

# SEASON'S GREETINGS

*Best wishes for the holidays, and for health and happiness throughout the coming year.*



# NEWSLETTER

**RTGS** | Real-time  
Renewal | Gross  
Programme | Settlement  
Systems

DECEMBER 2023

## **NPSD's RTGS Renewal Programme to deliver a modern and future-fit RTGS system for South Africa and the rest of the SADC region**

### **Introduction**

The South African Reserve Bank (SARB), through the National Payment System Department (NPSD), operates the real-time gross settlement (RTGS) system that enables the transfer of funds between financial institutions, both on their behalf and on behalf of their clients. The system is operated for the South African market and the rest of the Southern African Development Community (SADC) region.

The South African market RTGS system, called the South African Multiple Option Settlement (SAMOS) system, has operated for the past 25 years, and is one of the leading and most reputable systems that facilitates high-value exchange practices for South African financial market participants. The market users of the system are various participant banks, clearing systems and operators that settle domestic high-value payment transactions, daily retail transaction batches, and bond and equity market settlement obligations.

On the regional front, the SARB operates the regional settlement system (SADC-RTGS) on behalf of SADC participating member central banks to facilitate cross-border payments. Participants include central banks and financial institutions such as banks and non-banks in SADC that are authorised by the central bank in the country of origin to participate in that country's settlement system.



## What is the RTGS Renewal Programme?

The Domestic and Regional Settlement Services (DRSS) Division within the NPSD operates and manages settlement services within the national payment system (NPS). To keep up with new developments in the payments services landscape, the NPSD is leading the modernisation and transformation of the RTGS system through its renewal programme.

For many years, the SARB's RTGS was recognised as having international gold status; however, ageing technology started to weaken its position. The renewal programme aims to modernise and revolutionise the domestic and regional settlement systems by fulfilling the following objectives and outcomes:

- ➡ Encourage competition in the market by allowing players other than the existing participants to use the RTGS infrastructure.
- ➡ Minimise the risk in the payment ecosystem by ensuring that data privacy breaches and security risks are minimised for direct and indirect system users.
- ➡ Leverage technological developments to extend the reach of digital services to all sectors of society while meeting domestic, regional and international requirements for the benefit of all South Africans, SADC citizens and Africans.

## The future RTGS concept and principles

The future RTGS aims to be a first-in-class settlement solution built using forward-looking financial markets technologies. The concept is based on the premise of combining the improved existing capabilities of the system and introducing new innovations.

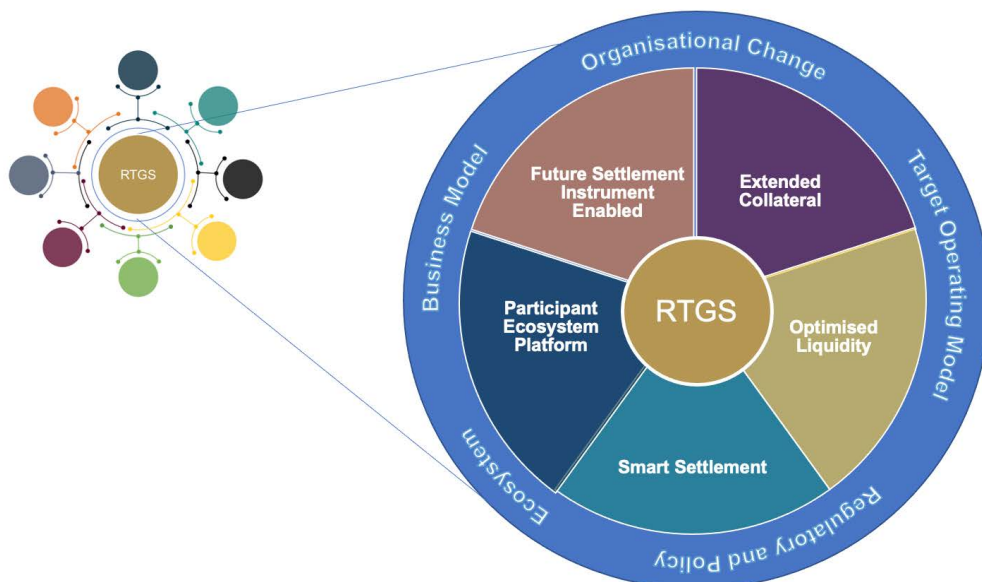
The new RTGS design will take an evolutionary approach which allows the future system to adapt, making incremental changes easier and cheaper to manage. The future RTGS will enable smart settlement services as well as new settlement instruments. Other smart functionalities include:

- ➡ optimised or intelligent liquidity to better manage of the liquidity positions of system participants and enable more participants to access the RTGS;
- ➡ additional collateral options; and
- ➡ a broader participant ecosystem platform that will reduce costs for participants.

The golden circle in the centre contains all the legacy RTGS functionalities of the system, such as accounting, reporting and so forth.

Once implemented, the new design will support the direct access of a broader list of participants into the future RTGS system, ranging from traditional players (such as banks) to non-banks such as big tech companies like ApplePay. More participants and increased competition will help drive innovation in the products and services offered to end-consumers. It will also promote financial inclusion by granting access to organisations that serve people who are not served by traditional banks.

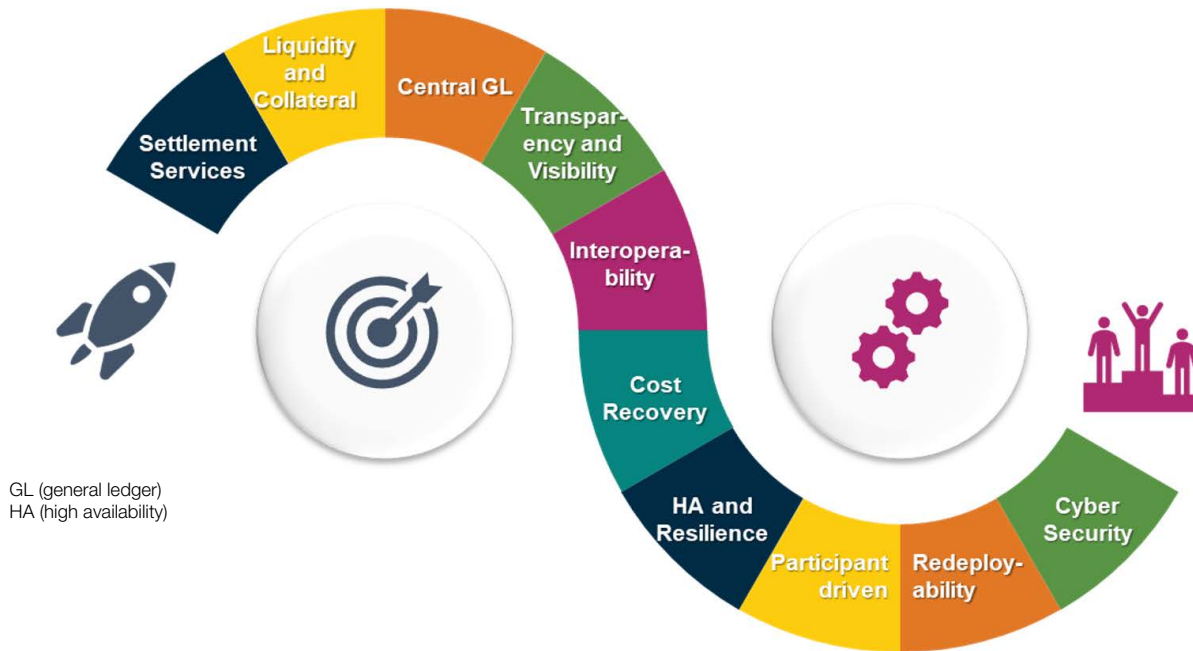
Figure 1: Elements of the new RTGS concept



## The key principles of the design of the new RTGS

These principles will address key business challenges identified by the SARB. In addition, the principles will continue to shape the future design journey of the RTGS system and serve as a benchmark for the effective implementation of the relevant target operating model and related business and technology designs. They will also take into account industry trends in payment and central bank settlement solutions.

**Figure 2: RTGS design principles explained**



### RTGS design principles explained:

|     |   |
|-----|---|
| 1.  | <b>Optimising settlement services:</b> This includes refreshing the settlement model, optimising settlement services for existing instruments and implementing new instruments.   |
| 2.  | <b>Liquidity and collateral management:</b> This involves liquidity optimisation mechanisms and additional collateral options for future products and services, and collateral requirements that need to be managed from within the future RTGS system. |
| 3.  | <b>Central general ledger (account management):</b> A uniform accounting approach is required across all current and future instruments.  |
| 4.  | <b>Transparency and visibility:</b> This will provide transparency and visibility to participants and other players such as industry bodies by embedding notification, reporting and data analytics capabilities.                                       |
| 5.  | <b>Interoperability and accessibility:</b> This supports access to the payment ecosystem (including non-banks as well as the formal and informal economy), seamless payment flows and expedited settlements – domestically, regionally and globally.    |
| 6.  | <b>Cost recovery:</b> This involves the recovery of full operational cost (OPEX) and capital invested (CAPEX) from direct participants.   |
| 7.  | <b>High availability and operational resilience:</b> This encompasses options for operating a business to support continuous real-time processing 24 hours a day, 7 days a week.  |
| 8.  | <b>Participant-driven services:</b> This involves ensuring that the future RTGS design accommodates both traditional and non-traditional participants to encourage innovation and increase competition in an effort to bring down payment costs.        |
| 9.  | <b>Platform redeployability:</b> This means we can reconfigure what we do well in our domestic and regional environment for new and alternative markets.  |
| 10. | <b>Cybersecurity:</b> This must be embedded in business, data and technology processes from the start (e.g. secure access, fraud prevention, trust in the ecosystem).   |

## The need for the renewal programme in South Africa and in SADC

The rapid changes taking place in the payments ecosystem across the continent highlights the need for the SARB to pursue the renewal programme. Other reasons include:

- ➔ a need for effective collaboration and consensus between payment ecosystem stakeholders, including central banks, commercial banks, non-banks, regulators and governments;
- ➔ the adoption of the **International Organization for Standardization 20022 (ISO 20022)** and related global standards which enable a harmonised, efficient and compliant payments experience for a country and/or region; and
- ➔ stronger cybersecurity and data privacy controls as payments become more digitally enabled.



More importantly, the renewal programme provides the SARB with the opportunity to address certain gaps and constraints in the current RTGS operations by offering ways to continually improve the RTGS and its service. These strategies include the following:

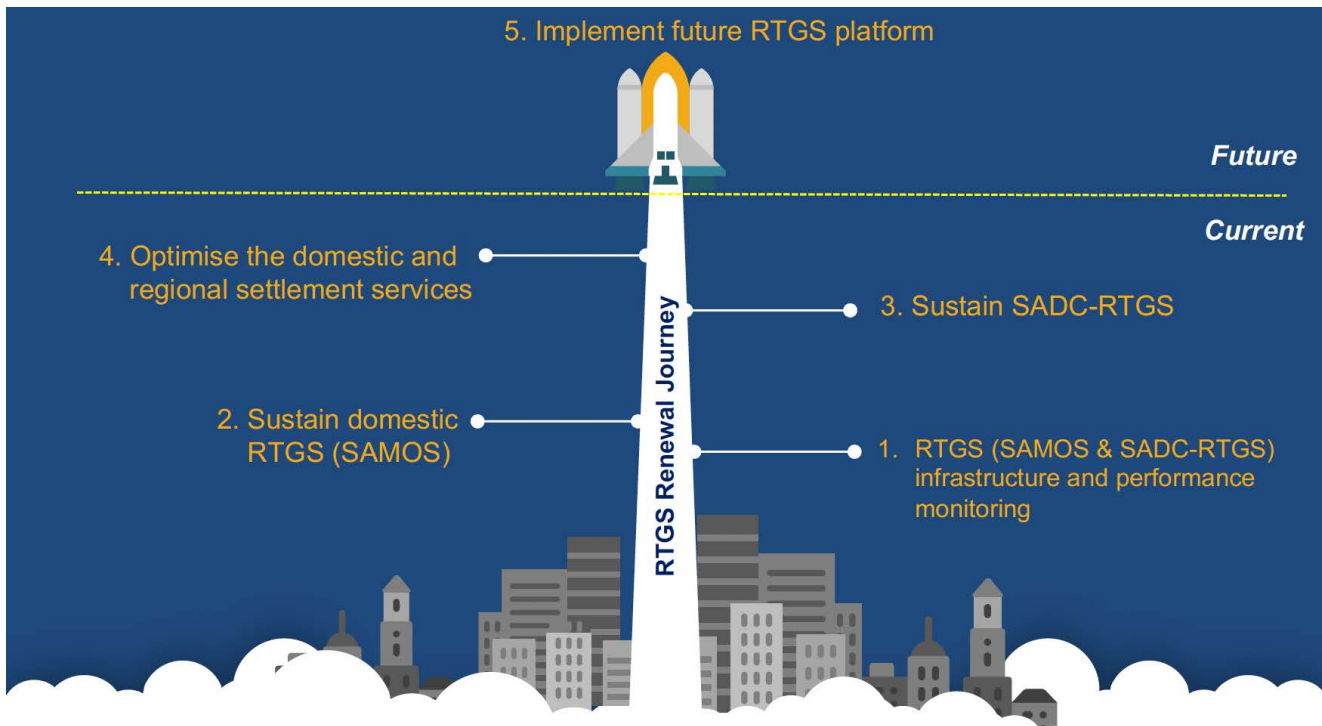
- ➔ The future RTGS will be able to accommodate future payment and settlement instruments preferred by the market. The system will expand to accommodate digital payment solutions as well as enable functionalities of settling payments in other currencies over and above the South African rand.
- ➔ The SARB will be able to meet the needs and demands of the market without compromising any data privacy and cybersecurity concerns and will ensure a safe and secure operating environment for domestic and cross-border payments.
- ➔ The future RTGS will accommodate the participation of non-banks (typically fintechs, mobile network operators and eWallet providers) and allow them to facilitate payments on behalf of their customers.

The RTGS Renewal Programme follows the transformation taking place in the global payment ecosystem. Some countries in the SADC region, however, are at different levels of maturity in their modernisation strategies and journeys. The SARB, as the operator of both the SAMOS and SADC-RTGS systems, is therefore instrumental in harmonising these regional efforts and influencing how the regional jurisdictions interoperate and integrate to achieve stable and efficient payment and settlement processes.

## The structure of the RTGS Renewal Programme

The renewal programme is designed to meet both continuity and modernisation objectives. The programme will ensure that the SARB can continue to meet the needs and demands of the participating banks through the existing domestic and regional services, while simultaneously developing a modern, future-fit infrastructure that delivers innovative functionalities in line with market demands.

The renewal programme forms part of a broader initiative aimed at modernising the broader South African payment ecosystem, the details of which will be shared in due course.



### The delivery of the renewal programme has five core pillars which define and underpin its outcomes:

- 1. Infrastructure and performance monitoring** encompasses the effective support and maintenance of the existing RTGS infrastructure so that it continues to meet acceptable performance standards while the SARB designs and plans a new target operating model and architectures for the future RTGS. This focus area contributes to the programme's objective of modernising the settlement infrastructure to enable cheaper, faster and more accessible payments in the future.
- 2. Sustaining SAMOS** as the South African RTGS system requires key operational targeted outcomes such as managing and implementing ISO 20022 enhancements following the successful implementation of this global standard in 2022. This focus area is also about continuing to meet compliance requirements, facilitating critical system integration as well as implementing continuous system enhancements. For instance, the programme is assessing the feasibility of implementing extended or 24/7 operating hours for both the SAMOS and the SADC-RTGS systems.

**3. Sustaining SADC-RTGS** to ensure it meets its cross-border payments mandate as well as achieves some of the following new outcomes:

- ▶ Implement ISO 20022 as a global messaging standard to enable efficient, transparent and secure transactions for the SADC region. The SARB has set **10 June 2024** as the official implementation date for the **SADC-RTGS ISO 20022 Migration Project**.
- ▶ Increase direct participation of banks and non-banks on the SADC-RTGS system by expanding the service and product offerings that are feasible in the medium and long term, and that are based on market demands and internal system readiness.
- ▶ Onboard the US dollar and other regional currencies, besides the rand, as preferred settlement options.

**4. Optimising the DRSS component** is the cornerstone of a future-fit, modern and innovative RTGS system. This leg of the renewal programme promises to alter the current trajectory of our payment and settlement operations by implementing future operating models that are informed by the following key initiatives:

- ▶ **Execute the new target operating model developed in partnership with KPMG.**
- ▶ **Develop and implement the enablement technologies and tools defined and identified in the target operating model and defined in the future RTGS architecture roadmap.**
- ▶ **Identify and implement business processes that can be automated using robotics.**
- ▶ **Establish a settlement rule unit as part of the new operating model and migrate this function from the Payments Association of South Africa (PASA) to the SARB's DRSS environment.**
- ▶ **Design and implement a new organisational structure for the DRSS Division to support the new target operating model.**
- ▶ **Identify and develop requisite skills and talent in the SARB to support the critical capabilities needed to operate the future RTGS platform.**

**5. Implementing the future RTGS platform** which will completely replace the current domestic and SADC-RTGS systems. This future platform will be the culmination of all the initiatives as shared in pillar four (above) and will operate based on the new target operating model and architecture described in this pillar.



## Achievements to date



The RTGS Renewal Programme has already achieved key milestones. Most recently, it concluded the architectures and designs of the target operating model for the future DRSS operating environment.

Tim Masela, Head of the NPSD, recently hosted a celebratory event to mark this critical milestone in the renewal programme journey. At the event, Programme Owner Nomwelase Skenjana reflected on the joint work done by the DRSS teams in reaching this landmark achievement. The celebration was attended by the programme team and most of the DRSS operations and projects team members.



### Other achievements to date include:

- ➔ The successful **implementation of the ISO 20022 universal messaging standard** for the domestic market in September 2022. South Africa is one of the first countries on the continent to adopt the **ISO 20022 financial messaging standard** which is expected to underpin all high-value payments in reserve currencies by 2025.
- ➔ The implementation of the **Golden Copy for the SAMOS system**. This initiative allows the SARB to provide a trusted, verified, single source of settlement data in support of a timeous recovery of the RTGS in the event of data corruption or contamination.
- ➔ The programme has executed the **replacement of the mainframe and storage infrastructure** for the RTGS systems, thereby extending the lifespan of the current RTGS systems (both SAMOS and SADC-RTGS) for the duration of the renewal journey. **This achievement guarantees the continuity of the current SAMOS and SADC-RTGS operating environments.**



## What lies ahead?

The RTGS Renewal Programme is currently underway and recently concluded its alignment with the SARB's broader **Payments Ecosystem Modernisation initiative**. The details on how this wider programme will impact the RTGS renewal journey will be shared as it evolves. Part of this alignment has led to several reforms to the RTGS Renewal Programme, including:



The review of the programme governance structures. The programme steering committee has been incorporated into the governance structures supporting the broader modernisation efforts, providing higher SARB executive support and sponsorship.



The programme has completed an intensive re-prioritisation process that will ensure a seamless and fully coordinated resourcing and support model which is aligned with fundamental DRSS business requirements as well as the SARB's Business Solutions and Technology Department's capability and programme schedule. This exercise safeguards the medium- and long-term success of the programme.



The review of the current programme roadmap in line with the SARB's modernisation initiative. The RTGS Renewal Programme will continue to strengthen alignment with the ongoing modernisation efforts, to leverage technological developments, market intelligence and enhance internal SARB integration and business leadership support.

## Programme highlights for 2024



The RTGS Renewal Programme owner, sponsors and team wish to extend their best holiday season's greetings to all stakeholders and partners, and thank all for their contribution this year. We look forward to the exciting journey ahead in 2024.



To learn more about the RTGS Renewal Programme and obtain updates and previous newsletters, click on the link below:



**RTGS RENEWAL PROGRAMME**

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