Brenda Niehaus, Group chief information officer and head of data management

"We have completed the third year of our IT transformation journey and have made significant progress in placing the client at the centre of everything we do. In 2016, we improved the cadence of our delivery, added real value to our clients and improved the affordability of IT. In 2017, we plan to further entrench our agile ways of working and shift our focus to simplification, personalisation and data led decision making, while continuing to digitise our business processes and enhance the security of our systems for both our clients and the group."

Information technology report

Overview

2016 was a landmark year for Standard Bank Group Information Technology (group IT). We completed the third year of our transformation journey, with all key milestones achieved, and we remain on track to complete our objectives by the end of 2017. Key to our success has been a consistent strategy throughout the three-year period. This strategy places our clients at the centre of what we do and, coupled with a consistent and relentless drive for continued improvement, has been pivotal in transforming group IT.

The most noticeable achievement during this period has been the implementation of the first phase of our agile adoption, where more than 2 000 employees shifted from the traditional "waterfall" approach to work towards "new ways of working". This is characterised by smaller collaborative multidisciplinary teams ("you build it, you run it") working together to deliver frequent and meaningful value to our clients, at a more affordable cost.

We are well on our way to completing our core platform modernisation programmes and are seeing benefits in our ability to exploit and innovate on our new agile platforms. We have shown significant improvement in our resilience and client engagement across all facets of our business and have continued to achieve our affordability targets.

Our strategy

Our IT strategy has remained consistent throughout our transformation journey and is anchored in four key pillars.

- **Quality of service through brilliant basics:** achieving continuous improvements in the quality of service to clients in terms of availability, reliability and security.

- **Responsiveness to market:** leveraging innovative technology and new ways of working to achieve higher levels of agility, flexibility and responsiveness.

- **Affordability:** managing costs by driving a lean IT operation and by embedding commercial pragmatism.

- **Sustainability as the foundation of client excellence:** making group IT an aspirational destination for IT professionals and embracing our diversity, and social and ethical responsibility.

Our operating context for the year

The saying, "in the world of IT, the only constant is change" rings true for most of 2016. The significant transformation that took place in our organisation, together with sustained economic weakness and unwavering client expectations, placed pressure on our need to continue delivering high-quality IT systems at an affordable price. It is this context that shaped our activities, focus areas and responses for 2016, and will inform our planned activities for 2017 and beyond.

1 Our clients increasingly expect all banking features to be available at their fingertips. They expect real-time offers, 24/7 online availability and that all functionality should be enabled digitally. Meeting these expectations aligns to the key focus of our strategy to place the client at the centre of everything that we do.

2 Our environment is heavily regulated through a multitude of local and global legislative requirements, which continually evolve and require that we embrace regulation in our business-as-usual activities.

3 Our industry presents continual opportunities and threats from new disruptors to banking, both in the form of new banks and Fintechs. This requires that we rapidly deploy new solutions, have systems that are efficient and agile, and partner with Fintechs in a near real-time manner.

4 Our unique opportunities present a few key opportunities outside of that already mentioned, that are manifesting in the financial services industry and include:

- **Data as a strategic asset for the group:** data enables us to deeply understand our clients' needs and preferences, and drive real personalisation.
- **Threat of cybercrime:** the increasing sophistication and extent of cybercrime affecting our industry, coupled with our own experience of a material incident during the year, require focus and priority in accelerating the further development of our cybersecurity capability.
- **Artificial intelligence and robotics:** the emergence of artificial intelligence and robotics in the broader IT industry, creates an opportunity for us to gain deeper client insights quicker, and enhance existing processes by eliminating redundant and inefficient manual processes.

Performance against strategy

The digital revolution is changing the way in which business is conducted. The rapidly growing role of IT in our business is creating a direct connection between the group and our clients, employees and suppliers. With this in mind, our purpose is to provide a great client experience and sustainable value to stakeholders, embed leading risk management practices, create a vibrant, high-performing and aspirational workplace and optimise IT organisational efficiency.

Our ambition is to digitally enable every aspect of our business across the group, and we are making significant progress against this objective which is set out in the four pillars that follow.

Quality of service through brilliant basics

Quality of service which includes availability, reliability and security remains our top priority. We are committed to fulfilling clients' growing expectations of anywhere, anytime and always-on banking.

During the year, we established our IT resilience programme to drive resilience engineering, and identify and mitigate risks affecting system stability and recovery capabilities. 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 with a reduction in IT-related incidents experienced over the year and improved recovery times when incidents did occur. This will continue to receive specific focus going forward.

While improving, the power and telecommunication infrastructure remains challenging in many African countries with some disruption to business services being a business norm. Our investment into redundant power and telecommunication services remains a priority to ensure our ability to continue operating during these disruptions.

We have successfully implemented the "DevOps" philosophy where teams carry accountability for both the development and effective operation of the systems 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 client experience.

Inherent in the advances of digitisation is the growing risk of cybercrime. Our cybersecurity strategy has been reviewed with an emphasis on accelerating the delivery of security capabilities to counter the growing sophistication of cybercrime. A number of actions have been completed and a focused programme is in place 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.

Complexity is a key factor affecting risk in our IT estate, therefore, simplification is a key imperative in further improving quality of service. The completion of our core banking modernisation programmes (SAP in South Africa, and Business Online and Finacle across the Africa Regions) provides an opportunity to simplify our IT estate. This will reduce risks associated with system stability and security, as well as reduce operating costs. To this end, we continue to drive architecture governance across our estate to standardise core systems and rationalise duplicate capabilities.

Responsiveness to market

The digital revolution has unleashed a growing wave of change. Cloud computing, big data and advanced analytics, blockchain, artificial intelligence, robotics and quantum computing are just a few examples of new technologies that have the potential to transform the financial services industry. Leveraging technology will remain at the heart of realising the group's strategy, and is pivotal for us to remain relevant and competitive.

Client behaviours and needs are changing, and a key pillar of our strategy is to be responsive to these changes to ensure we deliver a superior client experience. Our design principles are to deliver what matters to clients, make decisions based on data, design for mobile, and provide continuous improvement, innovation, simplicity and safety.

Our strategic investments in IT include the core banking platforms in South Africa and in the Africa Regions, Business Online across Africa, SBG Mobile and eMarket Trader. These platforms form the backbone of our new IT architecture and include client, account and product management, and payment and transactional processing capabilities.

Investing in our core IT platforms has been a bold strategic move – and counter to the strategy of many of our competitors. We are convinced that our strategic investments enable our rapid response to client needs and the ability to deliver leading digital banking solutions, driving benefits for our client-focused strategy, agility, integration of operations and risk optimisation. For example, there has been an excellent adoption of our universal digital platform.

In 2016, we moved from a project-based delivery model to a continuous delivery model where smaller integrated, collaborative multidisciplinary teams work together to continuously deliver value to our clients. 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. Our teams deliver features and functionality in smaller increments, enabling a quicker response to market. The benefits of this approach are evident in the pace at which we have delivered changes in 2016, including the following:

- Launched the universal mobile banking app in Botswana, Ghana, Namibia, Swaziland, Uganda, Zambia and Zimbabwe, as well as in our offshore financial services operations in Jersey and the Isle of Man.
- In South Africa, more than 18 releases were delivered by the core banking programme in 2016, and a further 1.4 million clients were migrated onto the platform, bringing the total to over 7 million migrated clients.
- New investment and savings products were introduced onto the South Africa core banking platform.
- Completed Business Online with eight successful releases.
- Implemented the Finacle private cloud solution in Swaziland, Zambia and Zimbabwe, and completed a number of key Finacle core banking upgrades in the Africa Regions.
- A bespoke internet banking solution (Finacle E-Banking) was implemented for small enterprise clients in Botswana, Ghana, Namibia, Nigeria, Swaziland, Uganda and Zimbabwe, based on the multi-channel shared architecture between South Africa and the Africa Regions.
- Launched the Shyft app on iOS and Android devices which enables clients to buy, store, send and spend foreign currency.
- Finalised eMarket Trader, an advanced cross-asset electronic trading platform bringing together market intelligence, research, real-time pricing, trade execution and post-trade services through a single web-based platform.
- Completed the International Trade and Payments system development, covering traditional trade products, open account trade finance and an electronic client channel.
- Introduced several technologically enabled compliance and risk solutions, speeding up processing times and improving client experience.

Affordability

We remain on track to bring IT affordability within benchmarks through the transformation of our IT function. Specific and sustainable savings opportunities totalling R2.5 billion have been identified and implemented over the past three years. The sustainability of these savings is a key imperative for us, and is a function of innovating the way in which we operate.

Our substantial investments in the core modernisation programmes will be completed during the course of 2017. These capital investments will yield amortisation charges that will peak in 2018 and then standardise at lower levels after 2025. The net book value of investments was R21.2 billion at 31 December 2016 and the annual amortisation currently exceeds R2 billion. Investment in IT change is expected to reduce in 2018 and, thereafter, future investments in IT change will be aligned with global benchmarks.

Our new ways of working have yielded substantial improvements in the efficiency of 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. Our transition to new technologies and next generation infrastructure will deliver substantial cost savings in our infrastructure layers in coming years. Our programme to simplify our IT estate through decommissioning redundant applications and infrastructure will also yield savings.

Sustainability as the foundation of client excellence

An engaged workforce is a critical factor in the successful delivery of our sustainability objectives. There has been a strong drive to enhance the culture in group IT and make it a great place to work. Several initiatives support this, including leadership development, Lean IT adoption (the removal of unnecessary waste while maintaining overall delivery), continuous improvement initiatives, innovation campaigns and our drive to elevate the status of engineering skill.

We have invested extensively in reskilling for the future by building capability on three levels: internally in 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 client), and reskill and "future proof" them for emerging technologies and new ways of working.

In 2013, the Organisational Health Index (OHI) ranked us in the bottom quartile. A number of initiatives to improve this metric have taken place over the last three years, and the overall OHI has improved, placing us in the second quartile when compared to other global organisations.

To achieve our transformation and diversity objectives, our employee growth and retention strategies aim to accelerate the development of talented black employees. In line with our strategy to have a more permanent workforce, non-permanent to permanent conversions are in favour of black employees, specifically black women. We have also developed a focused intervention to transform our

executive and management committees over the coming years and have implemented cross-functional rotational experiences for black employees and executives.

Group IT is well-placed to contribute to the group's preferential procurement objectives. In 2016, 12% of our preferential procurement was from black women-owned businesses. In collaboration with the group procurement function, we are assisting qualifying and emerging small enterprises with supplier development programmes that address technical supplier requirements, in addition to traditional business development support.

Looking ahead

2017 is a key stage in our transformation and we expect to realise the sustainable benefits of the initiatives outlined above, as well as achieve our affordability targets. We will:

- Further embed and leverage our new ways of working, expanding this to all operations within South Africa and more operations in the Africa Regions.
- Leverage next generation infrastructure, enabling us to utilise more cost-efficient and powerful technology capacity to deliver on our objectives.
- Move towards a more normalised level of investment as the level of spend on our signature programmes tapers, enabling our ability to leverage the investment in our modern core banking estate.
- Complete the core banking transformation in South Africa in 2017 with more than 95% of clients on the modernised platform.
- Accelerate the digitisation of all business services to improve client experience.
- Continue to progress our data journey, using data to better understand our clients and enable a personalised client experience.
- Drive the radical simplification of our systems post the completion of our core modernisation programmes.