



# LEVERAGING OUR INVESTMENTS IN IT

Through our significant strategic investments we have established the foundation to enable us to become a first-class universal and digital bank in Africa. The investments we've made in our core platforms provide a significant competitive advantage enabling us to rapidly respond to customer needs and continue to leverage the investments to deliver leading digital banking solutions, driving benefits for client centricity, agility, integration of operations and risk optimisation.

We've replaced ageing systems with modern, integrated, agile and secure solutions. We've greatly enhanced our capacity to offer digital solutions across our products and services. We've strengthened our capacity for data analytics, enabling us to improve and personalise the service we provide to our customers; we've strengthened our resilience against cybercrime; and we've improved integration across our business units and countries of operation. Our IT modernisation programmes are on track for completion by the end of 2017, with our aim to have more than 95% of our customers on the platform. Our focus going forward is to derive maximum value from our investments.

## CREATING SHARED VALUE THROUGH IT

The creation of shared value is achieved through the **four key pillars** of our IT strategy:

- 1 Quality of service through brilliant basics:**  
Achieving continuous improvements in the quality of service to customers in terms of availability, reliability and security
- 2 Responsiveness to market:**  
Leveraging innovative technology and new ways of working to achieve higher levels of agility, flexibility and responsiveness
- 3 Affordability:**  
Managing costs by driving a lean IT operation and by embedding commercial pragmatism
- 4 Sustainability as the foundation of client excellence:**  
Making Standard Bank IT an aspirational destination for IT professionals and embracing our diversity, social and ethical responsibility.



## IT PLATFORM MODERNISATION

**Fully digitising platforms across the group paves the way for a great customer experience across countries and products.** Our strategic investments in IT are driving benefits for client centricity, agility, integration of operations and risk reduction. The investments have realised significant benefits to date and ongoing investments from 2017 will enable further improvements to customer service. The customer is at the heart of everything we do and we will continue to use our investments to further drive digitisation, make greater use of data analytics, and continue to strengthen cybersecurity to protect our customers and our assets.

A major component of our modernisation has been the implementation of our SAP core banking platform in South Africa. It currently comprises close to 6.5 million customers and over R30 billion in customer balances, and processes almost 60 million customer transactions a month. It provides us with a single source of customer data, giving us a holistic view of each customer's various products and relationships with different parts of the group. We're able to open new customer accounts more quickly, to serve

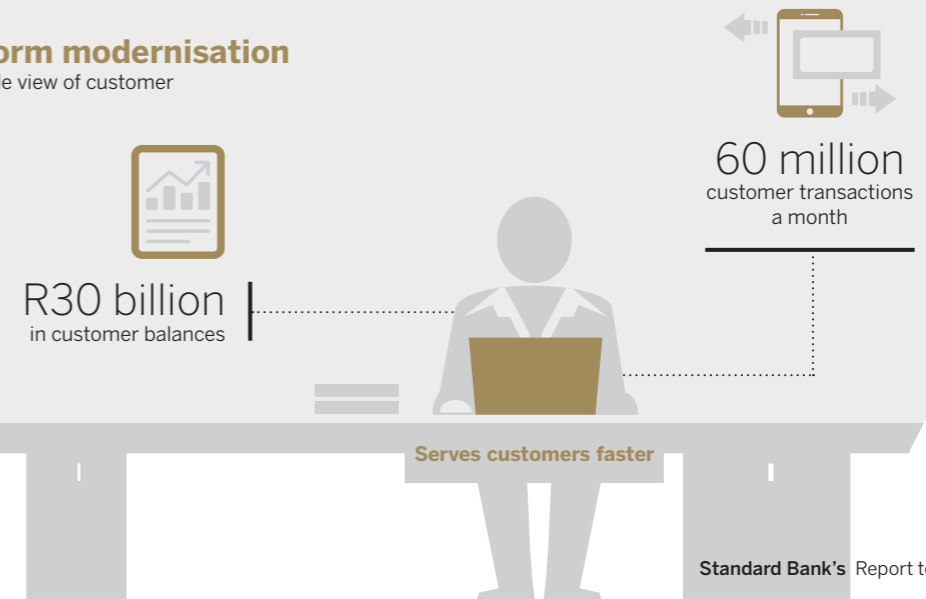
existing customers more efficiently, and to undertake more accurate credit scoring. We've also strengthened our anti-money laundering controls.

Our SAP platform has enabled us to reduce product development costs and speed up the process of product development. During 2016, we've delivered several new products using the platform, including Shariah banking; a Lottery Solution; a tax-free fixed deposit; Money Market Select; and Flexi Deposit.

The Finacle Core Banking system is fully operational in Botswana, Ghana, Nigeria, Namibia, Swaziland, Tanzania, Uganda, Zimbabwe and Zambia. It currently comprises over two million transacting customers. Like SAP, Finacle offers a single view of each customer, quicker processing and turn-around times, quicker time to market for new products, the elimination of manual interfaces and the automation of bulk processes, which reduces room for error. The balance of our African operations will be migrated to the new platform by the end of 2017, with the exception of South Africa, which uses SAP, and Angola, Kenya and Mozambique, which use T24 Temenos.

### Platform modernisation

SAP single view of customer



95% transactions are electronic

Mobile Banking platform – 726 million transactions

Internet Banking – over 1 billion transactions

Business online

60 000 clients

70% of top 40 JSE companies are registered users

We also introduced a new Internet Banking platform for customers in South Africa in 2016, which will be extended to our other countries of operation in 2017.

We've expanded our digital offering for our corporate and investment clients across all our countries of operation. One example is Business Online, which has over 60 000 registered clients and is used by more than 70% of the top 40 JSE companies. Clients sign in through a single portal, and are able to access self-service banking and bank delivered administration. They can view their transaction activity and access Standard Bank products, 24/7. The platform can be integrated with a majority of accounting packages. It uses dual authentication (the provision of two passwords) to ensure enhanced security. Another example is Global Markets eCommerce, a single dealer platform available in 16 African countries across 70 global currencies. It enables immediate, secure and user-friendly forex trading, 24/7. Customers can obtain forex through Internet Banking or mobile. A third example is International Trade and Payments, which enables the reliable and efficient processing of international payments and trade transactions. The service offers full functionality in South Africa and Nigeria, and selected functionality in 10 other countries.

Standard Bank is committed to being available to our customers anywhere, at any time – online and on mobile. In South Africa, 95% of the transactions conducted by our Personal & Business Banking (PBB) clients are done electronically – with ATM and branch transactions comprising less than 5% of total transactions. Last year, our South African customers undertook 726 million transactions through our Mobile Banking platform and over one billion transactions through Internet Banking, which represents an increase of 11%. This provides convenience and cost-savings for our customers – **72% of customers rated their digital banking experience with Standard Bank as very good or excellent.** We're working to support a similar shift toward digital channels across all our countries of operation. Card transactions remain a crucial part of our offering, increasing by 18% to 569 million transactions in 2016.

We rolled out our Universal Banking app to 11 countries during 2016. Our online banking features and smartphone apps have transformed the way that customers engage with the bank, enabling them to bank on their terms, wherever and whenever this suits them. Customers can open accounts online, manage their ATM limits, buy pre-paid airtime and electricity, make payments and transfers across borders quickly and easily, trade shares internationally on 29 stock exchanges and lodge homeowner insurance claims – all from their mobile phone. Our digital payments solutions are secure and convenient, affordable, and fully compliant with regulatory requirements. We also developed and implemented innovative Payment solutions like SnapScan and Masterpass, and Omnisure – an insurance technology solution – during 2016.



## CYBERCRIME

Inherent in the advances of digitisation is the growing risk of cybercrime; the increasing sophistication and extent of cybercrime affecting our industry, which has resulted in a review of our cybersecurity strategy. The emphasis is on accelerating the delivery of security capabilities to counter the growing sophistication of cybercrime. A number of actions have already been completed and there is a focused programme to enhance security defences in response to the heightened risk. This is an area that we take extremely seriously and is considered a top priority.

Like all banks, we rely on our customers to take reasonable measures to protect themselves, including choosing strong pin numbers (not ones that are easy to guess, like birthdates, or consecutive numbers), keeping their cards within sight at all times, being vigilant when withdrawing cash at ATMs, never responding to phishing emails, and promptly reporting such emails to the bank.

We run regular awareness campaigns by email, SMS, banners and videos on the Standard Bank websites and intranet about what to look out for and how to avoid phishing attacks. In South Africa, we participate along with the other banks in SABRIC's awareness campaigns, which focuses on a range of topics guided by fraud and crime trends in the banking sector.

The shortage of cybersecurity skills is a global challenge. As part of Standard Bank's ongoing initiatives to develop our in-house cybersecurity skills, we've established a graduate programme specifically focused on this area.

### Cybercrime

10 graduates developing cyber skills

<p>Collaboration in <b>fighting cybercrime</b></p>	<p><b>SARB</b> – Financial Sector Contingency Forum (FSCF)</p>	<p><b>Strengthen</b> resilience against cyber-attacks</p>
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**Central cybersecurity operations developed** at Standard Bank

### Industry collaboration in fighting cybercrime

Effective information sharing and collaboration, across the industry and across geographies, is crucial to improve prevention, detection and mitigation of cybercrime.

In South Africa, the South African Reserve Bank (SARB) has committed itself to deepening cyber resilience in the sector – recognising the importance of stronger collaboration across the industry to improve prevention and detection. In August 2016, SARB established the Financial Sector Contingency Forum (FSCF), representing all major financial sector stakeholders, including Standard Bank. One of FSCF's responsibilities is to put contingency plans in place in the event of a cyber-attack. We are also participating in industry level initiatives to strengthen resilience against cyber-attacks through the South African Banking Risk Information Centre (SABRIC) and Banking Association of South Africa (BASA). SABRIC has established a computer security incident response team (CSIRT), in which Standard Bank plays an active role. We liaise with the international cybersecurity community through our membership of bodies such as the Forum for Incident Response and Security Teams (FIRST), the International Security Forum (ISF); Gartner; Forrester; CEB Inc.; the Financial Services Information Sharing and Analysis Centre (FS-ISAC); European Network and Information Security Agency (ENISA); and strategic vendor partnerships. We have also implemented strategic security solutions such as Noknok, Inetco, MWR Info Security, Risk Minder and Trusteer to ensure the safety of our customers and their banking transactions.

Similar collaborative efforts are increasingly necessary in our other countries of operation, and we'll be engaging with industry bodies and regulators in this regard during 2017.

## IT RESILIENCE



Quality of service, comprising availability, reliability and security, remains our top priority. Customers' expectations of anywhere, anytime and always on banking continue to grow, and we are committed to fulfilling these expectations. We understand that system outages can cause delays in salary deposits, debit orders and the many other transactions that support economic activity.

During the year, we established our IT resilience programme to drive resilience engineering, identify and mitigate risks affecting system stability and recovery abilities. The primary focus of the resilience programme is to **identify technology, process and people constraints that may be affecting the reliability, resilience and recovery time of critical systems**. Issues identified are prioritised and remediated. This initiative has yielded positive outcomes in the form of a reduction in IT-related incidents over the year and improved recovery times when incidents did occur. This will continue to receive specific focus going forward.

While improving the reliability of the power and infrastructure remains challenging in many countries with some disruption to business services. Investment into redundant power and telecommunication services remains a priority, ensuring we service our customers even during times of disruption.

We have successfully implemented the "DevOps" philosophy where teams carry accountability for both development and effective operation of systems that they own. This philosophy has a proven track record of positively influencing system reliability, and will underpin our drive to maximise stability and the quality of our customers' experience.

## OUR IT CULTURE



In 2013, our organisational health was relatively weak, with the organisational health index ranking us in the bottom quartile. A number of initiatives to improve this metric have taken place over the last three years; and through these the overall Health Index has improved placing us in the second quartile when compared to other global organisations.

An engaged workforce is a critical success factor in the delivery of our sustainability objectives, and there has been a strong drive to enhance the culture in group IT and to make it a great place to work. There are several different initiatives that support this drive; examples include leadership development, lean IT, continuous improvement initiatives, innovation campaigns and our drive to elevate the status of engineering skill.

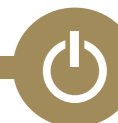
In 2016, we have moved from a project-based delivery model to a continuous delivery model through the utilisation of smaller integrated, collaborative multi-disciplinary teams working together to continuously deliver value to our customers. This transition was cemented during 2016 and has become our new way of working for system engineering which encompasses a number of frameworks, including the internationally recognised Scaled Agile Framework with Agile, Lean and DevOps principles.

We have invested extensively in **reskilling for the future** through building capability on three levels; internally to group IT with customised skills development programmes, partnering with universities to influence and align the IT curricula, and industry level collaboration on the agile and DevOps methodologies. Our ambition is to ignite our people to a common purpose (the customer), and to re-skill and "future proof" for emerging technologies and new ways of working.

Our new ways of working have yielded substantial efficiencies in the development and enhancement of systems. In areas where this approach has matured we have measured reductions of over 80% in the cost of delivering features, creating capacity for more features to be delivered.



## BUILDING SKILLS IN THE IT INDUSTRY



We've forged partnerships with a number of universities, to help to align their IT curriculums with emerging industry requirements. Several of our IT executives participate on university IT advisory boards, and meet regularly with universities to identify gaps in curricula and improve the business relevance of courses. We're represented on the advisory boards of the Universities of Fort Hare and Pretoria, and we're part of the Faculty of Science quality review process at the University of Johannesburg.

Our involvement in training initiatives includes a three-day training course, which was run at the University of Johannesburg in 2016 and which is on the radar for the University of the North West in 2017 – Standard Bank employees teach technical IT skills to students, with a focus on continuous delivery skills, continuous integration skills and agility. We have also co-hosted a digital conference with the University of Pretoria to build capacity within academia and the bank. We've forged a partnership with "We think Code" to build coding skills for Africa – the initiative commenced in South Africa and will be expanded to other African countries in 2017.

During 2016, we sponsored the **building of a computer lab at the University of Pretoria**; and sponsored 10 students undertaking an Honours course on Big Data at Wits University. We employed 28 new graduates in 2016, identified through our code-jam initiatives.

We've also partnered with Africa Teen Geek, on their "#GirlGeek"

initiative, which aims to attract female learners to careers in IT. The initiative provides mentoring to selected girls between the ages of eight and 18 years, together with real-life coding experience, and guides them through a basic JAVA programming skills qualification.

Standard Bank hosted 31 girls for a day during 2016, to expose them to corporate life and IT.

We're collaborating at industry level on agile and DevOps methodologies. We founded the DevOps initiative, which aims to develop Lean, Agile and DevOps skills in South Africa and to build the local IT industry, and we sponsored one of the two DevOps events held in South Africa in 2016.



### I SEE MY JOB DIFFERENTLY...

**Reshika Dayaram – Head of group finance change and strategic projects**

By incorporating SEE metrics in monthly reporting, we have increased awareness. Our next challenge is to incorporate into performance management so that SEE becomes part of our everyday lives.