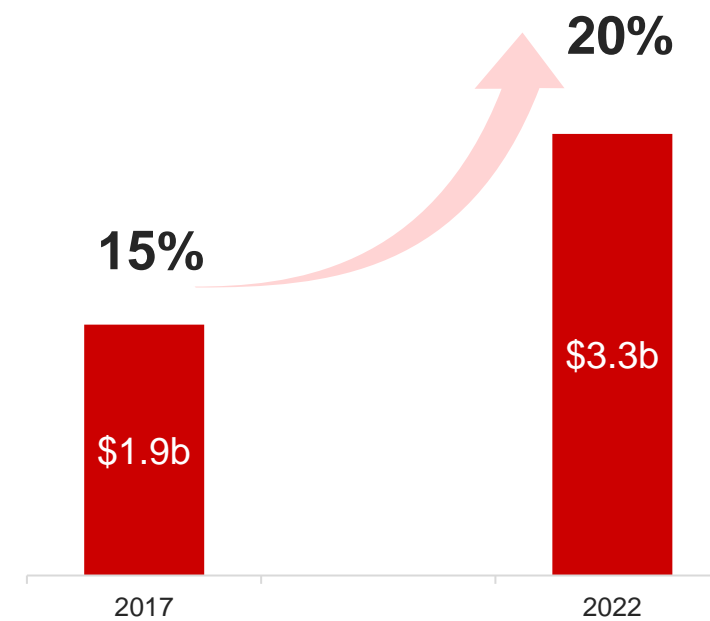
## Large corp banking



2

Significant contributor to Group income

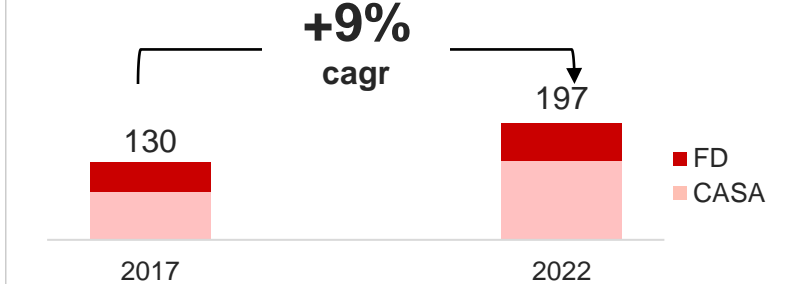
## % of group income



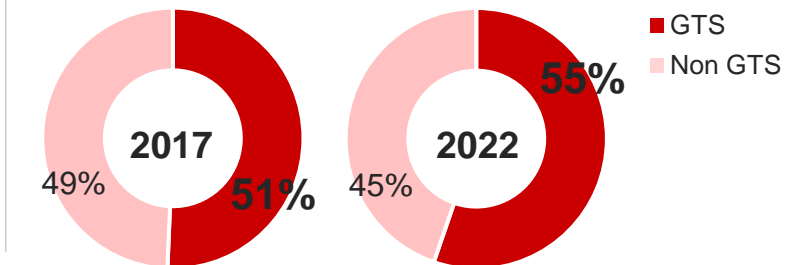
3

Increasingly an important source of funding for the Group

## GTS EOP deposit balances



## % of group deposits outside SG



1. Source: Coalition Greenwich Asia Large Corporate Banking Study 2023 . Refers to market penetration based on “All Relationships” in DBS 6 key markets (Singapore, Hong Kong, China, Taiwan, India and Indonesia). At 52% , DBS is tied with another bank at #1.  
 2. Awarded the Most distinctive bank in helping clients mitigate the impact of Covid-19 (Greenwich Associates, Large Corporate Trade Finance Study, 2020)







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## **Treasury & Markets**

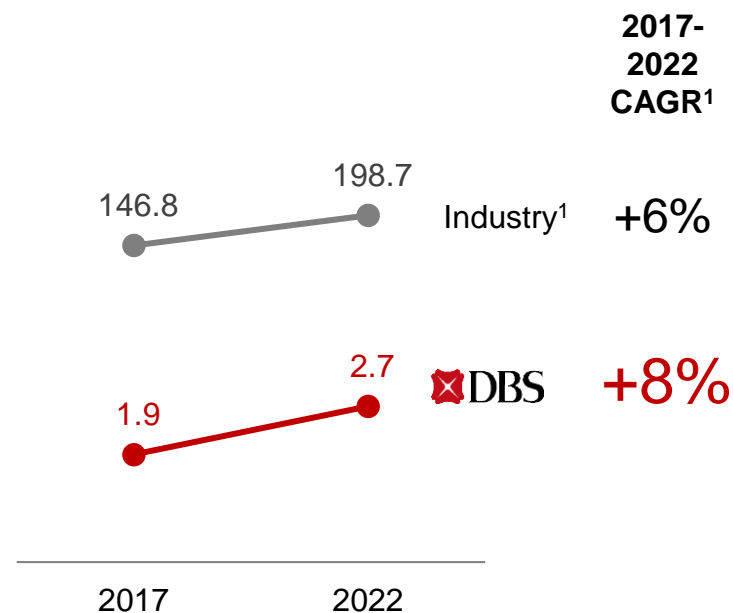
Andrew Ng

Group Head, Treasury & Markets

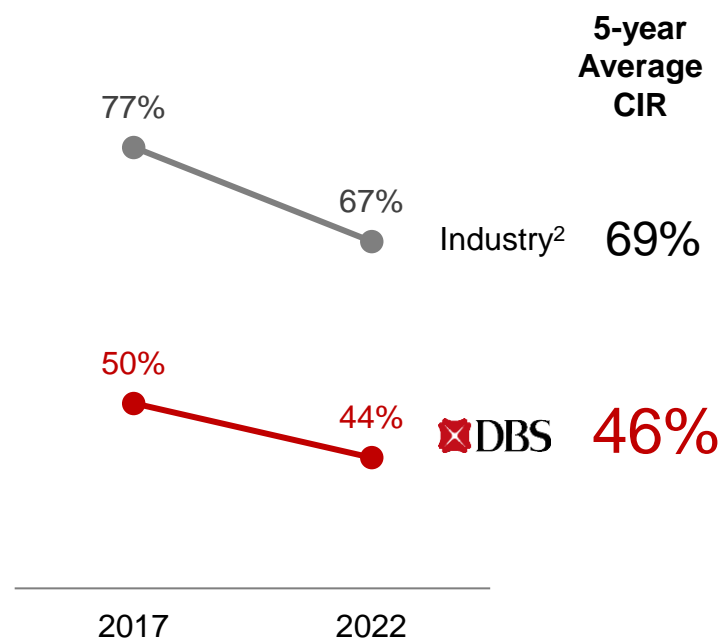
# T&M is outperforming industry peers across income, cost-efficiency and ROE

- **+8% FICC and equity product revenue CAGR growth** between 2017 to 2022, vs. industry at 6%
- **Cost-to-income ratio and return on equity** outperforming industry benchmarks

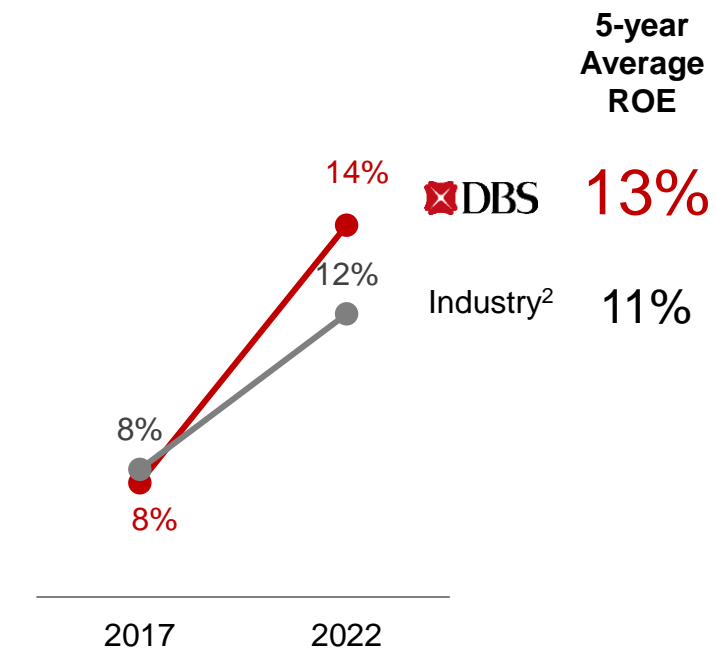
## Revenue (FICC + EQ) (\$b)



## Cost-to-Income (CIR)

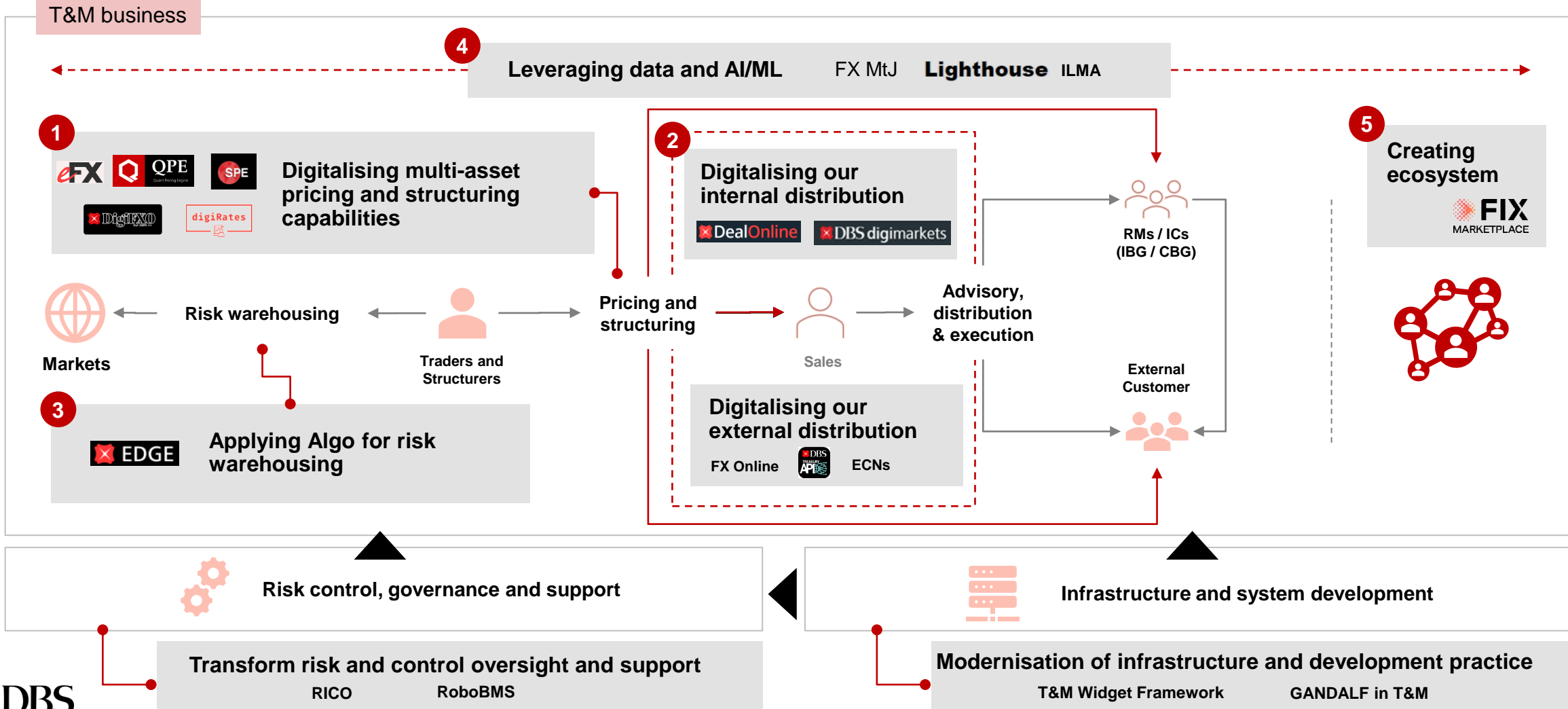


## Return on equity (ROE @ 15% tax)



1. Industry data source: Coalition Greenwich Analytics – Coalition Index for Investment Banking. 2017-2022 CAGR excludes revenues relating to M&A, ECM and DCM businesses  
 2. Using internal benchmark data of the same 12 peer banks used in Coalition Greenwich Analytics. ROE for DBS & peer banks are normalised on post tax basis using tax rate of 15%

# We successfully drove a multi-year digital transformation across the entire T&M business



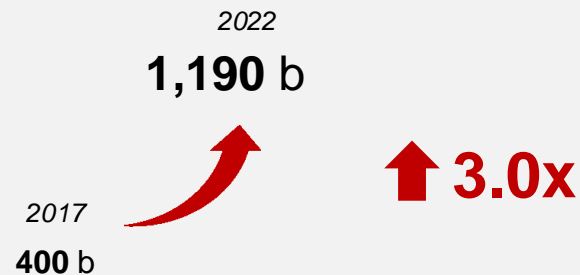
# 1: Digitalising multi-asset pricing and structuring capabilities to drive volumes

## Foreign exchange



- Co-located FX rate engines for **low latency pricing**, powering innovative FX services in the bank

### eFX volume growth (US\$)



## Derivatives



- **60x faster price response** using cloud Graphics Processing Unit (GPU) farm
- **Streamlined E2E workflow** for auto-pricing and execution
- **Highly scalable** with APIs, microservices and cloud

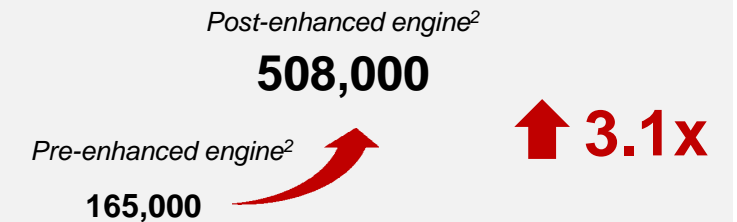
### Annual no. of RFQ responded for FX derivatives



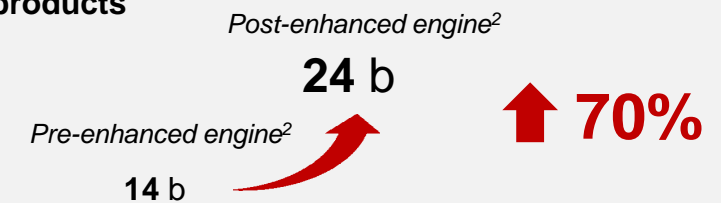
### Annual volume (US\$) for FX derivatives



### Monthly average of no. of RFQ responded, EQD<sup>3</sup> products



### Average annual customer volume (S\$), EQD<sup>3</sup> products



1. Distribution system went live 2019, hence RFQ data available since 2020

2. Pre-enhanced engine: based on data from 2017 to 2020 before new in-house price engine implementation; Post-enhanced engine: based on data from 2020 (engine implementation) to 2022

3. EQD: Equity derivatives

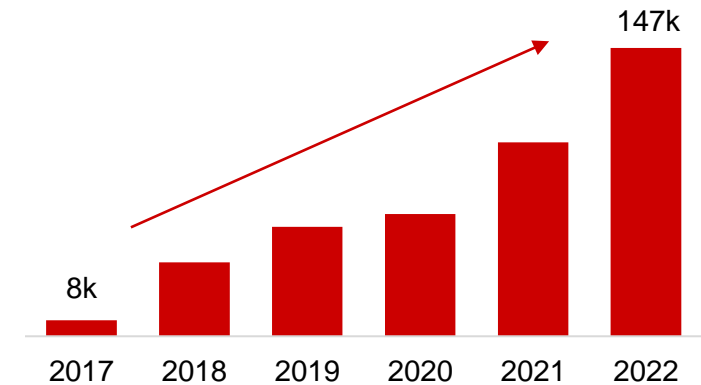
# 2: Digitalising distribution internally and externally to improve transaction lead time and drive seamless customer service

## Internal distribution



- Reducing transaction lead time from 6-8 mins to 1 min<sup>1</sup>.
- Covering pre-trade check and post-trade entry to **increase efficiency and mitigate operational risks.**

DigiMarkets transaction count since launch in 2017

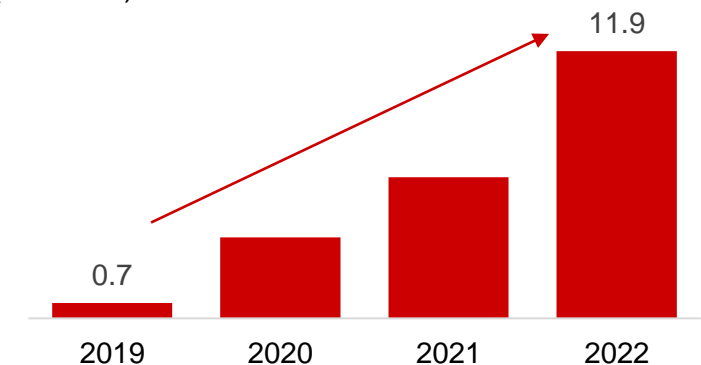


## External distribution



- **FX Online** – Offering a transaction portal for seamless customer self-service
- **FX API** – Focusing on B2B2B & B2B2C models, with direct connectivity to client platforms

Treasury API transaction volume since launch in 2019  
(in US\$ b)



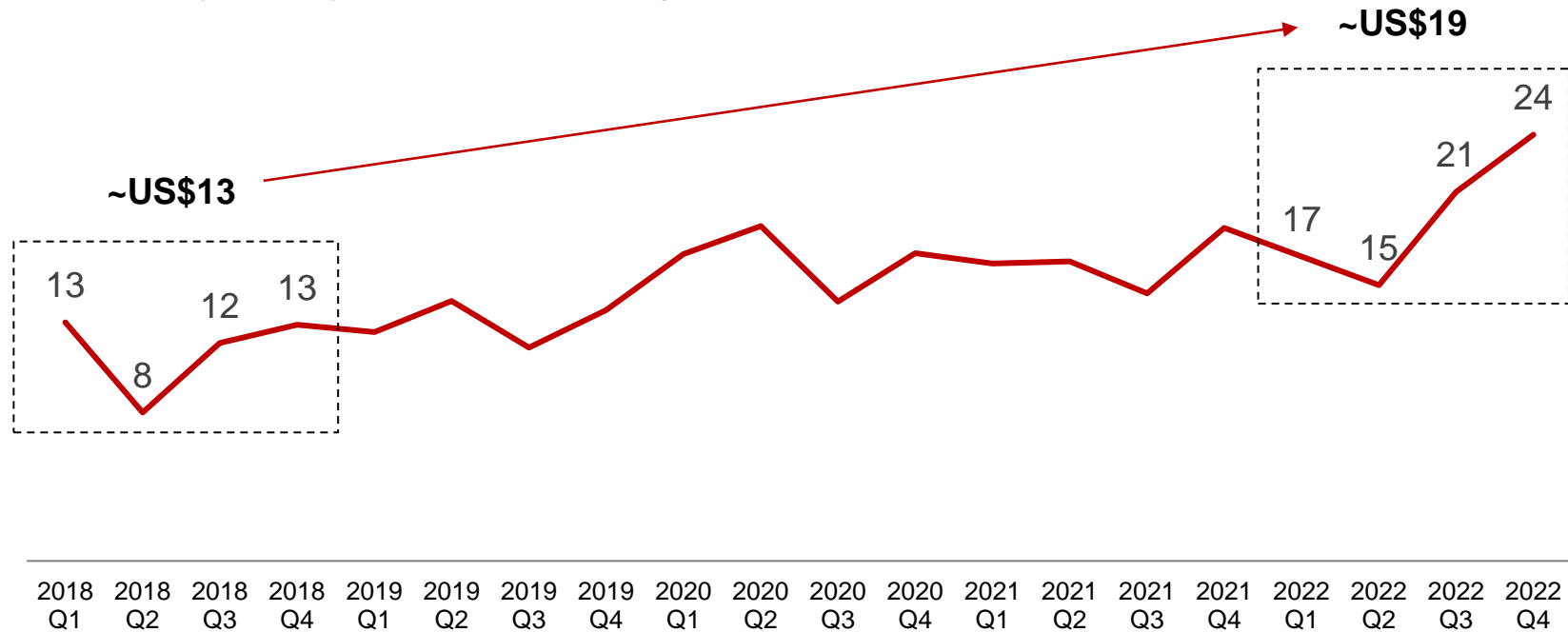
1. For a typical Wealth FX structured transaction

# 3: Applying Algo for risk warehousing and improved trading efficiency

FX Algo



- **Improving competitiveness** on external venues, via predictive pricing
- **Increased scalability and productivity** via in-house built auto-hedging strategies
- **Achieving optimal strategies** through continually iterating on trade profitability analysis
- **Connecting trading platforms** with integrated news and chat



**↑ 45%**

increase in trading efficiency<sup>1</sup>  
over the last 4 years

(measured as US\$ revenue per  
US\$1m volume traded)

# 4: Leveraging data and AI/ML to drive benefits across both sales and trading

Sales



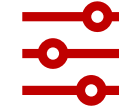
## Scaling up experimentation

- Predicting **customer's propensity to trade** based on price sensitivity and activity
- Best time and channels determined for marketing nudges



## Managing event-driven leads

- Feedback loop optimised to **improve conversion rates**
- Machine learning optimised to **prioritise leads**



## Tiering FX dynamically

- **FX tier margins managed** across market movement, competitor offerings, and client behaviour
- **Real-time reaction** to external and internal data

Trading



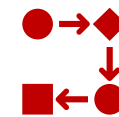
## Managing liquidity and money market trading

- Analytics model to optimise **liquidity management** and **money market auction**



## Enhancing RFQ hit rate

- **Improvement in hit rate** via secondary bond RFQ pricing model



## Improving trading workflow

- AI/ML embedded into trading and risk management workflow to **predict product rollover, cashflow and volatility**

# 4: Leveraging data and AI/ML to improve pricing, client reactivation, and personalised marketing

## AI/ML-driven experimentations and campaigns

### 1. Pricing optimisation

- Analysis of real-time clicks and transaction behaviours to adjust customer spread to optimise revenue

### 2. Clients reactivation

- Opting for nudges over upfront discounts or price cuts

### 3. Trigger marketing

- Analysis of past customer behaviours to push relevant market triggers at the right time and the right channel

#### ✓ Past transaction history

*“Have you booked your USD/SGD rate? Prioritise and take charge of your business needs now. Log on to IDEAL to check out the FX rates today.”*

#### ✓ Last dealt rate

*“Better than before! With the market moving in your favour USD/SGD, lock in your rates NOW!”*

#### ✓ Market events – tie up w/ DBS insights

*“FOMC is coming up on Wednesday, hedge your USD risk now!”*



# 5: Drive ecosystem agenda to improve our capabilities and value proposition

FIX Marketplace



## Capabilities



Digitalized and streamlined **origination workflows**



**Direct order placement and allocation** for investors



Automated **documentation** generation



**Real-time book updates and order tracking**

## Achievements since launch<sup>1</sup>

**\$20 b**

Trade volume (SGD)

**130**

Deal count

## Value proposition



Improved work **efficiency** for issuers, investors and banks



Lower **deal execution cost**



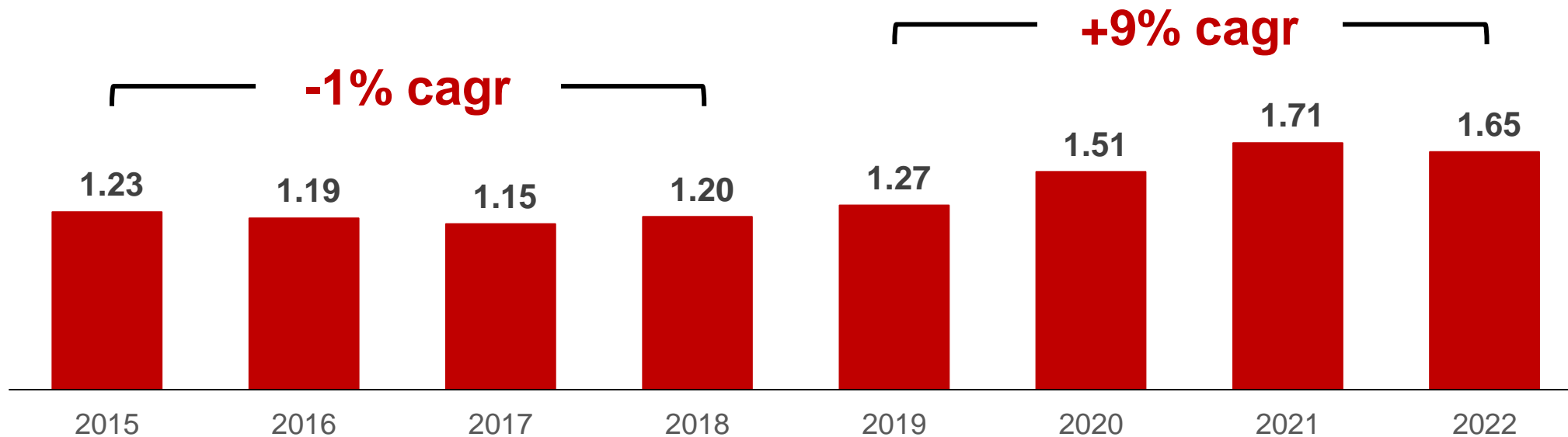
Improved **client experience** to encourage more issuance

## 2 global and 1 regional innovation awards won in 2022



# Well-positioned for sustainable growth driven by growing customer base

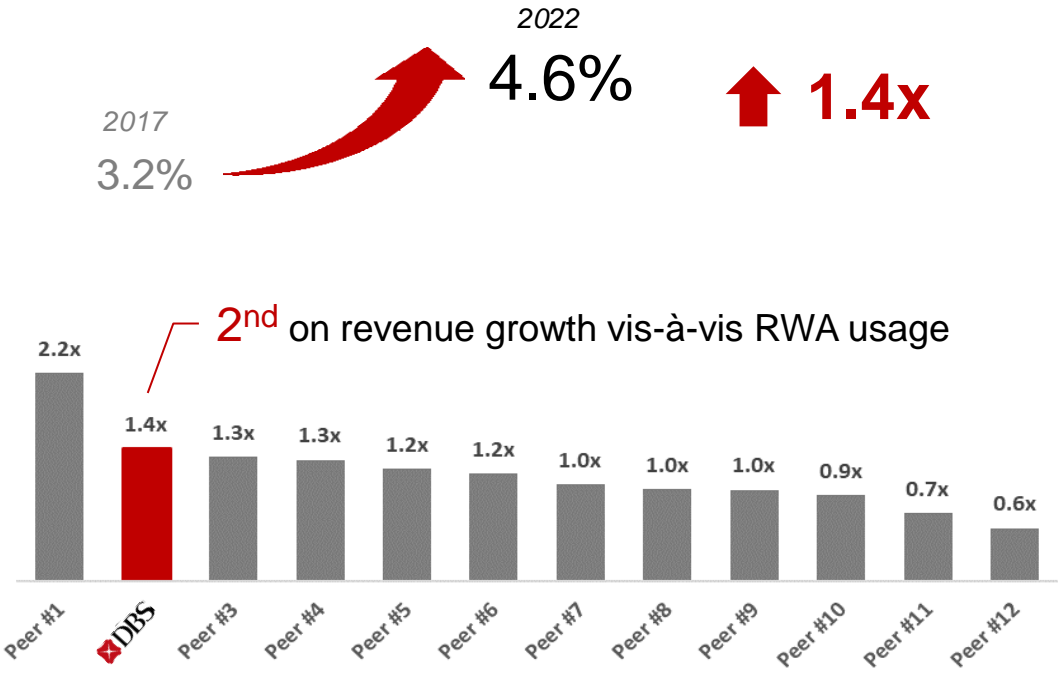
+9% cagr growth in sales revenue (S\$b) from 2019 to 2022 since digitalisation ramp up



# Continue to leverage data analytics to drive capital efficiency

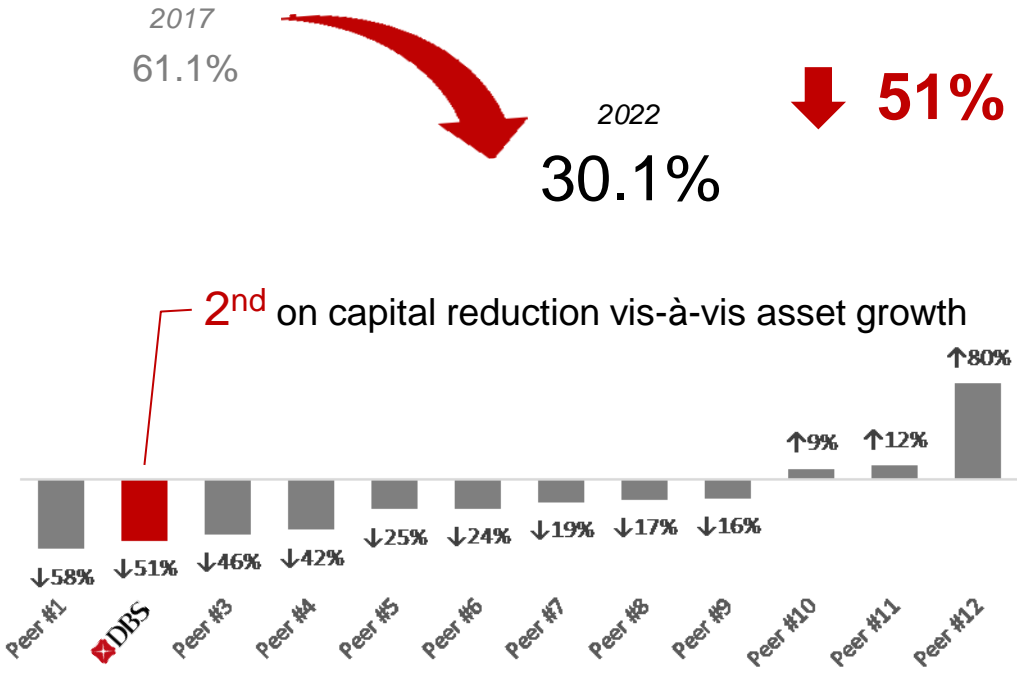
- Data analytics accelerating **disciplined deployment of capital** to ROE accretive opportunities
- **DBS ranked 2nd on capital productivity improvement**, with 2x asset growth and 1.4x revenue whilst maintaining stable RWA

## Increase in Revenue-to-RWA



Revenue-to-RWA growth ranked by banks, 2022 vs 2017

## Decrease in RWA-to-Asset



RWA-to-Asset reduction ranked by banks, 2022 vs 2017

# Digital transformation efforts will only strengthen with time and enable multiple value unlocks

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## Deepening digital capabilities in structuring and warehousing

Enhancing product structures in all pricing engines

Extend the use of Algo in overseas trading centres

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## Externalising Digimarkets

Offering the omni-channel Digimarkets experience to external institutional investors

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## Accelerating Transactional FX MtJ

Implementing AI/ML for continuous experimentation

---

## Driving FIX Marketplace adoption

Growing client adoption and transaction volume



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**Growth Market: India**

Surojit Shome

Country Head, DBS India

# Scaling in growth markets

India deep dive

## Agenda

- **Recap of our 2017 thesis:** digital technologies were creating a unique opportunity
- **Testing the digital-only approach** in India clarified the need for a wider physical presence for better results
- **Our phygital evolution** allows us to tap growth opportunities
- **Our strategy:** Accelerating SME & Consumer businesses while deepening Large & Mid Corporate business
- **Our three-pronged execution plan:** Enhance digital proposition and leverage our expanded physical presence
- **Aspiration for the franchise:** Scale profitably to be a leading bank in India

# Recap of our 2017 thesis: Digital technologies were creating a unique opportunity

Shifting to a balanced business mix with a more stable funding profile

**Our hypothesis:**  
Rapid adoption of digital technologies creating a unique opportunity  
*No longer constrained by historic brick and mortar challenges*

**Key Drivers**

- Enabling regulatory and technology infrastructure is changing banking landscape
- Large digitally enabled individuals and SMEs
- Improved data availability for cross-sell and credit

**Digital Business Model**

- Substantially lower acquisition and servicing cost
- Leverage partnerships and rich data
- Ability to scale at a faster pace

**Opportunity to create a scalable digital banking model**

**2016:**  **digibank** by DBS

Launch of India's first mobile-only bank for Consumers

**2017:** *Tally* **Partnership**

Launch of *e-payments* integrated with accounting software for SMEs

# Testing the digital-only approach in India clarified the need for a wider physical presence for better results

## Liabilities

- >10M digibank App downloads and >400K SME leads through Tally partnership
  - However, **high drop offs** in 'digital-only journey' increased cost of acquisition
- ~3.2M consumers acquired but **dominated by transactors** with low balances
  - Target market customers using digibank as a convenient secondary account
- ~37K SMEs acquired but large number of **micro-SMEs**

## Assets

- Fully digital journey for unsecured lending launched in 2017
  - Conversions impacted in the **self-assisted** journey
- Most lending revenue pools (secured consumer loans & SME financing) **not accessible through a 'digital only' model**

## Ecosystem partnerships

- Partners need national presence for better conversions

## Expanded physical network required for

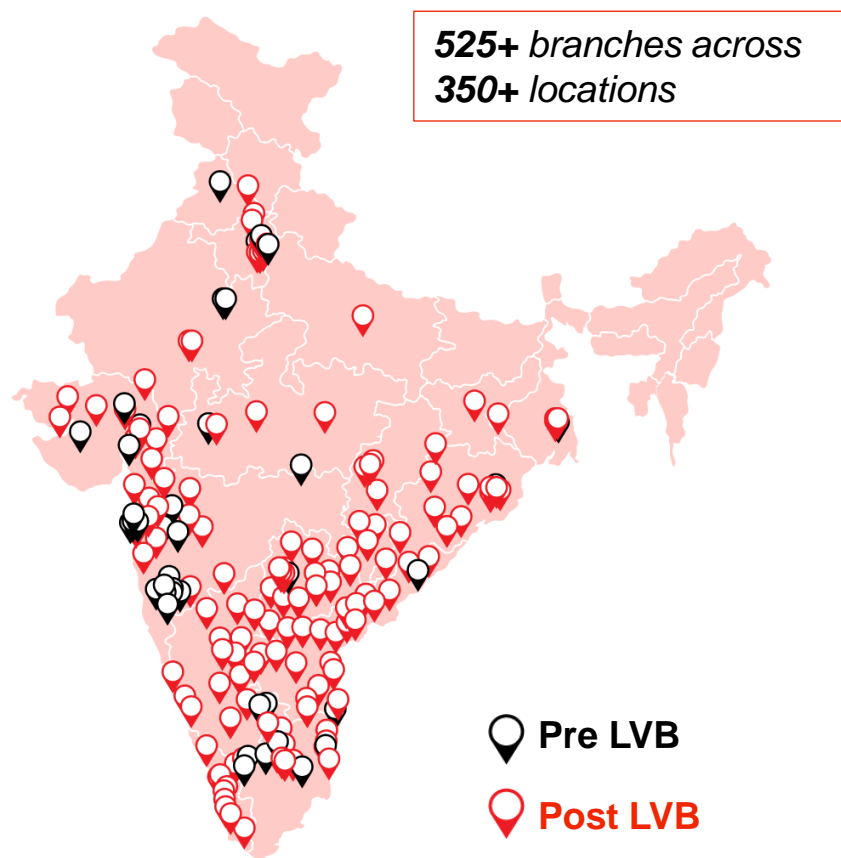
- Assisted digital journey
- Last mile support for transaction intensive products & relationships
- Brand assurance
- Better ecosystem partnerships



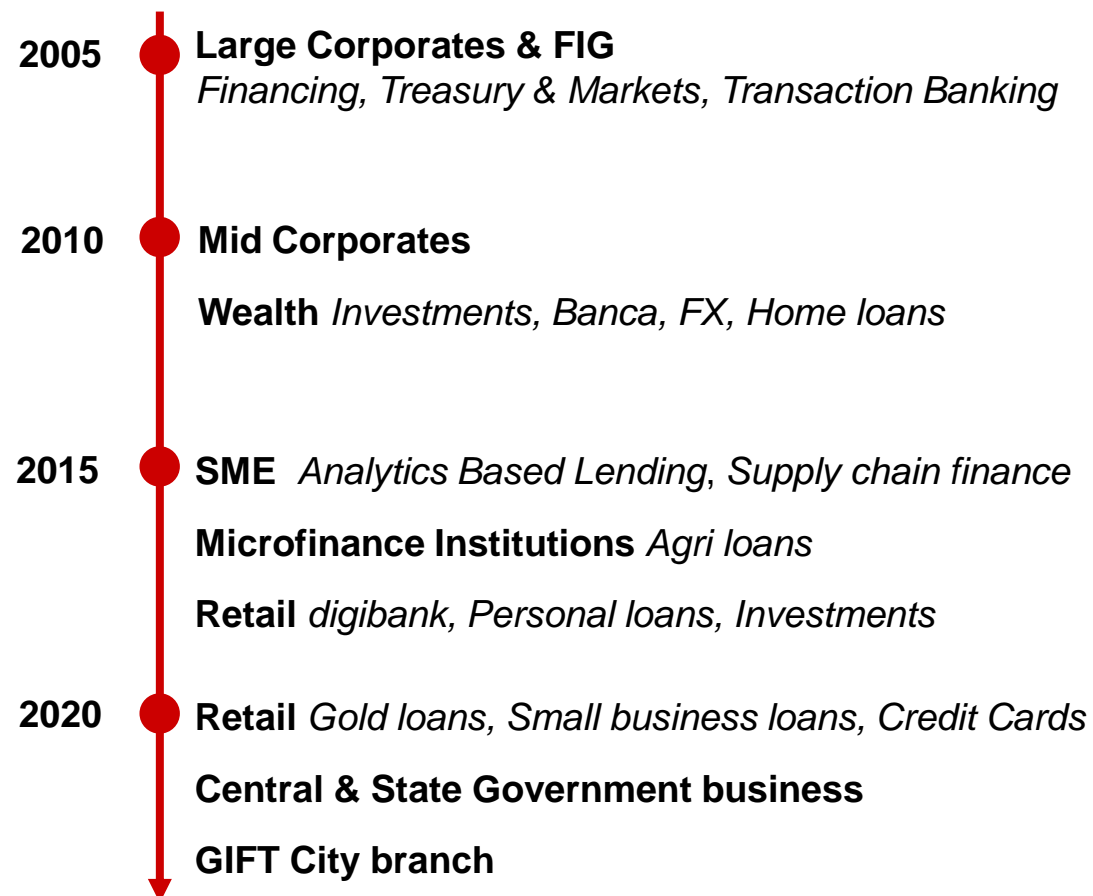
# Our phygital evolution allows us to tap growth opportunities

Access to attractive market opportunity with annual revenues of S\$200-250b p.a. growing at ~10%

>90% phygital accessible via expanded network



~70% targeted via expanded capabilities



# Our strategy: accelerating SME and consumer businesses while deepening large and mid corporate business

<b>Business segments</b>	<b>Strategic priorities</b>	<b>Income 2022-26 cagr</b>
<b>Large cap &amp; FIG</b>	<ul style="list-style-type: none"><li>• Deepen relationship with large conglomerates and industry leaders</li><li>• Expand MNC franchise by leveraging Asian corridors</li><li>• Deepen institutional investor franchise</li><li>• Build central and state government business</li></ul>	<b>~10%</b>
<b>Mid cap</b>	<ul style="list-style-type: none"><li>• Expanded mid cap coverage across top 30 cities with strong industry alignment</li></ul>	<b>~15%</b>
<b>Small &amp; medium enterprises</b>	<ul style="list-style-type: none"><li>• Acquire operating accounts using phygital capabilities</li><li>• Expand analytics-based lending across the network</li><li>• Leverage anchor relationships to acquire at scale</li></ul>	<b>~40%</b>
<b>Consumer</b>	<ul style="list-style-type: none"><li>• Accelerate CASA and retail deposits</li><li>• Scale wealth management for domestic and NRI customers</li><li>• Grow secured loans</li><li>• Scale unsecured loans and credit cards</li></ul>	<b>~60%</b>

# Our three-pronged execution plan: enhance digital proposition and leverage our expanded physical presence

**1**

**Continuing to build out the digital platforms** and Managing through Journeys (MtJ) for scaled onboarding and straight through processing

**2**

**Leveraging expanded physical footprint** to deliver new products, increase client acquisition and deepen relationships

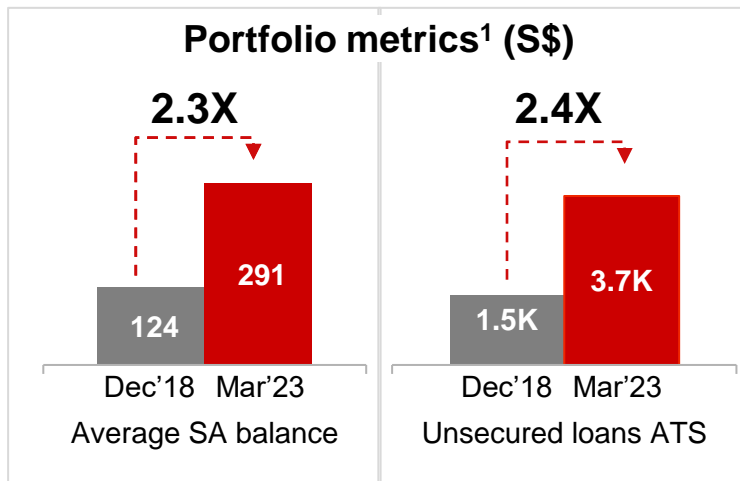
**3**

**Scaling ecosystem partnerships** by leveraging our digital capabilities and national footprint

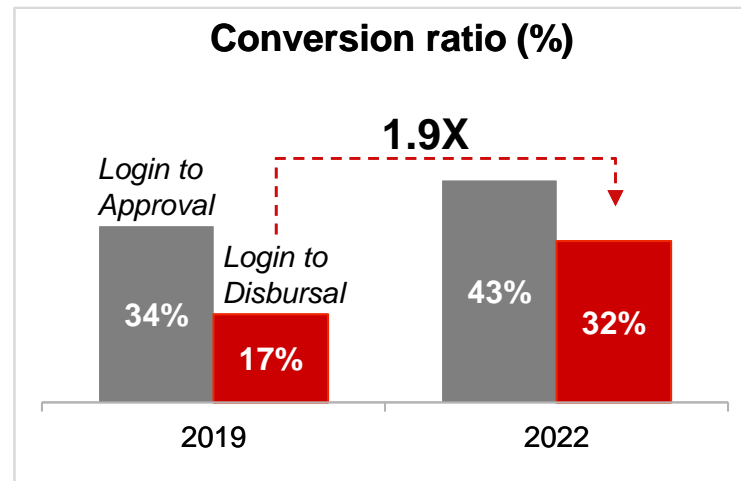
# 1. Building digital platforms and MtJ for scaled onboarding and straight through processing



- **1M digibank** retained customers and **1.4M LVB** customers being migrated
- **83%** new accounts opened digitally
- **5X** growth in revenue per customer including partnerships<sup>1,2</sup>
- Better quality acquisition leading to drop in breakeven from 5 years to 2.5 years<sup>2</sup>

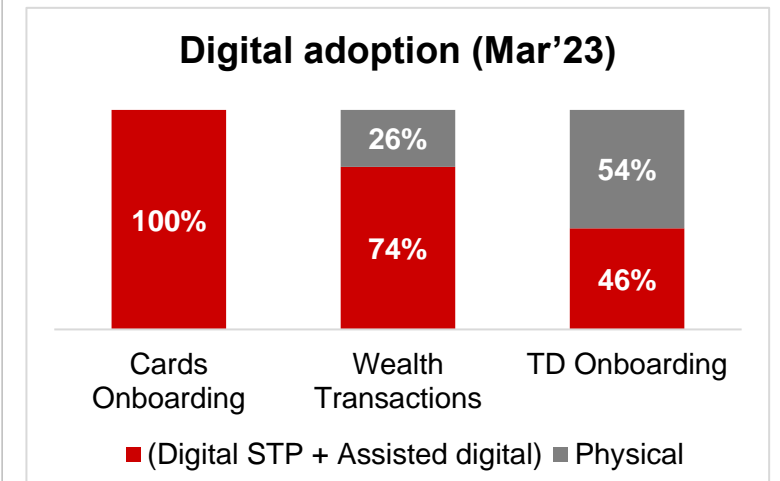


- **12K SFW** customers and **70K LVB** customers being migrated
- **>85%** onboarding digitally initiated
- **4X** growth in Assets; **7X** in Liabilities
- **4.4%** relationship margin<sup>(NIM + Fee)</sup>
- **3.3X** increase in revenue per relationship manager



## Increasing digital adoption

- Increasing share of digital transactions across the expanded customer base
- **80%** of queries on digibank addressed by chatbot
- LVB clients being migrated to digital
  - **2.2X** increase in Trade transactions done digitally



## 2. Leveraging expanded physical footprint to deliver new products, increase client acquisition and deepen relationships

### Branch integration

- All branches rebranded and upgraded
- **90+** branches merged and/or relocated; **~65%** of branches to be profitable by 2024 and **~80%** by 2025

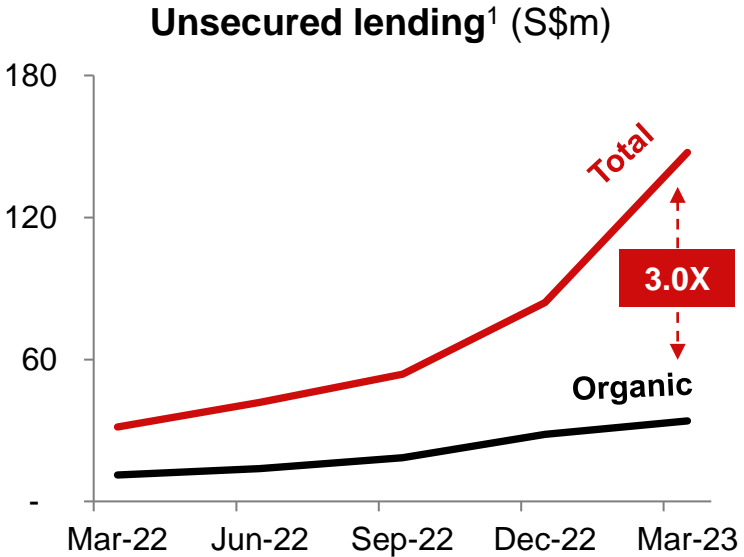
### Assets

- **Gold loans: 300+ locations** on scalable new technology platform
- **Unsecured Loans<sup>1</sup>**: assisted digital journey via branches leading to **10X** increase in monthly acquisitions
- **SME Financing Workflow**: expanded to **100+ hubs** covering **>80%** of major SME centers
- **Supply chain**: covering anchors and spokes across the country

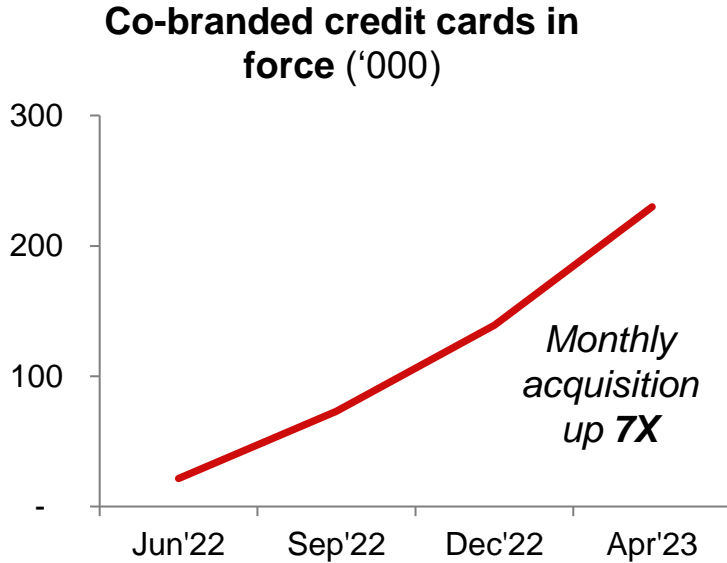
### Liabilities

- **Initial savings account balance<sup>2</sup>**: Phygital sourcing leading to **2X** higher initial balances vis-a-vis digital only channels
- **Consumer time deposits<sup>3</sup>**: **4X** growth in monthly sourcing due to expanded network
- **SME operating accounts<sup>3</sup>**: **3X** growth in new acquisitions and **2X** increase in average current account balances

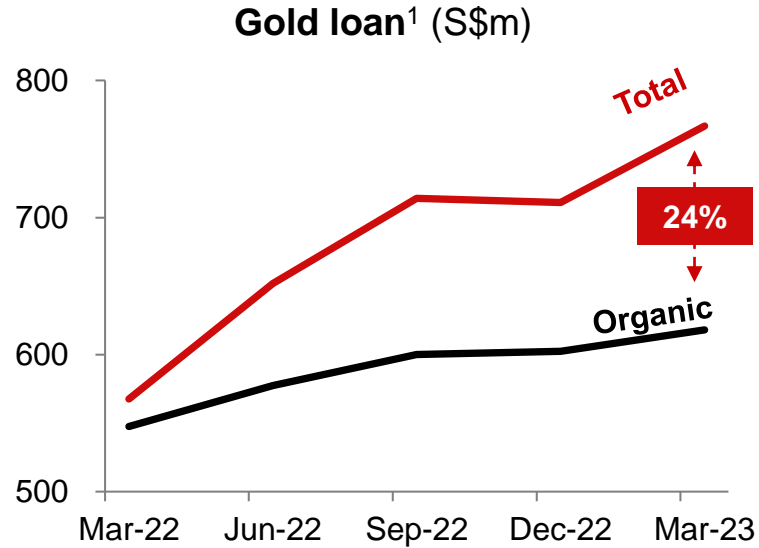
# 3. Scaling ecosystem partnerships by leveraging our digital capabilities and national footprint



- Contributing **68%** of new loans
- More partnerships being added in 2023



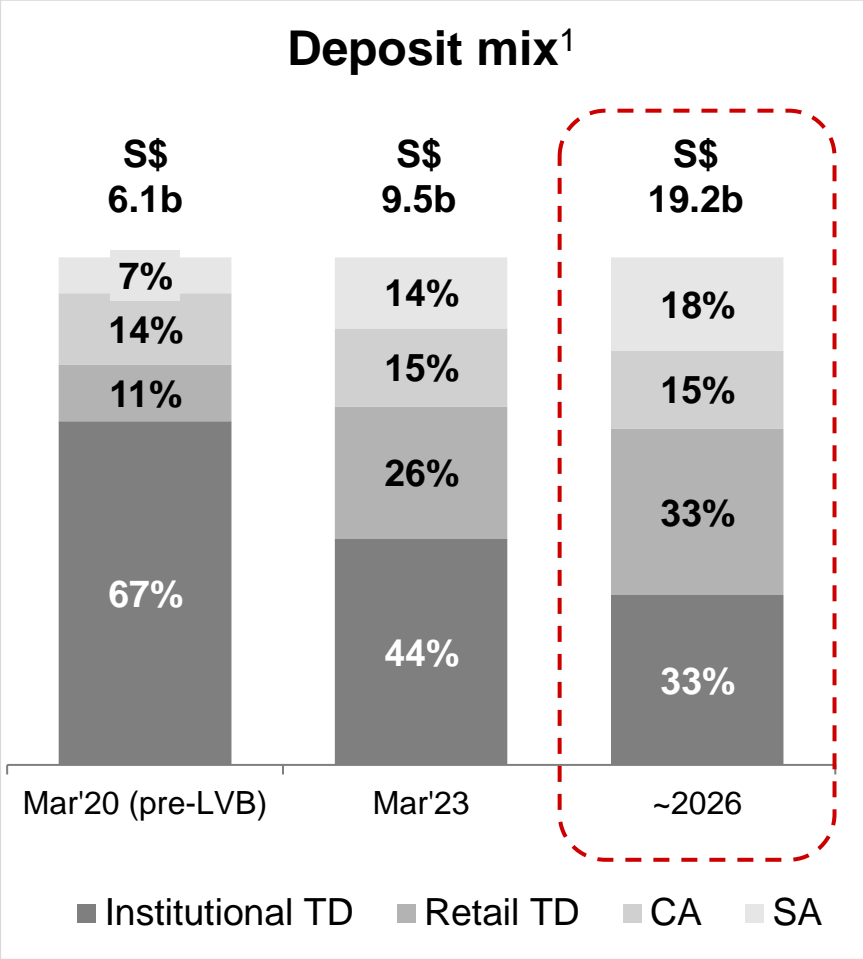
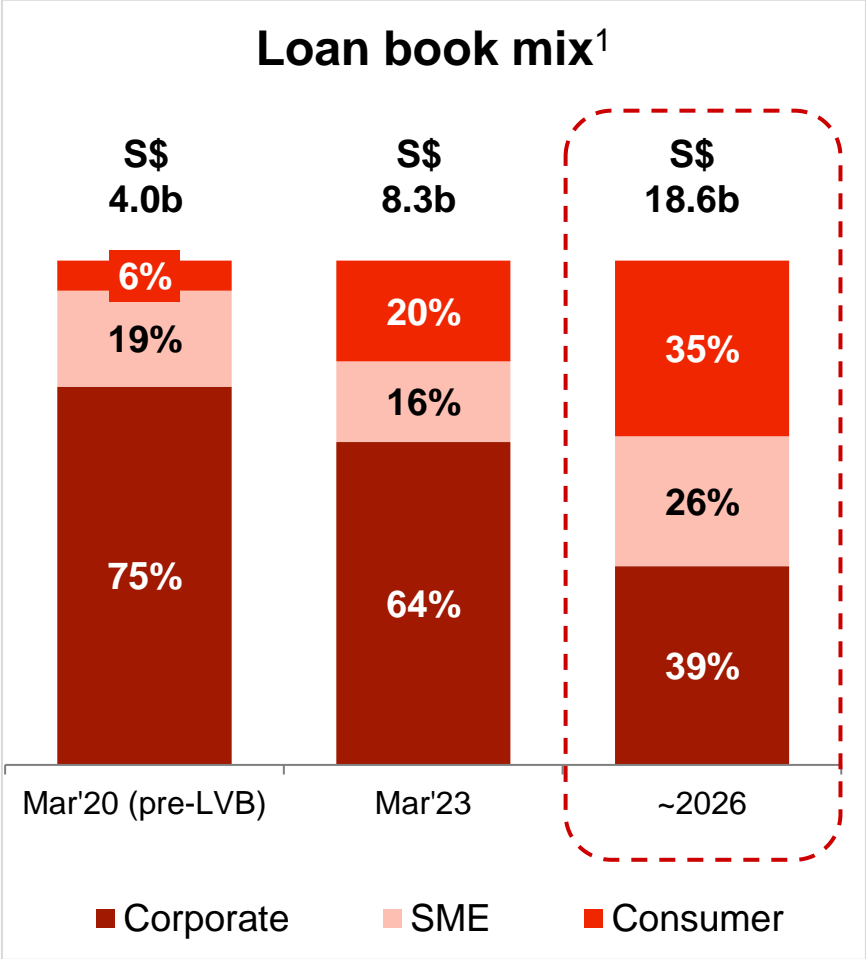
- Adding **~30K** cards per month
- Mobile app penetration (**>85%**)
- Spend per active card above market



- **~50%** customers acquired via partnership
- 2nd partner will be active by Sep'23

In Mar'23, partnerships contributed **~53% (72K)** of new retail accounts opened (**135K**)

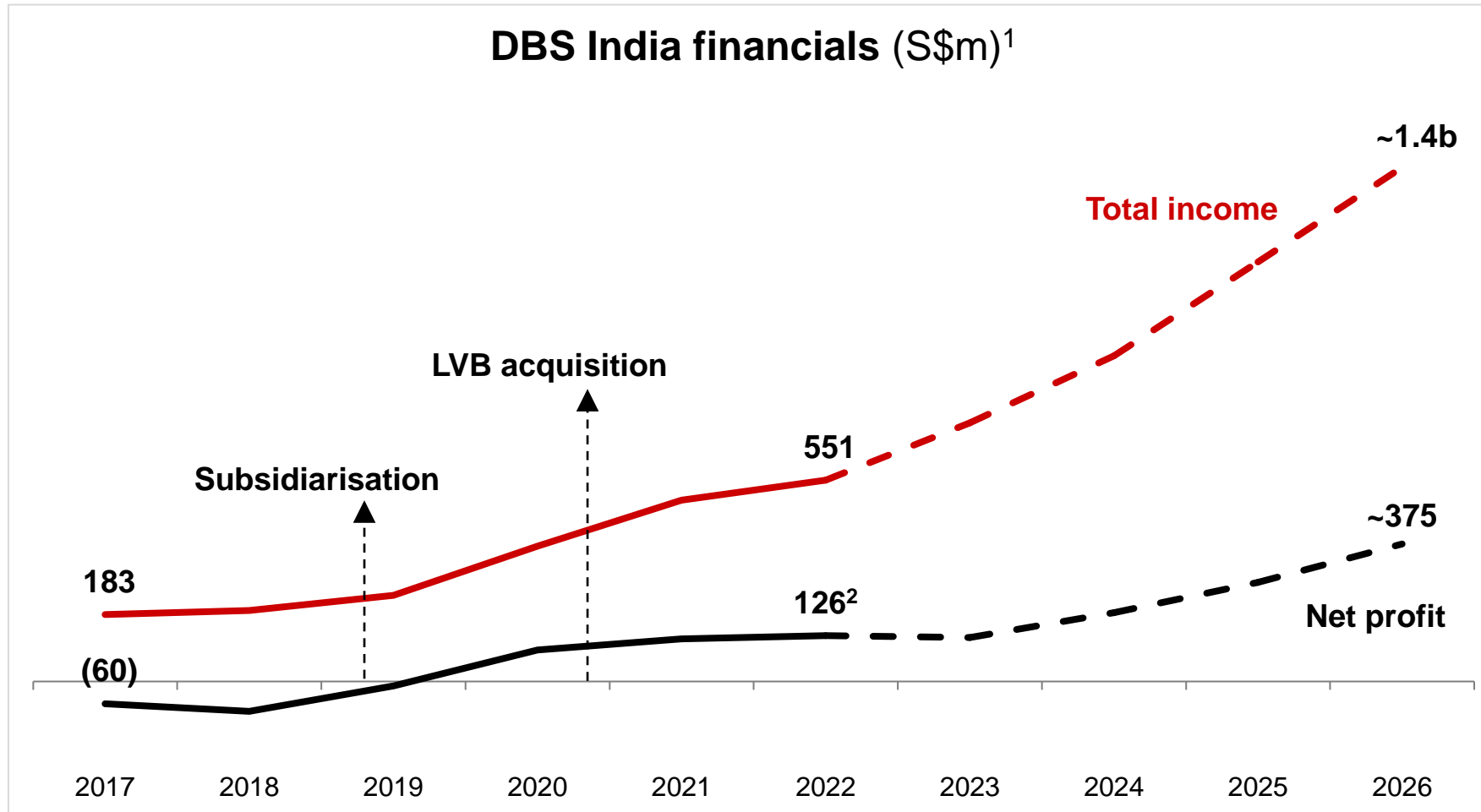
# Aspiration for the franchise: accelerated growth of Consumer and SME businesses



### By 2026:

- Overall loans to grow **2.2x**
  - Consumer and SME loans to grow at **40% cagr**
- **100bp NIM** expansion to enable a higher rate deposit growth strategy
- Overall deposits to double

# Aspiration for the franchise: sustain a 25-30% income growth for improved cost-income ratio and ROE



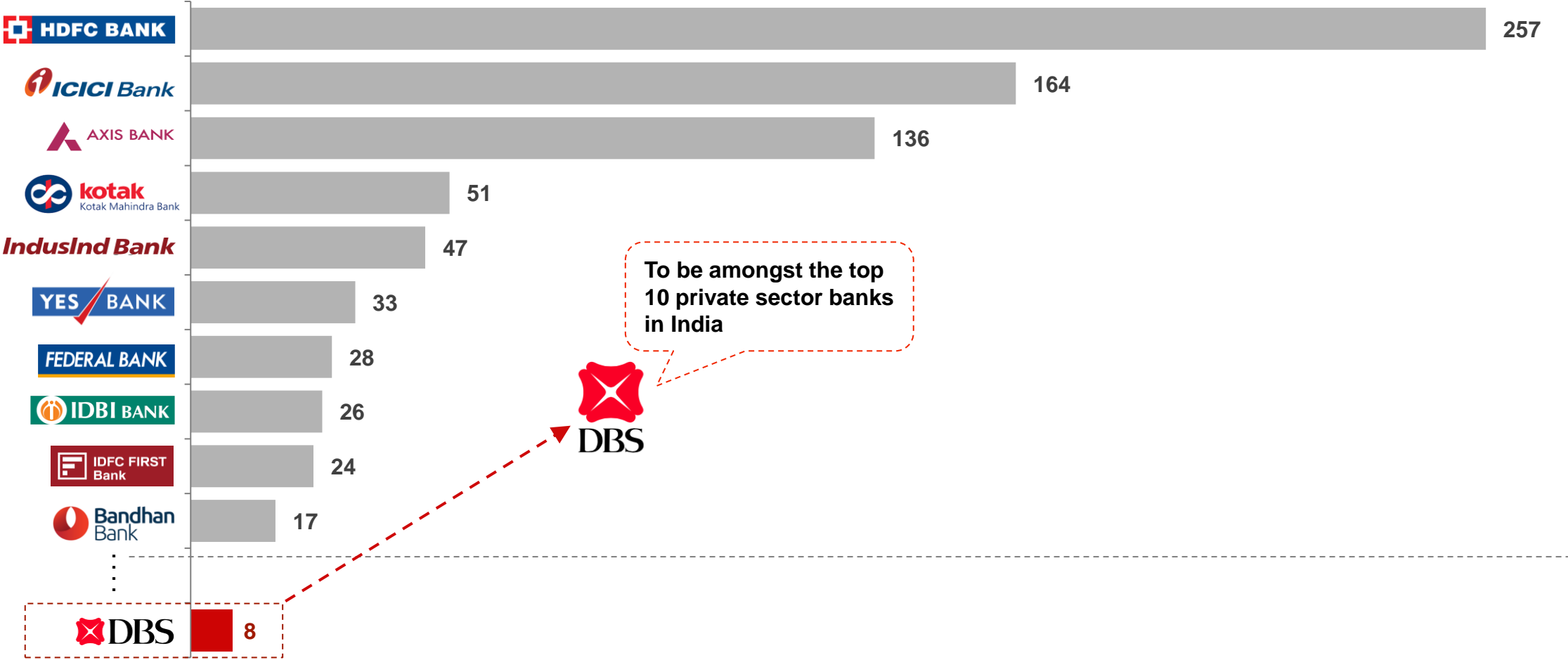
## By 2026:

- Total income projected to grow **2.5X**
- Net profit projected to grow **3X**
- Cost-income ratio to improve from 78% to **57%**
- ROE to increase from 5% to **8%**



# Aspiration for the franchise: scale profitably to be a leading bank in India

Mar'23 loan book (S\$b)





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## **Closing Remarks**

Piyush Gupta

Chief Executive Officer

# Piloted new engines of growth

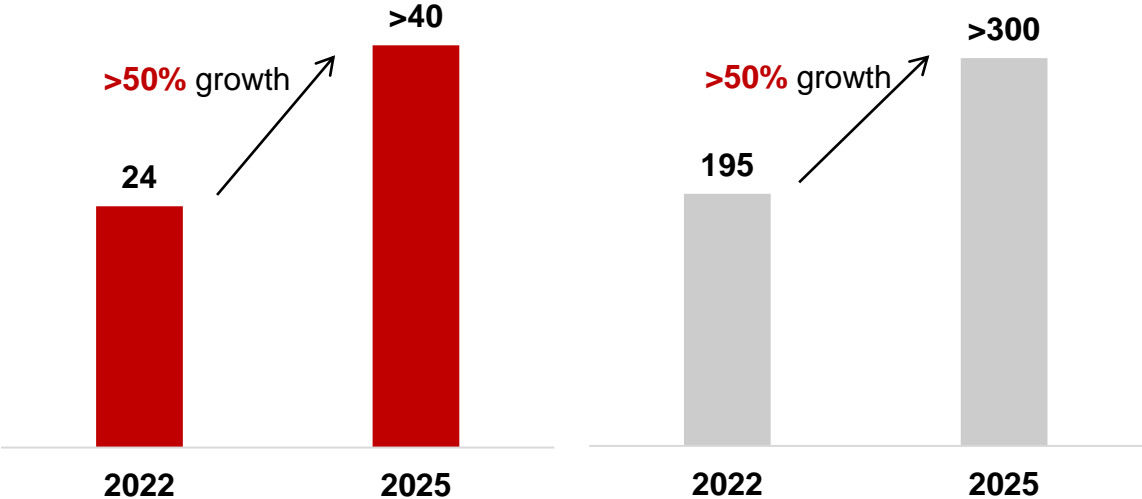
- Cross-border low-value payments
- Digital Asset Ecosystem
- Blockchain-based payments
- Climate Impact X (CIX)
- Mezzanine fund
- Software services

# Piloted new engines of growth

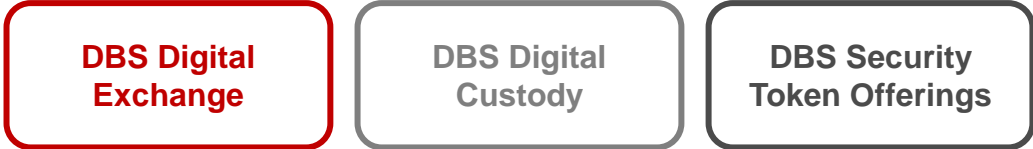
Cross-border, low-value payments

Volume (S\$b)

Revenue (S\$m)



Digital Asset Ecosystem



**20x**  
Investor  
Growth in 2023

**\$80-120m**  
Revenue by  
2025

# DBS – A different kind of bank

- **Built a set of best in class regional businesses (GTS, PB, T&M) and now building depth in local businesses (SME, Consumer) in priority growth markets**
- **Outperformed in core markets and built data driven underwriting capabilities required to scale in our growth markets**
- **Unique self reinforcing flywheel: world class Data and AI/ML platform; at scale ecosystem partnerships and a new way of working – managing through journeys**
- **Sustained continuity and stability in our top team that is distinctive in today’s environment and have large tech talent pool which is unparalleled among our peers**
- **Created options through our portfolio of new growth engines**

# Disclaimer

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