Technology & Innovation Seminar

24th June 2019

RBS

Your presenters

Simon McNamara, Chief Administrative Officer

- Appointed Chief Administrative Officer in September 2013
- Prior to joining RBS, was Chief Information Officer (CIO) of Standard Chartered Bank Consumer Bank (Singapore), responsible for developing and implementing the Group Technology and Operations strategy
- Has held a number of senior Information Technology and Operations positions in the global financial services industry
- A founding partner in a successful software start-up company in Silicon Valley

Christine McPherson, Finance Director, Services & Functions

- Finance Director for Services & Functions and the Finance lead for the bank wide cost reduction programme
- Worked in the bank for 19 years and has gained broad experience predominantly in finance roles including Senior Finance Business Partner, Distribution and Head of Business Partnering in Personal Banking
- Has also spent time in the business as Head of Frontline Support, Specialist Banking

Kevin Hanley, Director of Innovation

- The Bank's Director of Innovation, responsible for the innovation agenda
- Joined RBS in 2009, responsibilities include global solutions network; corporate office in Silicon Valley and our innovation hubs
- Previously Head of Services within ABN AMRO with responsibility for all Technology, Operations, Property and Procurement Services across the Group
- Was a partner in Accenture's Global Capital Markets practice based in London, leading the UK Capital Markets business

Agenda

Transformation and Innovation overview – Simon McNamara

Financial highlights – Christine McPherson

Our Innovation agenda – Kevin Hanley

Key messages and Q&A – Simon McNamara

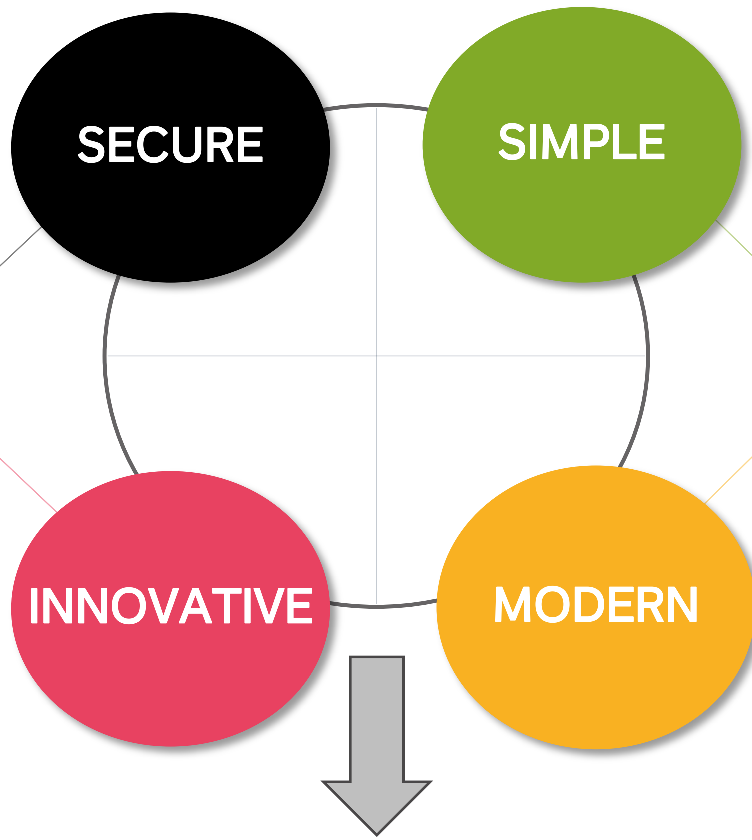
Transformation and Innovation overview

Simon McNamara
Chief Administrative Officer

We are **transforming** the bank to better serve our 19m customers

A technology platform that's secure, resilient and responds at speed to changing environments

Innovative products, experiences, businesses and new revenue streams

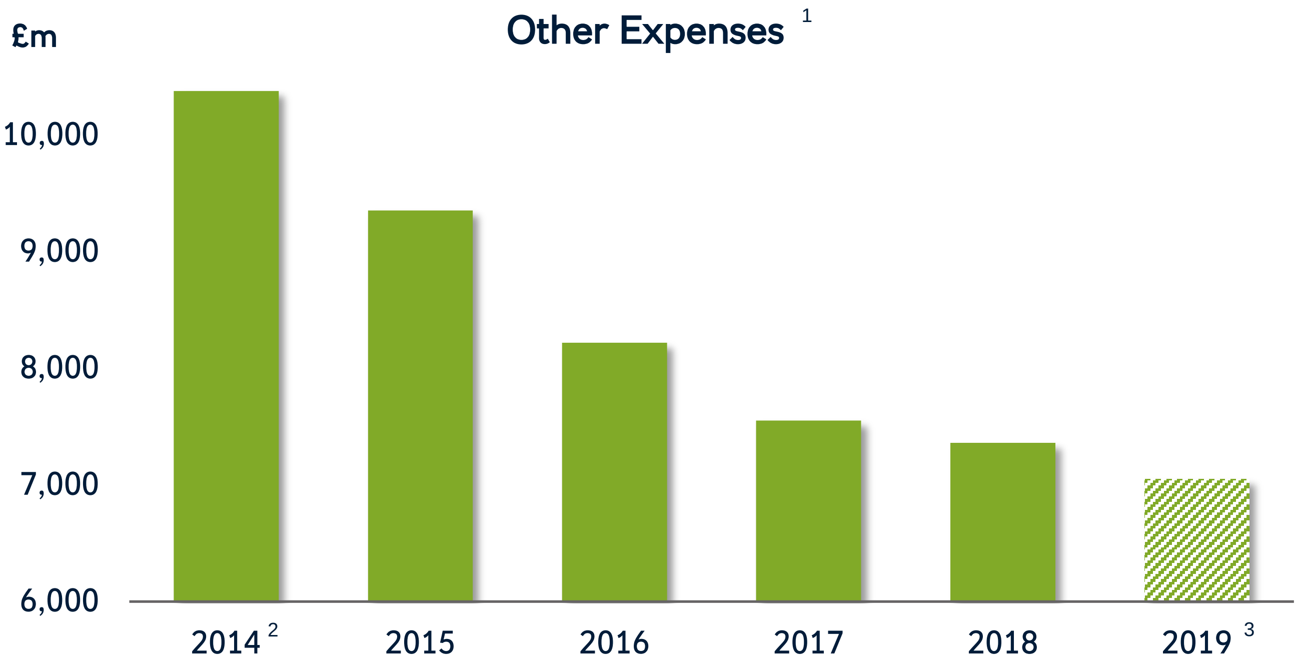


Customer journeys that are digitally enabled and feel effortless

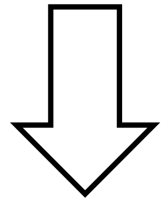
An integrated digital bank, using enhanced data, analytics and AI to better serve our customers

Driving our cost:income ratio down whilst enhancing customer experience

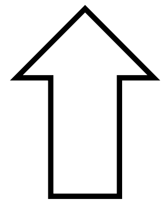
We continue to invest over £1bn a year in the business **while substantially reducing expenses…**



....with an increasing **focus on Digital and Innovation**



26%
Reduction in mandatory and non-ring fenced bank investment



16%
Increase in discretionary, innovation and elements of strategic cost

We have invested c.£7bn over the past 5 years transforming the bank[4]

1. Aligns to IMS 'Other Expenses', this does not include litigation & conduct costs and strategic costs.
2. 2014 expenses are ex Citizens Bank.
3. 2019 other expenses guidance – 2018 other expenses minus £300m committed cost savings.
4. Covers: Mandatory and discretionary spend on core systems; non-ring fenced bank change; innovation spend; and technology transformation programme spend, which is booked to strategic costs.

SECURE

Delivering a resilient, simplified, well controlled platform, improved employee engagement, lower run costs, higher levels of change

	2014	2018	Progress	2020+
Technology critical 1 incidents[1]	312	13	↓96%	Radically reduce low criticality incidents
Major technology issues	19	3	↓84%	Continued reduction
Volume of changes	60k	71k	↑18%	Continue growth
Number of applications	5.0k	2.3k	↓54%	1.6k
Control environment rating	3 Needs some improvement	2 Satisfactory with exceptions	✓	2 Satisfactory with Exceptions
Employee engagement	60	86	↑43%	Maintain current levels
Technology run spend (P&L) - £bn[2]	>1.1	0.9	↓>20%	Continued reduction

1. Figures represent critical 1 incidents relating to technology only.
2. Ongoing operational costs of Technology function to deliver BAU. Does not include change/investment spend.

With a relentless focus on keeping our customers and the bank **safe and secure**

SECURE

Loss of value to external fraud [1]

- 2018 industry **up** by 16%
- 2018 RBS **down** by 12%

Fraud

DDoS Attacks

DDoS attacks, customer impact

- 2018 no customer impact despite significant increase in attacks since 2014

Security seminars held

- 2014 = 214 > 7k attendees
- 2018 = 430 > 16k attendees

Security Awareness

DLP Coverage

Staff data loss prevention coverage

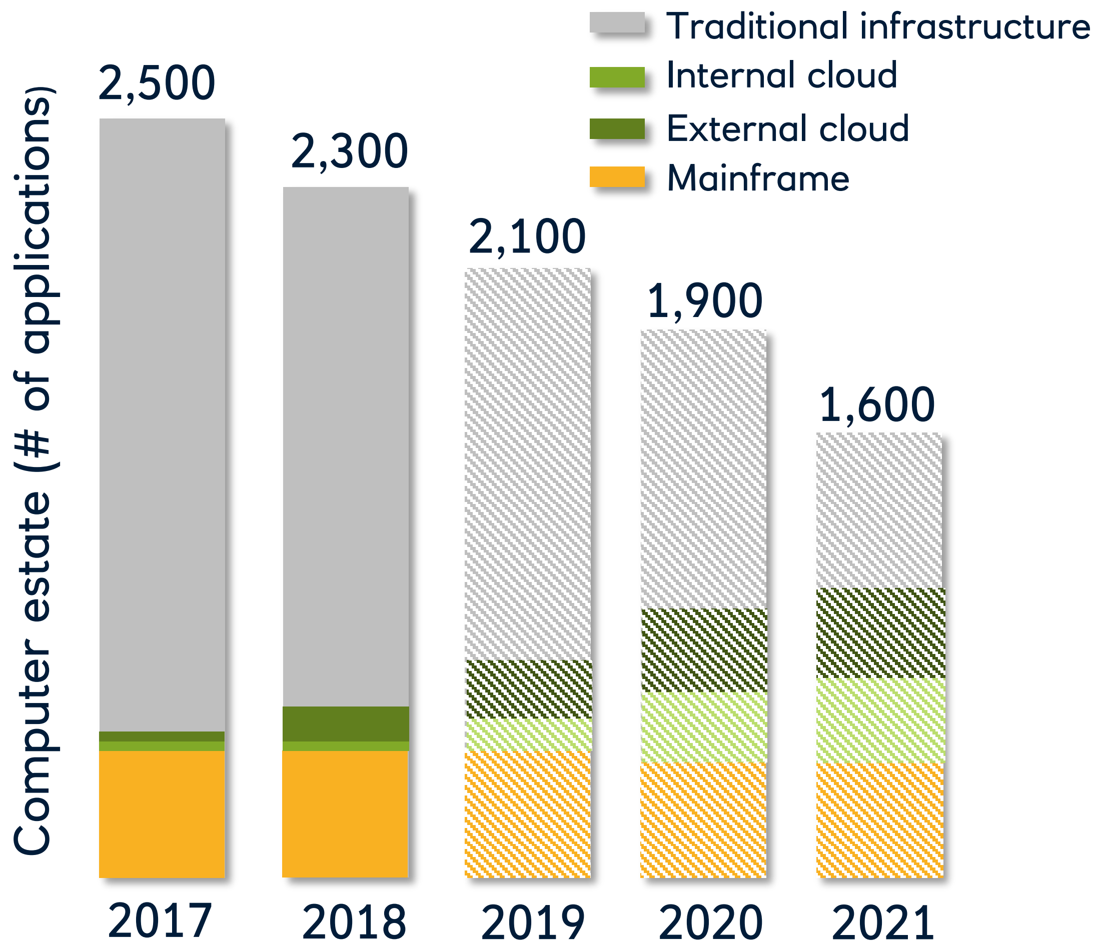
- 2014 = 0% coverage
- 2018 = 99.7% coverage

1. Source: UK Finance submission and press release March 2019. Figures represent unauthorised fraud.

Note: Cyber security and financial crime have been identified as risks to the Bank. Please refer to the Risk Overview at page 30 and the Risk Factors at page 253 of the RBSG 2018 Annual Report and Accounts for a detailed discussion of these risks

And an intelligent use of Cloud to bring **simplification and cost savings**

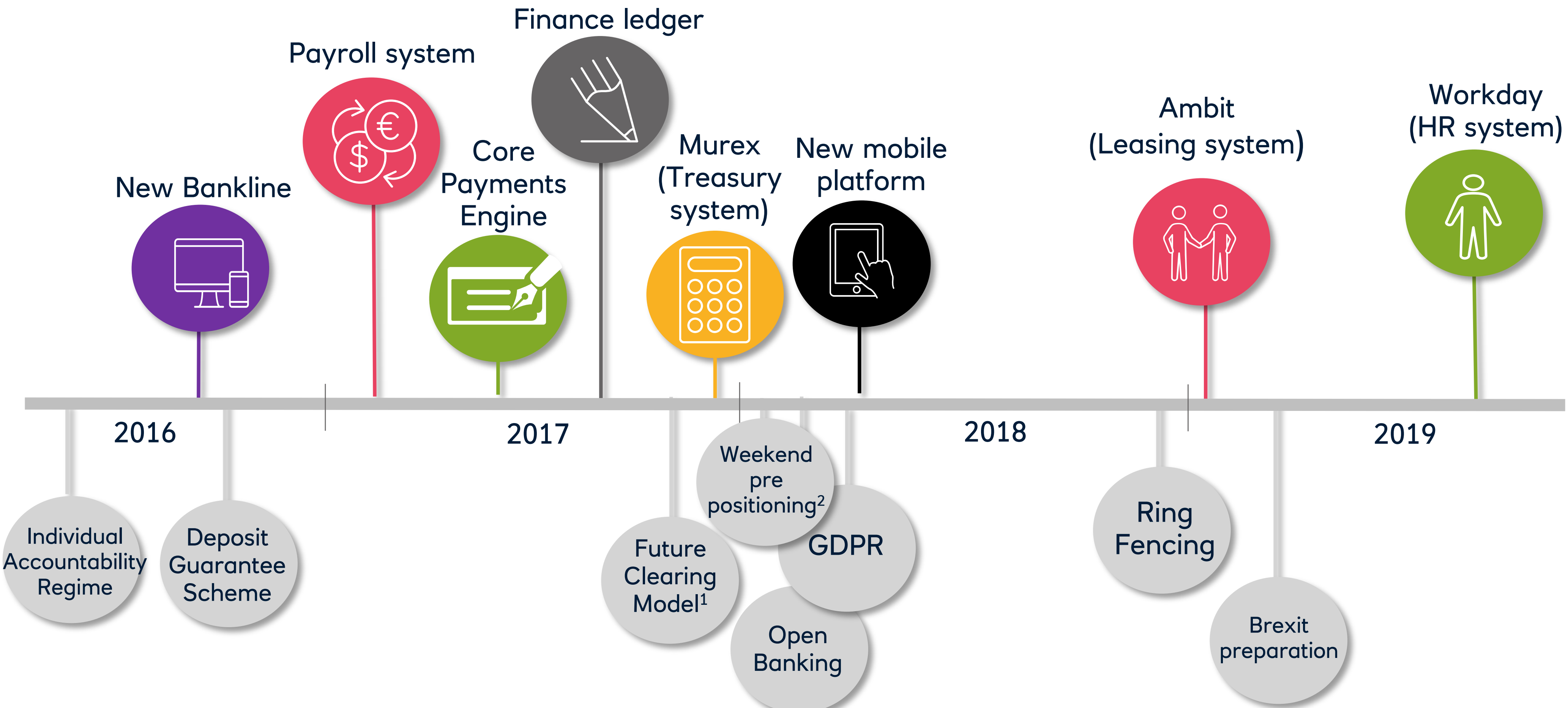
SIMPLE



A **simplified, flexible technology platform -** quick to deploy and simple to maintain

Enabling us to deliver a **simplified technology estate** and meet demanding **regulatory requirements**

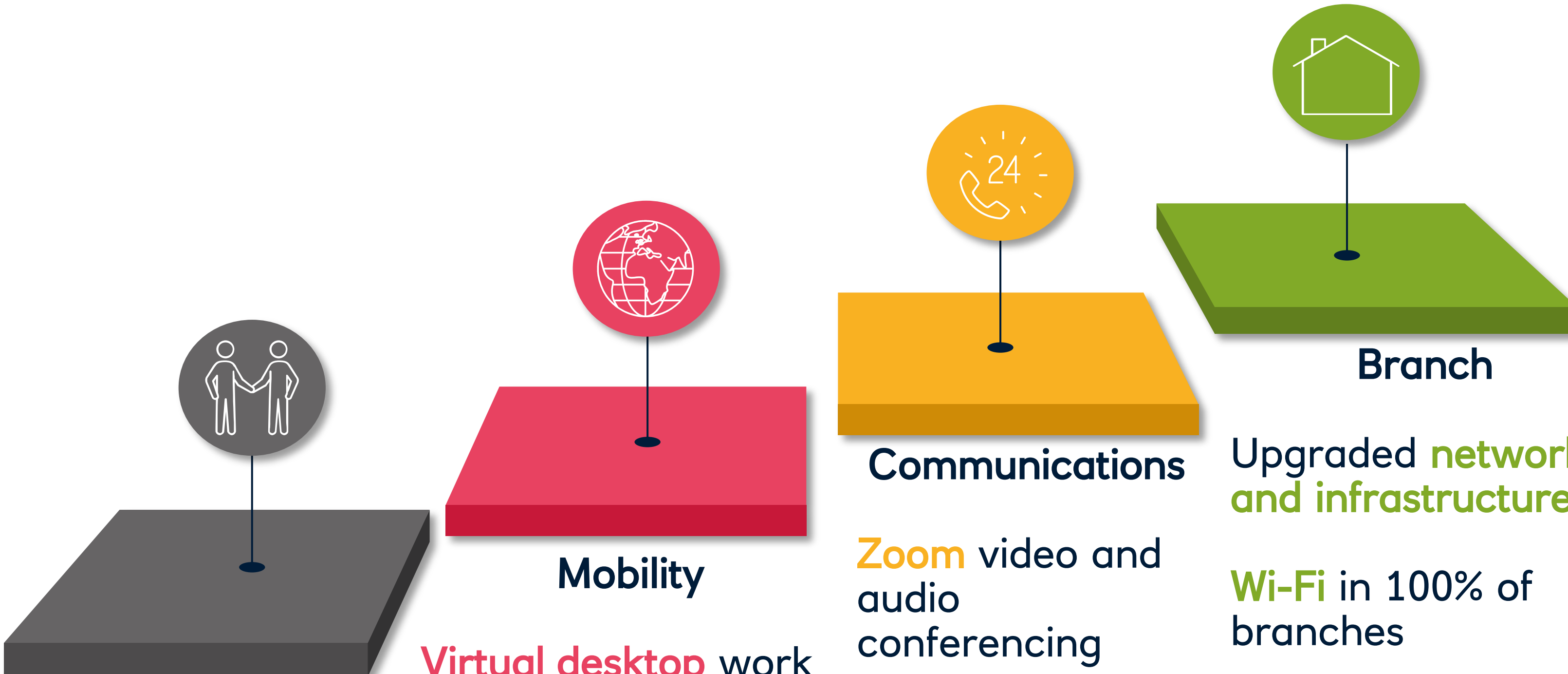
SIMPLE



1. Future Clearing Model: mandatory, industry-wide programme improving efficiency and speed of cheque processing from six to two weekdays.
2. Weekend pre-positioning: scheduled payments due Monday (or the day post bank holiday) are reflected in account balances on the Saturday.

SIMPLE

And give our people the tools to collaborate and connect digitally - saving costs, increasing engagement



Collaboration

Workplace by Facebook

Office 365

Mobility

Virtual desktop work from any location

Mobile platform access technology on any device

Communications

Zoom video and audio conferencing

Voice biometrics customer identification

Branch

Upgraded networks and infrastructure

Wi-Fi in 100% of branches

Leading to a reduction of 21% on property costs and 13% on T&E costs[1]

1. Cost reduction based on FY2018 vs FY2016.

Customer journeys digitally enhanced and made to feel effortless

SIMPLE

Lower cost and better customer experience

Simplify

Paperless Mortgage

215k applications in FY’18

Account Opening

>50% commercial customer accounts opened within 5 days

Automate

Lending transformation

Pre-assessed SME loans of £750k

Bankline Mobile

Bankline now in a mobile app

Digitise

Mimo

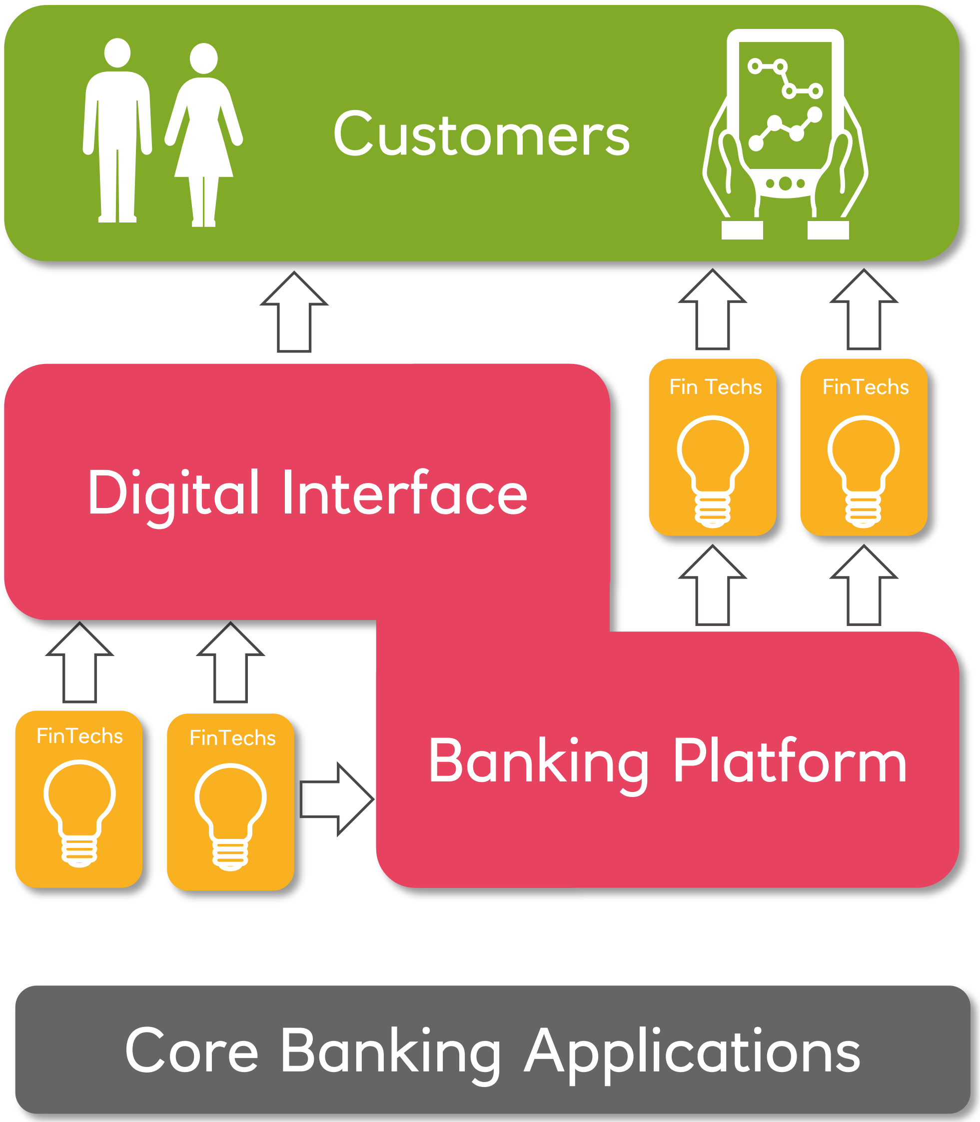
Proactive insight saving customers time and money

FXmicropay

Real-time rates in all major global currencies

The transformation of our core platform enables us to transform our core services

MODERN



No need to re-platform

A **modular approach** to the provision of services and capability

Delivering for our customers **on our own and with partners**

A **customer base of 19m**, that sets us apart from FinTechs and new entrants

A **powerful data strategy** that capitalises on open banking

Industry leading APIs

A partner of choice for Open Banking and APIs

MODERN

Open Banking opens up a **new world**

RBS, Ulster & NatWest are 3 of the top 5 ranked banks for API quality[1]

We have **289** operational external APIs…

…**5** customer propositions in use, **12** in the pipeline

We're a **partner of choice** for FinTech and BigTech

(1) Source: Finextra Open Banking API Performance Analysis – May 2019

Responsibly maximising the power of **data**

MODERN

Insights

Supporting over 9.5m customer decisions a day

Analytics

Customer centred innovation e.g. **MiMo and Bó**

Culture

Established bank-wide **Data Academy**

Risk

Reducing risk through **enhanced data quality** and lineage capabilities

Efficiency

Availability, accuracy and consistency through the hybrid cloud approach

Mimo

24x7 personal assistant

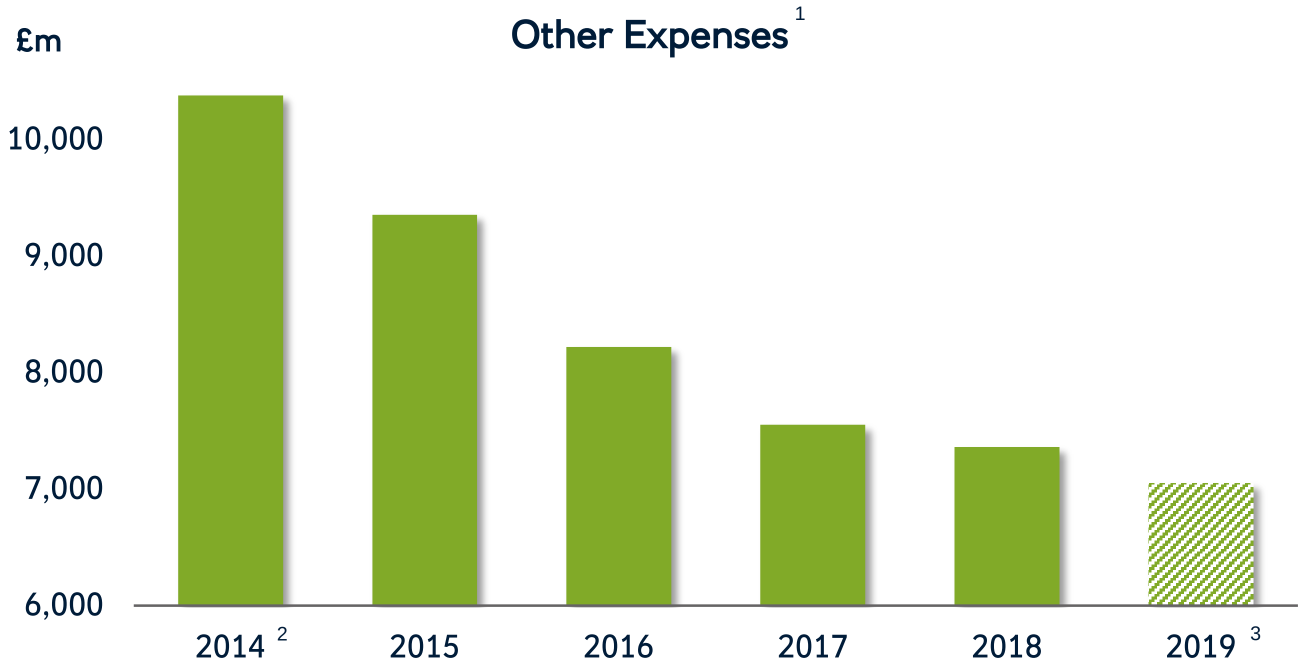
Financial highlights

Christine McPherson
Finance Director, Services & Functions

Key Messages

1. ~30% bankwide reduction in Other Expenses since 2014
2. Built digital-first journeys designed around the customer which also support cost reduction and improvements in control
3. Since 2016, our investments have supported ~20% reduction in Property & Technology costs
4. We take a prudent approach to the capitalisation of investment spend

We continue to invest over £1bn a year in the business **while substantially reducing expenses…**

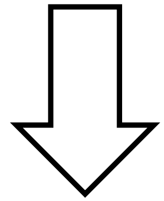


Change spend as % of Other Expenses:

Key: Mandatory & Non ring-fenced bank; Discretionary, Innovation and elements of strategic cost

	2014	2016	2019
Mandatory & Non ring-fenced bank	7%	10%	8%
Discretionary, Innovation and elements of strategic cost	6%	7%	10%

….with an increasing **focus on Digital and Innovation**



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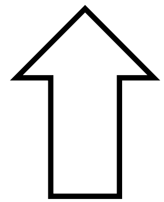

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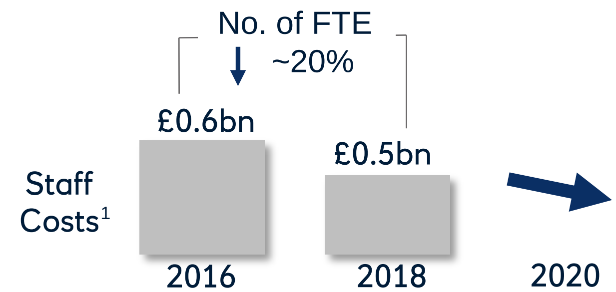
Our Investment has enabled us to **serve our customers** better and **reduce costs**

1

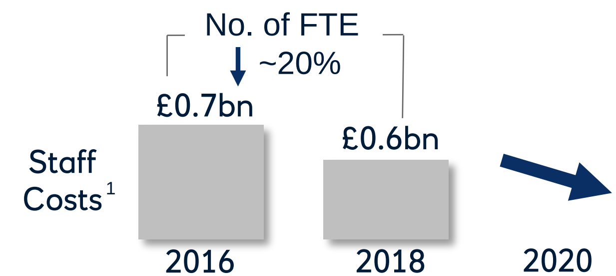
We have driven tangible cost reduction in our franchises through our investments in:

- Digital:
- Process simplification: and
- Front line capability

Personal Banking



Commercial Banking

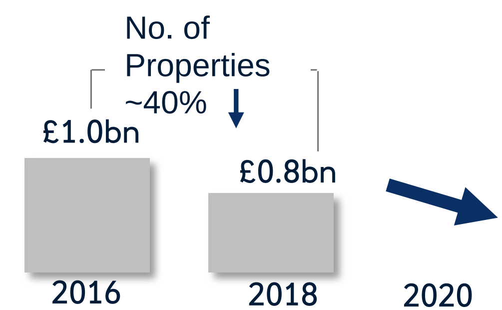


2

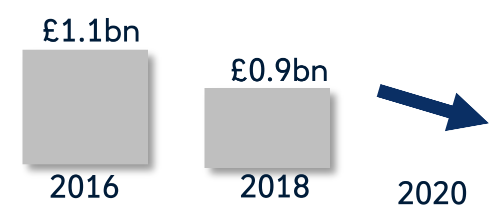
Our investment strategy is reducing our infrastructure costs:

- Shift to Digital has reduced branch footprint
- Digital office reduces need for physical devices and office space
- Simplify technology architecture – reducing applications, physical infrastructure and devices

Property costs



Technology run costs



1. To present a like-for-like view, these figures exclude operations costs transferred into the franchises in 2017

We take a **conservative approach** to capitalising investment spend

Cost	Goodwill £m	Other[1] £m	Total £m
At 1 January 2018	18,039	**2,259**	20,298
Currency translation and other adjustments	77	9	86
Acquisition of subsidiaries	48	2	50
Additions (1)	—	364	364
Disposals and write-off of fully amortised assets	—	(610)	(610)
At 31 December 2018	18,164	**2,024**	20,188
Accumulated amortisation and impairment			
At 1 January 2018	12,481	**1,274**	13,755
Currency translation and other adjustments	77	5	82
Disposals and write-off of fully amortised assets	—	(573)	(573)
Charge for the year (1)	—	271	271
Write down of goodwill and other intangible assets (2)	—	37	37
At 31 December 2018	12,558	**1,014**	13,572
Net book value at 31 December 2018 (1)	5,606	**1,010**	6,616
Net book value at 31 December 2017		***985***	

Note: (1) Principally internally generated software

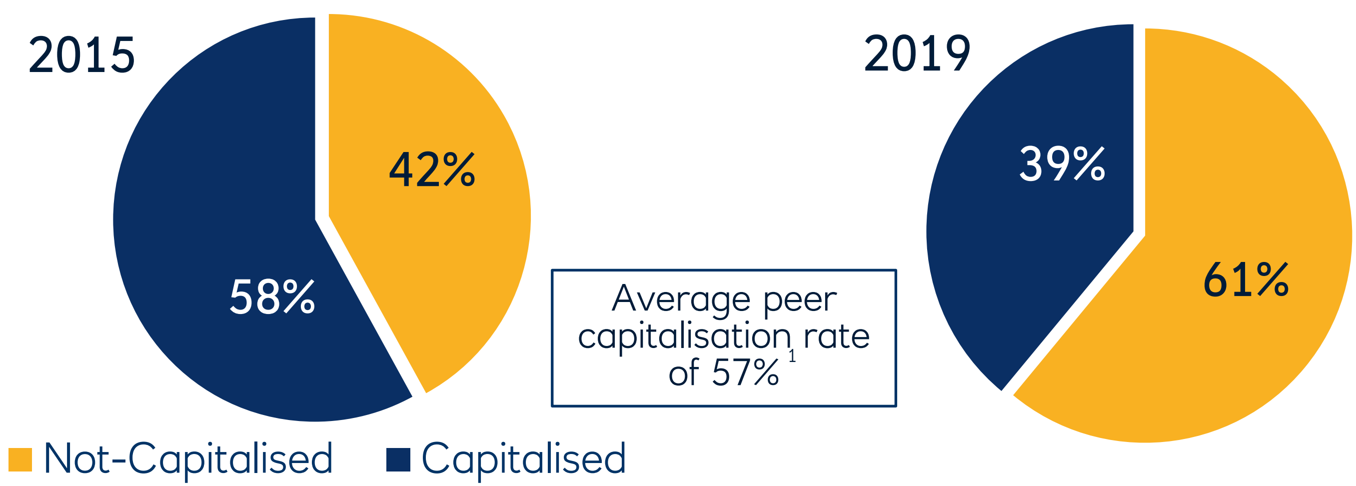
1
- Net Additions/Charge for the year : **£93m**
- Net book value 31/12/18 vs. 31/12/17: **£25m**

Our conservative capitalisation approach means that we're not creating a financial headwind for the future

2
- Write down of intangible assets during 2018: £37m (during 2017: £29m)

Our prudent capitalisation approach results in a low level of write-offs

Capitalisation of IT investment spend:



1. KPMG Asset capitalisation benchmarking report April 2019

Our Innovation agenda

Kevin Hanley
Director of Innovation

INNOVATION

We have a **strong set of innovation assets**

Innovation Forum

Innovation Fund

Tech Advisory Board

Technology & Innovation Committee

Research

Scouting

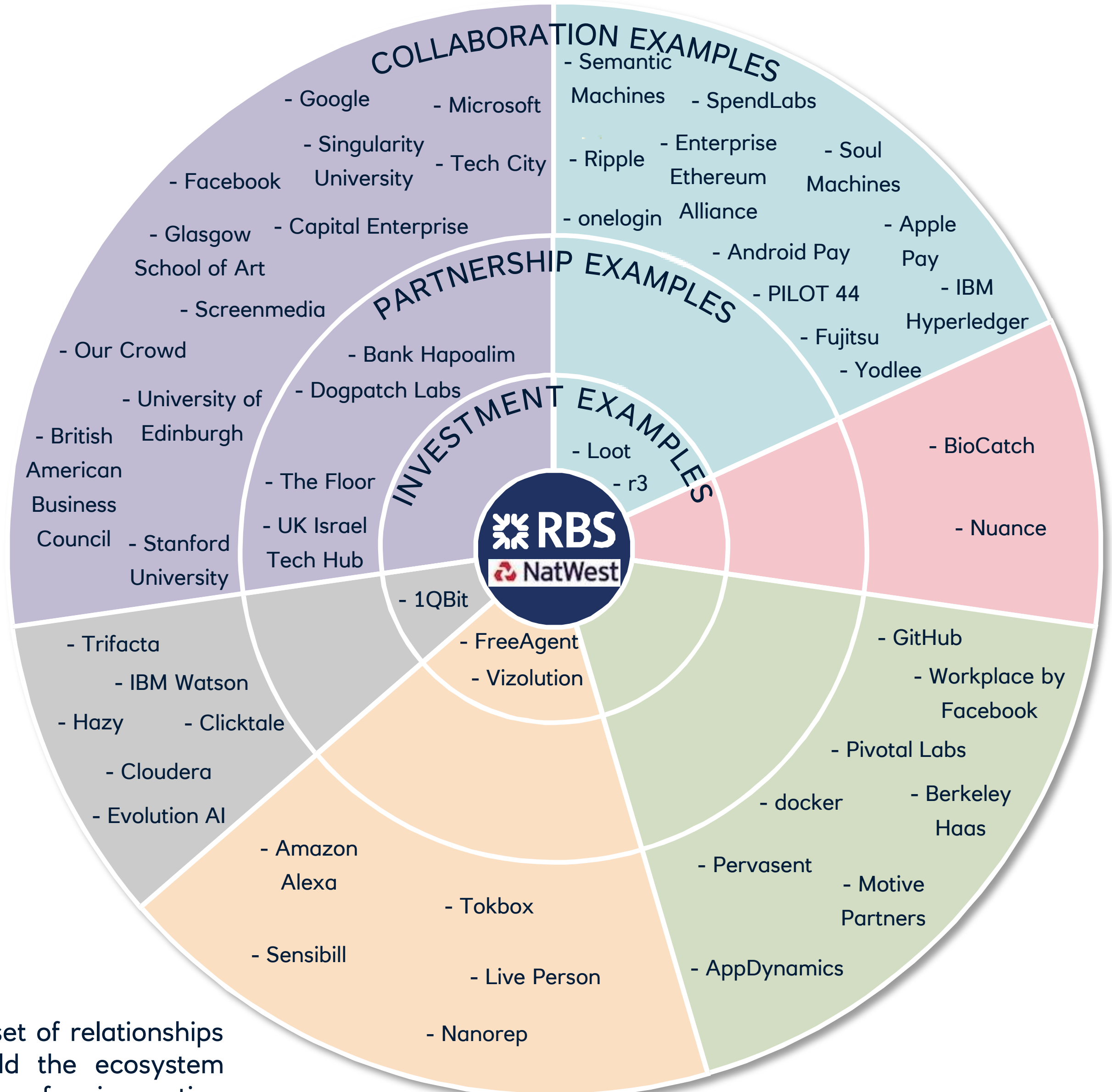
Open Experience

Engineering

And have established a rich Innovation Ecosystem

INNOVATION

Collaboration
Partnerships
Investment



Customer Experience
Improving the way we serve our customers

Enterprise
Options to deliver new ways of working

Safe & Secure
Protecting our customers and staff

Payments/Funding
Finding ways of extending payment, lending and money holding options

Driving Innovation
Relationships that support our ideation

Data & Analytics
Creating ways to interrogate data and add value for our customers

Note: This is an illustrative subset of relationships we hold. We continue to build the ecosystem through our programme of innovation partnerships and global scouting.

Our innovation is driving real customer impact

INNOVATION

We measure **innovation capability** and the number of **early stage opportunities** identified

Ideation

We measure how many opportunities are **developed to the point of benefit delivery** and the pace of execution

Execution

We track the **financial and reputational benefits** that come from innovation once implemented

Impact

And we are **delivering innovative solutions** for customers …. now

INNOVATION

mettle
A digital SME banking proposition

tyl™
Capturing Payments and encouraging trade

Mimo
24x7 personal assistant

APTIMISE Simple Accounts Payable
Invoice & payments automation on one platform

Currency**Pay**™
A simple, secure and streamlined internal payment platform

Bó
An innovative new companion bank account

Path.
Business advisor. tips, articles & tailored tools

esme
Fully automated lending platform

Mettle: The business account that helps you get ahead today and plan for tomorrow

mettle

✓ Free small business account

✓ Application in minutes

✓ Create, send, track and chase invoices when they are due

✓ Expenses made simple

✓ Capture receipts and categorise transactions for bookkeeping

✓ Track bills and schedule payments

✓ Live chat support

✓ Backed by NatWest

Helping businesses and communities thrive

Take card payments and use the NatWest Tyl portal to see sales trends and get insights into how your business is doing.

Anywhere and anyhow

Accept payment in person, online and by phone

Get your money fast

Next working day settlements

All in one place

Tools and integrations for your business

- Simple sign up
- Straightforward contracts
- No hidden fees
- Simple pricing
- The Tyl portal to manage your data

APTIMISE

Simple Accounts Payable

Invoice & payments automation on one platform

Taking Control

Based on a well-researched, tested and customer co-created proposition, with tangible functional and emotional benefits

Currently in internal Beta testing with RBS employees

WHAT
A new digital only bank account that helps people do money better

WHY
40 percent of working-age adults in the UK — that's just under 17 million people — have less than £100 in savings

HOW
- Full-stack
- End-to-end team
- Cloud native
- Part of NatWest Bank plc
- Agile sprints across whole business
- Full banking licence
- Low cost; built for scale
- Orchestrated via API

And we are **delivering innovative solutions** for customers .... now

INNOVATION

mettle
A digital SME banking proposition

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Capturing Payments and encouraging trade

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Fully automated lending platform

Key messages and Q&A

Simon McNamara
Chief Administrative Officer

Conclusion

Myth	Reality
"You will need to replace your core platform in the future"	A wholesale replacement of our core banking platform is not needed. We will continue to simplify and reduce our core platform by replacing standalone components
"You have a huge legacy environment which holds you back"	After 5 years of significant investment our platform is a competitive advantage, as is our 19 million customer base
"You are behind peers in your agility/ability to make changes rapidly"	We have a track record of delivering innovative solutions and a number of UK firsts including paperless mortgages, bio-metric debit cards, credit cards and payments We delivered 27 major mobile live deployments and 87 production changes in 2018 alone We're the partner of choice for BigTech + FinTechs given our optimal interfaces and extensive customer base

Key Messages

1. Our technology investment has delivered a highly resilient and agile platform, safe, secure and fit for the future
2. We are using data, APIs and innovation to better meet the needs of our extensive customer base and drive revenue
3. We are spending less on mandatory investment and are taking innovation seriously with some exciting opportunities
4. Our strategy is driving costs down whilst enhancing customer experience
5. Our platform, people, customers, partnerships, data and drive make us one of the leading digital banks in the UK

Q&A

Legal Notices

The targets, expectations and trends discussed in this presentation represent RBSG management's current expectations and are subject to change, including as a result of the factors described in the "Risk Factors" section on pages 253 to 263 of the RBSG 2018 Annual Report and Accounts.

Cautionary statement regarding forward-looking statements. Certain sections in this document contain 'forward-looking statements' as that term is defined in the United States Private Securities Litigation Reform Act of 1995, such as statements that include the words 'expect', 'estimate', 'project', 'anticipate', 'commit', 'believe', 'should', 'intend', 'plan', 'could', 'probability', 'risk', 'Value-at-Risk (VaR)', 'target', 'goal', 'objective', 'may', 'endeavour', 'outlook', 'optimistic', 'prospects' and similar expressions or variations on these expressions.

In particular, this document includes forward-looking statements relating, but not limited to, The Royal Bank of Scotland Group plc's ("RBSG", the "Group" or the "Bank"). These statements are based on current plans, estimates, targets and projections, and are subject to significant inherent risks, uncertainties and other factors, both external and relating to the Group's strategy or operations, which may result in the Group being unable to achieve the current targets, predictions, expectations and other anticipated outcomes expressed or implied by such forward-looking statements. In addition, certain of these disclosures are dependent on choices relying on key model characteristics and assumptions and are subject to various limitations, including assumptions and estimates made by management. By their nature, certain of these disclosures are only estimates and, as a result, actual future gains and losses could differ materially from those that have been estimated. Accordingly, undue reliance should not be placed on these statements. Forward-looking statements speak only as of the date we make them and we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the Group's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based. Important factors that could affect the actual outcome of the forward-looking statements. We caution you that a large number of important factors could adversely affect our results or our ability to implement our strategy, cause us to fail to meet our targets, predictions, expectations and other anticipated outcomes or affect the accuracy of forward-looking statements we describe in this document, including in the risk factors and other uncertainties set out in the Group's 2018 Annual Report on Form 20-F and other materials filed with, or furnished to, the US Securities and Exchange Commission. These include the significant risks for the Group presented by: operational and IT resilience risk, including in respect of: the Group being subject to cyberattacks; operational risks inherent in the Group's business; the Group's operations being highly dependent on its IT systems; and the Group's ability to achieve its cost:income targets and associated cost base reductions.

The forward-looking statements contained in this document speak only as at the date hereof, and the Group does not assume or undertake any obligation or responsibility to update any forward-looking statement to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. The information, statements and opinions contained in this document do not constitute a public offer under any applicable legislation or an offer to sell or solicit of any offer to buy any securities or financial instruments or any advice or recommendation with respect to such securities or other financial instruments.

Appendix Slides

In UK Personal Banking we have built a strong digital offering whilst optimising our branch network

	2014	2019
Mobile Banking and Online banking	• 20% of everyday banking tasks	• 97% transactions and enquiries through self service channels • AI bot Cora answering ~500k queries per month
Branch Network and Telephony	• Legacy ATM platform	• High speed data networks, new branch technology
Home Buying and Ownership	• Time to Offer – 22 days • Paperless applications – 0%	• Aspirational Time to Offer – 8 days • UK's first paperless mortgage process • 91% of all organic mortgage applications are paperless (Dec 2018)
Customer Journeys	• Lengthy forms and non mobile optimised digital experiences taking over 20 minutes to complete	• Digital first application reducing fields from 120 to less than 15, taking 7 minutes to complete

Commercial & Private Banking is focused on transforming and digitising key customer journeys and simplification

	2014	2019
Digitisation & Channel Experience	• <50% of RM time spent with customers	• 90% customer journeys self-served online • 30% of commercial accounts opened digitally, over 50% within 5 days • Lending approval in 24 hours with pre assessed SME loans of £750k
Customer Journey Automation	• 15% on-boarding self-serve ability	• 90% of existing & future book asset finance transactions migrated onto new strategic Invoice Finance Ambit platform
Simplify Our Business	• 385 Technology applications • Over 400 Commercial products	• 120+ legacy technology applications decommissioned • <90 Commercial products
Deliver Innovation To Market	• Initial innovation cells initiated	• ESME: accessible loans for SMEs • APtimise: new customer sign-ups via fully digital acquisition journey • METTLE: Our next-gen digital bank • TYL: Capturing payments and encouraging trade • UK's first biometrically enabled payment

We continue to transform the NatWest Markets business through increasing automation

	2014	2019
Focused on Customers	• No distinct service model for high volume flow activity vs. high value solutions activity for customers • Electronic offering primarily centred around the Currencies	• Digital products enhancements; ➢ FXmicropay made accessible to customers on SAP Commerce Cloud ➢ Strong electronic offering across Fixed Income and Currencies (i.e. #1[1] on Tradeweb & Bloomberg in GBP Swaps) • Leading with content to help customers navigate through market reform (i.e. RFR[2] replacement)
Driving automation and efficiency	• Inconsistent use of market data • Numerous exception processes & manual reconciliations • Products on multiple systems • Duplication common	• Highly automated trading (i.e. 98%[1] quote rate across all products and 3[1] seconds time-to-quote on GBP Swaps) • Consolidated and consistent data source • Simplified systems, standardised Front to Back processes and decommission of legacy systems • Progress on tech strategy though migration of services & applications onto Cloud
Regulatory and Controls	• High cost of regulatory compliance due to complexities in processes and technology • Control environment outside of risk appetite • Mobilised plans to strengthen controls front to back	• Delivered regulatory compliance across key programmes (i.e. MIFID II, EMIR, UK ring-fencing) • Control environment within appetite, embedded preventative and automated controls

1. Period considered 1st Jan'19 to 20th May'19 for GBP Swaps, source Bloomberg and Tradeweb.
2. RFR – Risk Free Rate