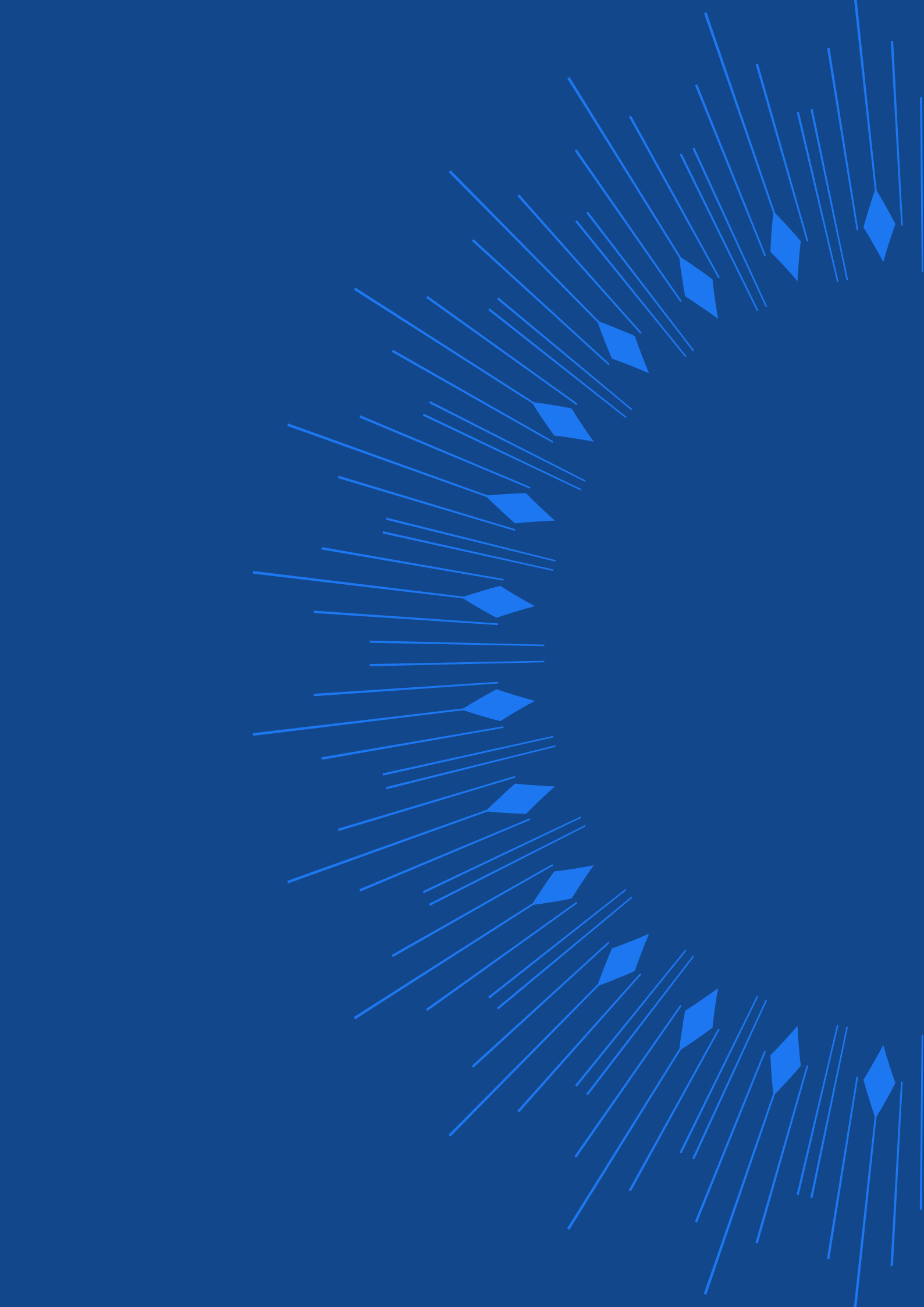
Annual Report 22|23

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

SANSA
SOUTH AFRICAN NATIONAL
SPACE AGENCY



ANNUAL REPORT

2022|23

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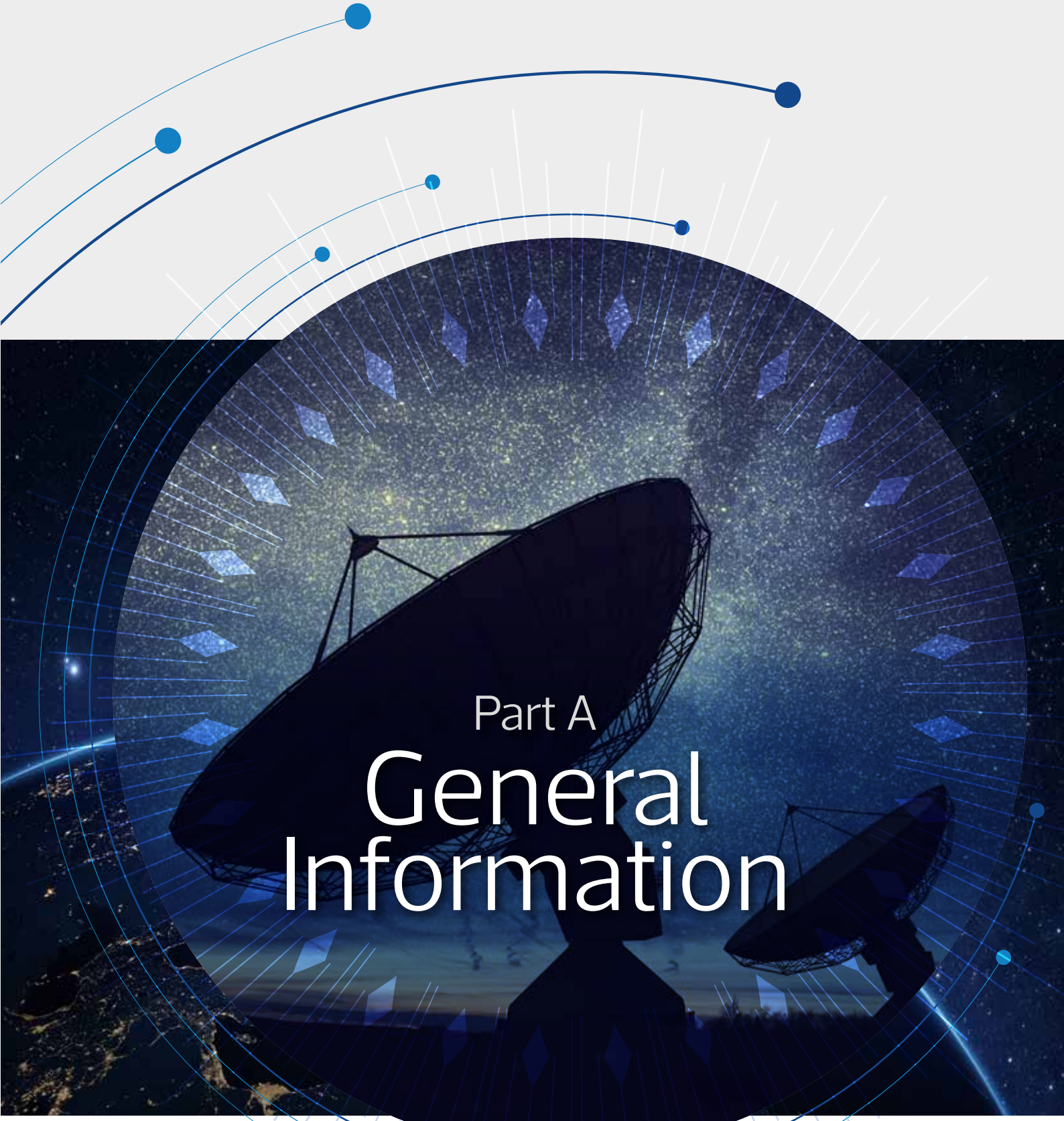


Part A
General Information

1. Public Entity's
General Information

Registered Name	South African National Space Agency (SANSA)
Registered Number	Not Applicable
Chairperson of the Board	Mr Patrick Ndlovu
Chief Executive Officer	Mr Humbulani Mudau
Registered Office Address	Enterprise Building Mark Shuttleworth Street The Innovation Hub Pretoria 0087
Postal Address	PO Box 484 Silverton 0127
Contact Telephone Numbers	+27 12 844 0500
Fax numbers	+27 12 844 0396
Website Address	https://www.sansa.org.za
Bankers	ABSA Bank 7th Floor - Absa Towers West 15 Troye Street Johannesburg 2001
External Auditors	A2A Kopano Incorporated 147 Marais Street, Brooklyn Pretoria 0181
Board Secretary	Ms Bridget Laka

2. List of **Abbreviations**

AIT	Assembly Integration and Testing
APP	Annual Performance Plan
ASRI	Aerospace Systems Research Institute
AVE	Advertising Value Equivalency
B-BBEE	Broad-Based Black Economic Empowerment
BFI	Budget Facility for Infrastructure
BRICS	Brazil, Russia, India, China, and South Africa
CBA	Cost Benefit Analysis
CDEF	Concurrent Design Engineering Facility
CDM	Capricorn District Municipality
CEO	Chief Executive Officer
CEOS	Committee on Earth Observation Satellites
CIPA	Critical Infrastructure Protection Act 8 of 2019
COVID-19	Coronavirus Disease 2019
CPUT	Cape Peninsula University of Technology
CSIR	Council for Scientific and Industrial Research
DBE	Department of Basic Education
DEA	Digital Earth Africa
DLR	German Space Center
DRC	Democratic Republic of Congo
DESA	Digital Earth South Africa
DIRCO	Department of International Relations and Cooperation
DSI	Department of Science and Innovation
DSN	Deep Space Network
dtic	Department of Trade, Industry and Competition
EC	Eastern Cape
EgSA	Egyptian Space Agency
EO	Earth Observation
EO4WQ	New Earth Observation Frontiers Earth Observation for Water Quality
EO-Sat	Earth-Observation satellite

ERRP	Economic Reconstruction and Recovery Plan
ESA	European Space Agency
EXCO	Executive Committee
GET	General Education and Training
GIS	Geographical Information System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GRAP	Generally Recognised Accounting Practice
HCD	Human Capital Development
HF	High Frequency
IAC	International Astronautical Congress
IAF	International Astronautical Federation
IAGA	International Association of Geomagnetism and Aeronomy
ICAO	International Civil Aviation Organisation
ICASA	Independent Communications Authority of South Africa
IOCAP	Ionospheric Characterisation and Prediction Tool
ISO	International Organisation for Standardisation
ISWC	International Space Weather Camp
MDAsat	Maritime Domain Awareness Satellite
MoSRTI	Ministry of Scientific Research and Technological Innovation
MoU	Memorandum of Understanding
MTJ	Matjiesfontein
MTSF	Medium-Term Strategic Framework
NASA	National Aeronautics and Space Administration
NDP	National Development Plan
NEOFrontiers	New Earth Observation Frontiers
NEOSS	National Earth Observation and Space Secretariat
NKP	National Key Point
NRF	National Research Foundation
NRSC	National Remote Sensing Centre of Zambia
NSW	National Science Week
OCIMS	National Oceans Information Management System
PFMA	Public Finance Management Act, (Act No. 1 of 1999), (as amended by Act No. 29 of 1999)
PPPFA	Preferential Procurement Policy Framework Act

R&D	Research and Development
ROSCOSMOS	State Space Corporation
RSSC	Remote Sensing Satellite Constellation
RU	Rhodes University
SAAF	South African Air Force
SAASTA	South Africa Agency for Science and Technology Advancement
SAASTEC	Southern African Association of Science and Technology Centres
SANSA	South African National Space Agency
SARChI	South African Research Chairs Initiative
SAWS	South African Weather Service
SCM	Supply Chain Management
SDG	Sustainable Development Goal
SE	Space Engineering
SHEQ	Safety, Health, Environment and Quality
SIH	Space Infrastructure Hub
SME	Small to Medium Enterprise
SO	Space Operations
SPOT	Satellite Pour l'Observation de la Terre
SS	Space Science
SSGI	Space Science and Geospatial Institute
STEM	Science, Technology, Engineering, Mathematics
STI	Science, Technology and Innovation
SuperDARN	Super Dual Auroral Radar Network
UJ	University of Johannesburg
UK	United Kingdom
UKNSA	United Kingdom National Space Academy
UKSA	United Kingdom Satellite Applications
UKZN	University of KwaZulu Natal
UNCOPUOS	United Nations Committee on Peaceful Uses of Outer Space
UWC	University of Western Cape
WMO	World Meteorological Organisation
WSW	World Space Week
ZINGSA	Zimbabwe National Geospatial and Space Agency

3. Foreword by the **Chairperson**

Mr Patrick Ndlovu

I am immensely proud to be leading the Board of SANSA since the appointment of a new Board by the Department of Science and Innovation (DSI) in September 2022 and to introduce you to the results of the Space Agency over the 2022-2023 financial year.

Having extensive experience in the local space industry and a history of working previously with SANSA, I look forward to providing strategic guidance and leadership as SANSA aspires to greater milestones into the future.

I acknowledge the effort and contribution of the previous Board as they supported SANSA in achieving the excellent results contained in this Annual Report and express my gratitude to them for the service they rendered to the DSI and SANSA during their tenure. We are proud to take over the baton as we ramp up towards ensuring the entity achieves a legacy of impact.

Since joining the Agency, the Board has been privileged to have experienced two significant launches for SANSA, those being the launch of the Space Weather Centre in Hermanus and the ground-breaking of the Deep Space Network at Matjiesfontein.

Some of the impressive highlights achieved by the Agency include the impact of extensive research output and science engagement with thousands of youths that support the Department's objectives of knowledge generation and inspiring our youth to study science and maths for a better future. Despite the delays encountered with implementation of the Space Infrastructure Hub (SIH) and Assembly Integration and Testing (AIT)

> *... impressive highlights achieved by the Agency include the impact of extensive research output and science engagement with thousands of youths that support the Department's objectives of knowledge generation and inspiring our youth to study science and maths for a better future*

facility upgrade by SANSA, the Agency was able to achieve 85% performance against its targets that included growth interventions into the local industry, development of local and global strategic partnerships for sustainability as well as development of space-based products and services.

The SANSA Board has been instrumental in maintaining governance and oversight of the Agency to enable some progress towards the new business model proposed by SANSA that is awaiting necessary approvals. The Board is aware that disruptions to the process may have contributed to some of the performance outcomes and will address these in the new financial year. Overall, the Board views the performance results as positive for the Agency along with the recent appointment of a new SANSA Chief Executive Officer (CEO) in April 2023 that is hoped to stabilise the Agency and provide stronger alignment with its mandate.

I express deep gratitude to Minister Dr Blade Nzimande and his Department, SANSA Board members, management, and staff for their continued dedication to delivering a profound service to the citizens of South Africa through space science and technology.

Mr Patrick Ndlovu
SANSA Board Chairperson
31 July 2023

4. Chief Executive Officer's **Overview**

Mr Humbulani Mudau

Space science plays a critical role in enhancing the quality of life for our citizens and as the new CEO of SANSA, I am grateful for the opportunity to be a part of this meaningful contribution to our country.

During my extensive past tenure at the DSI, I have been privileged to have been a part of the development and establishment of SANSA and express my gratitude to the previous Acting CEO, Ms Andiswa Mlisa who held the reigns for almost a year and supported the Agency's achievement of 85% against annual set targets.

There were several internal challenges aligned to implementation of the new business model that will need to be managed as we proceed into the new ramp up phase for SANSA. The SANSA Board and employees have been hard working despite these challenges and this is testament to the performance achievement by the Agency.

During the financial year under review, I was part of the shareholder and engaged with SANSA on numerous initiatives for national and global impact and can confirm the high level of integrity and passion displayed by the management and employees towards its partners and customers that have positioned SANSA highly on the continent and abroad.

More work is needed in the local context to build the brand and reputation of SANSA amongst all stakeholders, and we look forward to doing so as we progress on some of the delayed national impact projects such as the acquisition and upgrade of the AIT facilities and SIH projects.

The national framework for Science & Innovation as led by the DSI provides a clear position for the mandate of SANSA and the Agency has been able to contribute to the mandate despite budget and operational challenges. Some of the strategic highlights this past financial year and prior, demonstrate the capability and excellence SANSA has to offer.

The exciting culmination of the Space Weather Centre development in Hermanus that was officially opened by Minister Nzimande in November 2022, offers a critical service to the African aerospace community and even to the protection of our currently insecure electricity supply, and showcases how SANSA can provide unique and valuable products and service through space investment.

Following close on the heels of this milestone event, was the much anticipated ground breaking for South Africa's contribution to the global Deep Space Network of ground stations at Matjiesfontein in the Western Cape. This exciting development is led through a partnership with the National Aeronautics and Space Administration (NASA) to support their upcoming manned Artemis missions to the Moon and will prove beneficial to other global customers as the site investment for more mission support infrastructure takes shape. This project offers economic investment and growth opportunities for the community as well as a human capital development focus for academia.

SANSA has also enhanced the Earth Observation (EO) service offering through the extension of support to the Mzansi Manzi project and the Digital Earth South Africa (DESA) platform that provides access to the catalogues of satellite data from a

> *SANSA must play a critical role in contributing to providing our youth with the knowledge and skills they need to contribute towards addressing societal challenges and the opportunities that will be available to a future workforce or space force.*

portfolio of satellites for the benefit of policy makers in Government and for local industry development.

The exceptional research output of the SANSA scientists and researchers continues to position South Africa as leading in generation of space science knowledge on the continent.

The future of the country lies in the hands of the youth and as the world becomes more reliant on technology and the need to identify other habitable planets. SANSA must play a critical role in providing our youth with the knowledge and skills they need to contribute towards addressing societal challenges and leverage opportunities available to a future workforce or space force.

Our science engagement teams have exceeded their targets of engaging thousands of youth across the country and we aim to impact even more youth into the future.

People are important for SANSA to be able to develop and provide innovative products, services and technologies that ultimately help people and so we remain committed to developing people at SANSA and around the country to ensure we are relevant and sustainable.

I am grateful to Minister Dr Blade Nzimande, Director - General Dr Phil Mjwara, the leadership team at DSI, the SANSA Board, Management, and employees for their invaluable contribution to ensure SANSA has been able to build a positive reputation and positively impact the lives of the citizens.

I look forward to building on the strong national, regional, and international partnerships SANSA has established to accomplish greater achievements for the Agency.

Mr Humbulani Mudau
Chief Executive Officer
31 July 2023

5. Statement of Responsibility and Confirmation **of Accuracy of the Annual Report**

To the best of our knowledge, we confirm the following:

All information and amounts disclosed in the annual report are consistent with the SANSA 2022/23 Annual Financial Statements audited by the External Auditors.

The annual report is complete, accurate, free from any omissions and has been prepared in accordance with the Public Entities Annual Report guidelines as issued by National Treasury.

The Annual Financial Statements (Part F) have been prepared in accordance with the South African Standards of Generally Recognised Accounting Practice (GRAP) standards applicable to the public entity.

The Accounting Authority is responsible for the preparation of the Annual Financial Statements and for the judgements made in this information.

The Accounting Authority is responsible for establishing and implementing a system of internal control which has been designed to provide reasonable assurance as to the integrity and reliability of the performance information, the human resources information and the Annual Financial Statements.

The external auditors are engaged to express an independent opinion on the Annual Financial Statements.

In our opinion, the annual report fairly reflects the operations, the performance information, the human resources information and the financial affairs of the entity for the financial year ended 31 March 2023.

Yours faithfully

Mr Humbulani Mudau
Chief Executive Officer
31 July 2023

Mr Patrick Ndlovu
Chairperson of the Board
31 July 2023

6. Strategic **Overview**

6.1. SANSA VISION AND MISSION

The SANSA vision and mission as outlined below have been an integral part of all initiatives aimed at ensuring effective delivery against the organisational mandate during the 2022/23 financial year.

Vision

SANSA's vision statement for repositioning the South African space programme:

"An integrated National Space Capability that responds to socio-economic challenges in Africa by 2030".

Mission

SANSA's mission statement relating to the South African space programme:

"To provide leadership in unlocking the potential of Space for the advancement and benefit of humanity"

6.2. SANSA VALUES

SANSA activities during the reporting period were underpinned by the following six 'STRIPE' Values:

Figure 1: SANSA's STRIPE Values

In the final quarter of the 2022/23 financial year, however, these values were reviewed as follows in accordance with organisational change management and culture improvement initiatives:

Figure 2: New SANSA Values

In alignment with the revised values, SANSA management and employees, have jointly defined the following Employee Value Proposition:

"At SANSA, we create opportunities to learn and grow, providing a world class service to our stakeholders and clients through individuals that are energetic, enthusiastic, and passionate about what we do.

We promote a healthy work life balance, provide equitable remuneration and competitive benefits to build a motivated workforce that contributes to the long term good of society."

The revised organisational values will guide the embedment of a new organisational culture during the 2023/2024 financial year. SANSA priorities will also include implementation of a values-driven performance management system as part of targeted interventions for ensuring the values are "lived" throughout the entity.

6.3. SANSA CONTRIBUTION: SUSTAINABILITY PILLARS

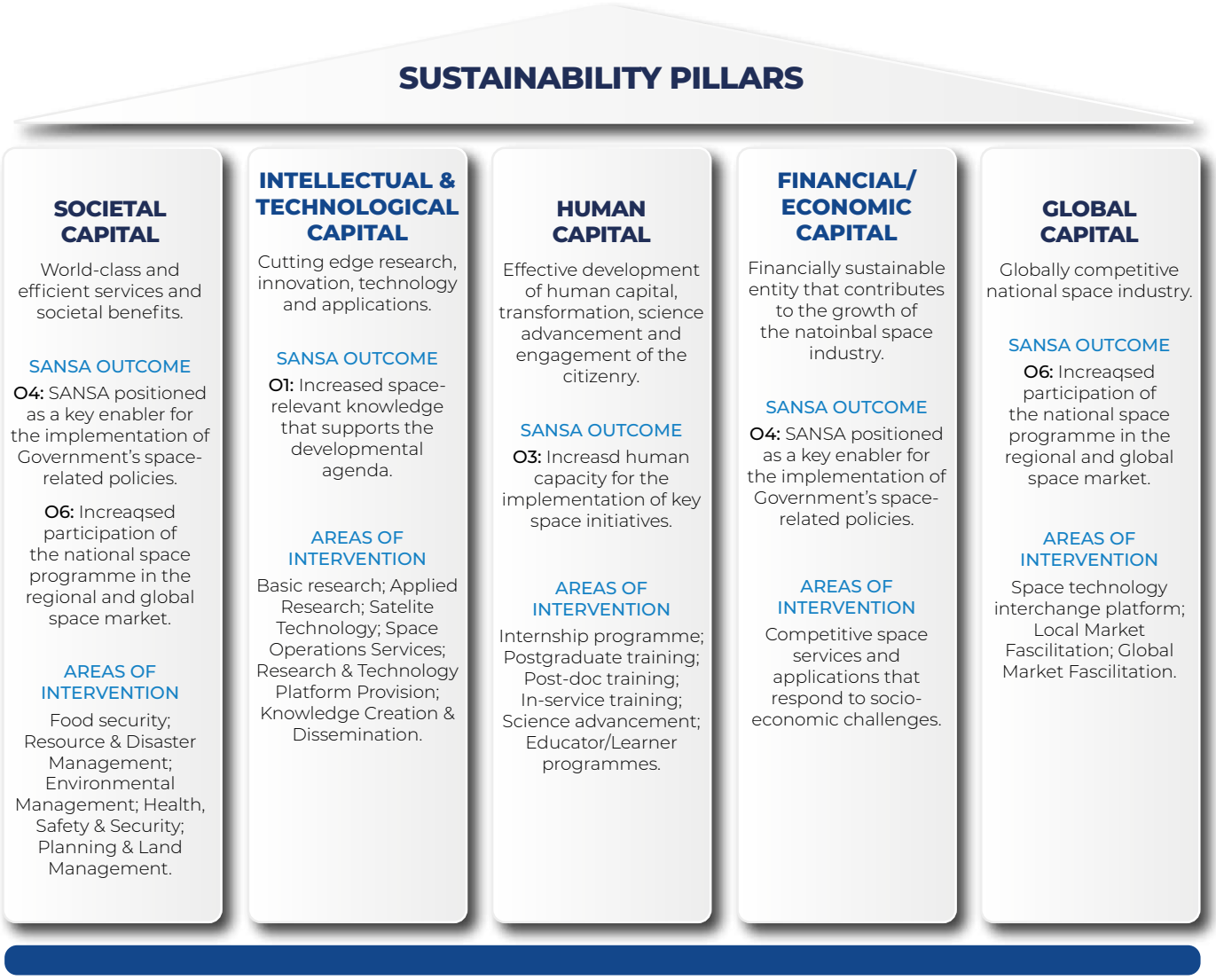


Figure 3: SANSA's Contribution towards the Sustainability pillars

SANSA's strategic initiatives, including those relating to change management and ensuring an improved organisational culture, seek to enhance business efficiencies in a manner that will result in growth and sustainability for the entity and South Africa's broader space sector.

7. Legislative and other Mandates

7.1. LEGISLATIVE AND OTHER MANDATES

SANSA is a Schedule 3A public entity established in terms of the Public Finance Management Act (PFMA), No. 1 of 1999 under the auspices of the Department of Science and Innovation (DSI).

The agency's legislative mandate is premised on two key Acts namely: the **Space Affairs Act (Act No. 84 of 1993)** and the **South African National Space Agency (SANSA) Act (Act No. 36 of 2008).** The former, is an instrument of the Department of Trade, Industry and Competition (the **dtic**) which provides a regulatory and policy framework for the South African space programme, while the SANSA Act which is governed by the DSI, enabled the establishment of SANSA as an implementing agency for the South African Space Programme. Key legislative and other mandates relevant to SANSA include the following:

Public Finance Management Act (No. 1 of 1999): which provides the basis for the management of public funds by public entities listed in terms of the PFMA. As an entity listed as a Schedule 3A National Public Entity SANSA is obligated to adhere to the requirements and principles of the PFMA.

Science and Technology Laws Amendment Act (No. 9 of 2020: which amends the establishment legislation of several DSI public entities including SANSA with a view to harmonise and streamline the processes related to the governance arrangements of the accounting authorities of public entities.

National Key Point Act (No. 102 of 1980): which provides for the declaration and protection of sites of national strategic importance against sabotage, as determined by the Minister of Police since 2004, and the Minister of Defence before that. In the SANSA context this Act is of importance for the protection of the Hartebeesthoek and Hermanus facilities as National Key Points.

White Paper for Science, Technology, and Innovation (2019): which focuses on increasing the impact of Science, Technology, and Innovation (STI) on the country's national priorities, including economic growth, strategic partnerships, and the development of an innovation culture with a whole-of-society approach through a Government Innovation Compact.

National Development Plan (NDP), Vision 2030: the NDP is aimed at eliminating poverty and reducing inequality by 2030. It comprises thirteen chapters, inclusive of a set of objectives and actions for each, which details how government intends to respond on different fronts to the manifold challenges facing South Africa.

South African Economic Reconstruction and Recovery Plan (ERRP) (2020): which was developed to address the resultant economic crisis of the Coronavirus Disease 2019 (Covid-19) pandemic. On the main the focus of the ERRP is on ensuring a comprehensive health response to the pandemic while rolling out interventions for economic restoration and building a sustainable and inclusive economy.

SANSA will continue to contribute to the ERRP by providing solutions through the development and distribution of space products and applications that respond to the specific challenges related to the pandemic and other broader socio-economic challenges.

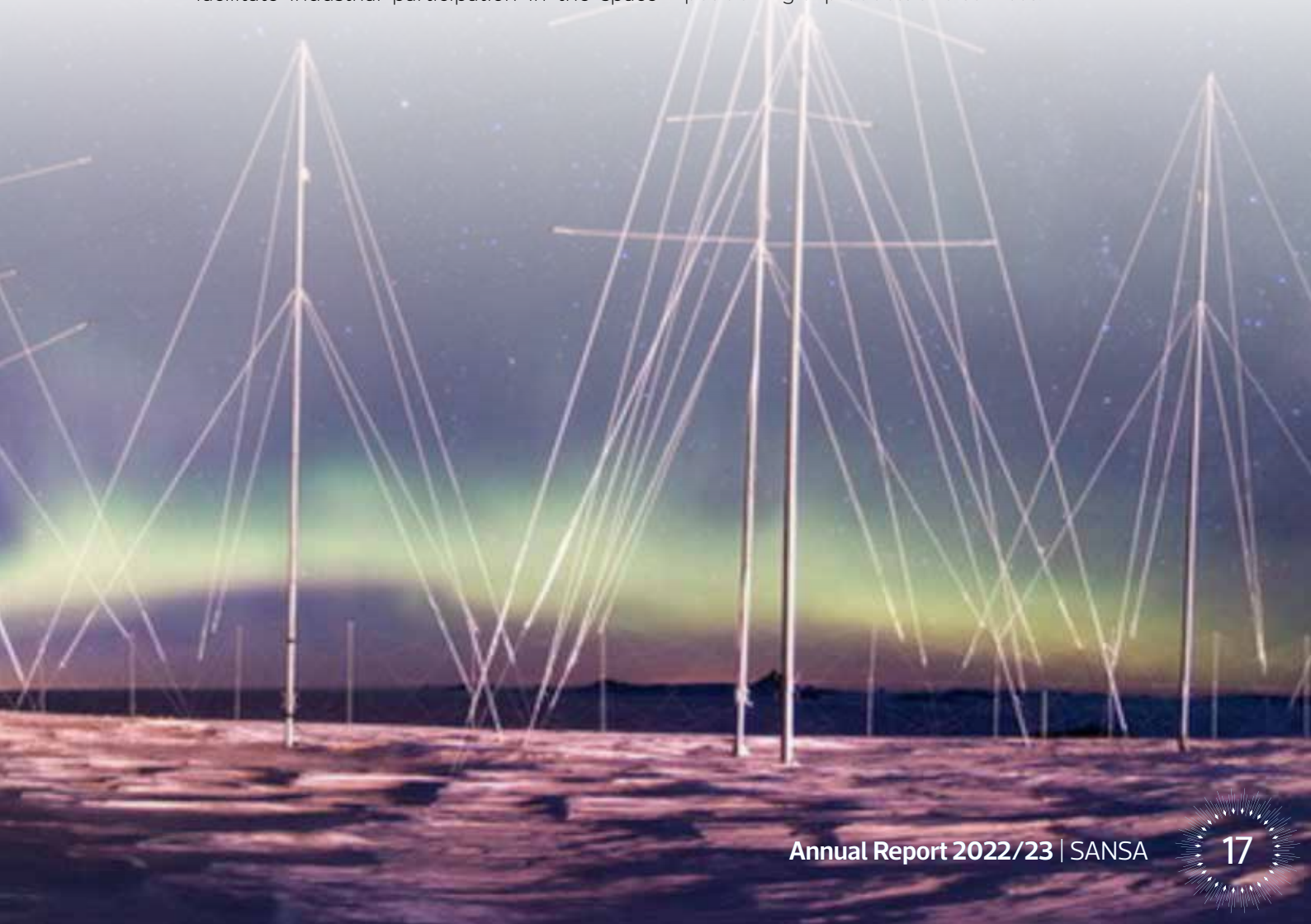
Decadal Plan on Science, Technology, and Innovation (STI): which was developed to serve as an implementation plan for the 2019 White Paper. SANSA's efforts and investment focused on building and maintaining a competitive national space infrastructure that fosters research and development, delivery of products and services, industry development and strengthening international partnerships, will be positioned to support the Decadal Plan priorities. In addition to its focus on research, capacity building and other activities aimed at addressing the Decadal Plan's three Societal Grand Challenges SANSA continues to prioritise international cooperation and partnership activities aligned with the STI Decadal Plan priorities for expanded and strategic internationalisation.

7.2. POLICY MANDATE

The primary objectives of the National Space Policy are to:

- Improve coordination throughout the South African space arena to maximise the benefits of current and planned space activities, avoid or minimise duplication of resources and efforts, and organise existing initiatives, programmes, and institutions into a coherent network for all providers and users of space systems,
- Promote capacity building initiatives, both as a means towards effective participation in the space arena, as well as to develop capacity in space science and technology, and science and technology in general,
- Facilitate the provision of appropriate and adequate space capabilities to support South Africa's domestic and foreign policy objectives,
- Foster a robust science and technology base in research institutions and the higher education sector,
- Promote the creation and implementation of a supportive regulatory environment to facilitate industrial participation in the space arena, in accordance with domestic law and South Africa's foreign policy objectives and international obligations,
- Promote the development of an appropriate and competitive domestic commercial space sector to provide the industrial base to meet the nation's needs for space technology,
- Promote improved cooperation with other nations in the mutually beneficial peaceful uses of outer space, and
- Promote greater awareness and appreciation, at all levels of South African society, of the relevance and benefits of space science and technology.

SANSA is determined to be positioned at the forefront of the National Space Programme and acquire an increased share of the global market in support of the establishment of a knowledge economy through promoting innovation and industrial competitiveness. This will drive the successful implementation of the National Space Policy through the utilisation of space science and technology to develop applications for the provision of geospatial, telecommunication, timing, and positioning of products and services.



8. Organisational **Structure**

The configuration of SANSA programmes as outlined in the entity's Revised 2020 – 2025 Strategic Plan is as follows:

Programme 1: Administration Programme
Programme 2: Earth Observation Programme
Programme 3: Space Science Programme
Programme 4: Space Operations Programme
Programme 5: Space Engineering Programme

The Agency continues to focus on effective delivery of its mandate and aspires to realise greater impact on the economy, industry, regional and global space sector.

Figure 4 below reflects the SANSA organisational structure as outlined in the Revised 2020/25 Strategic Plan:

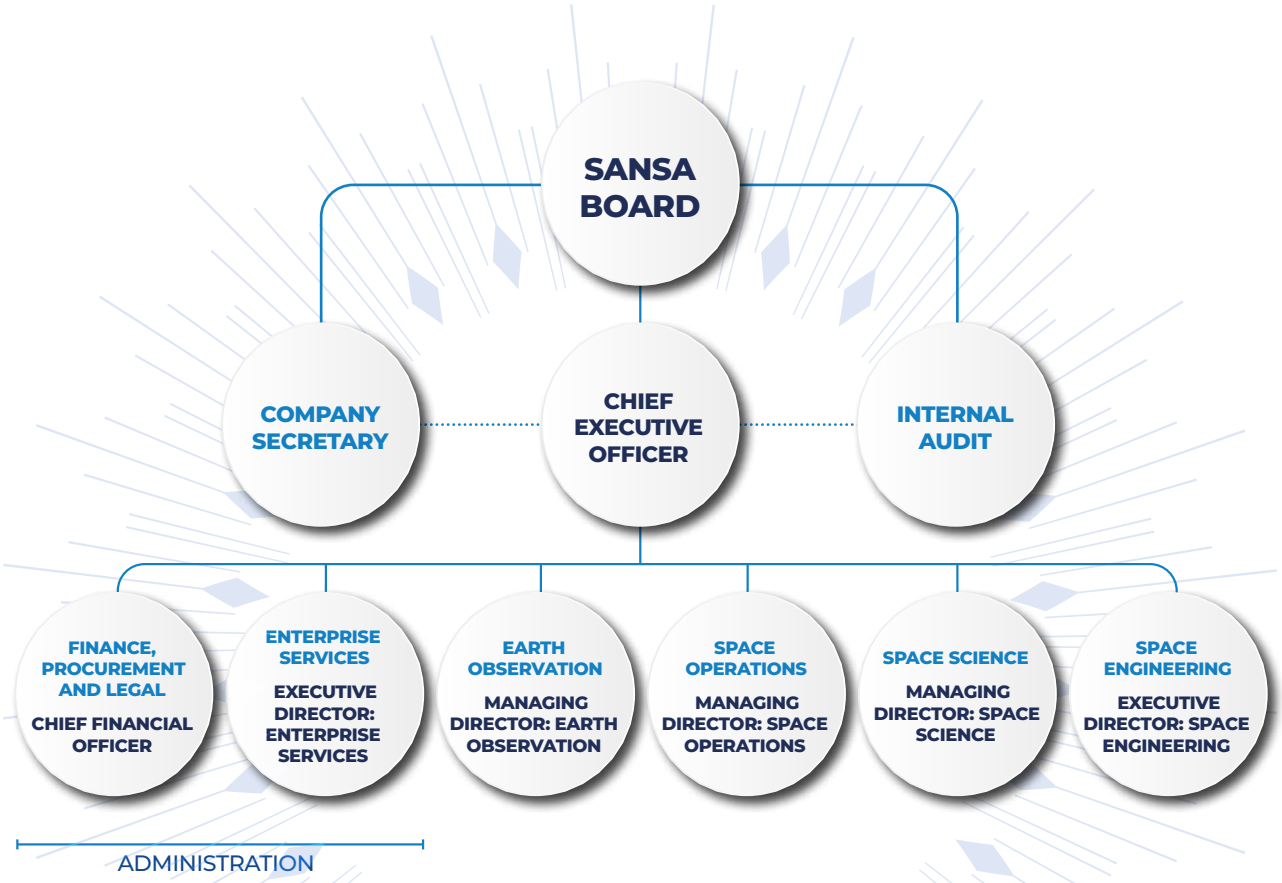
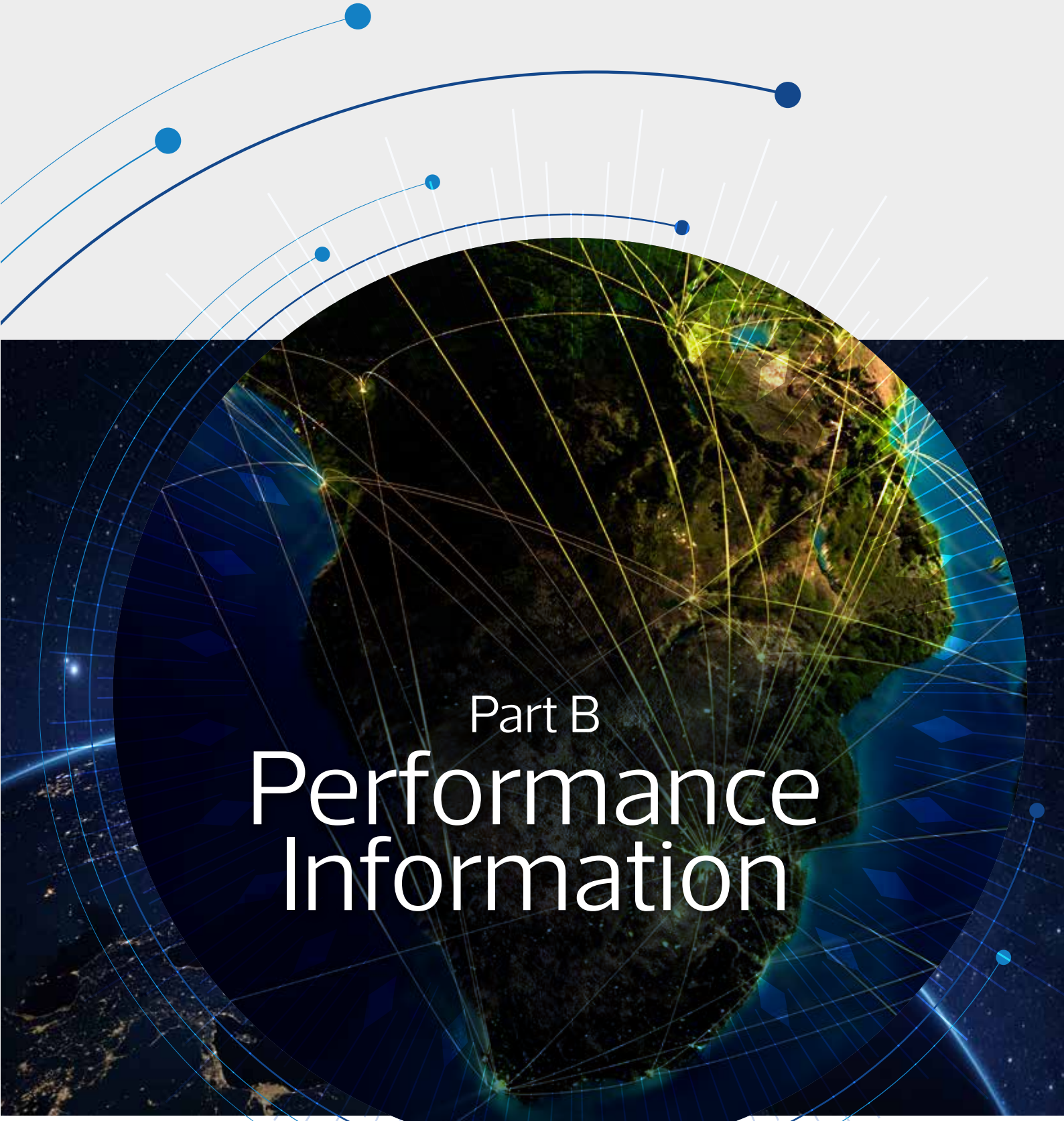


Figure 4: SANSA Organisational structure



Part B
Performance Information

9. Situational **Analysis**

9.1 INTEGRATED IMPACT REPORT

A HISTORIC MOMENT - LAUNCH OF THE SPACE WEATHER CAPABILITY

The Space Weather Capability was officially launched on 03 November 2022 in Hermanus by the Minister of Higher Education, Science and Innovation. A total of 270 stakeholders, clients, and government officials joined the SANSA team to celebrate this historic moment and the completion of a three-year project to build a local Space Weather Capability that operates 24 hours a day and seven days a week. SANSA received extensive support from the Overstrand Municipality and the town of Hermanus in putting together the high-level event. The media also covered the event favourably, and this has raised visibility and awareness which is important for ensuring that the capability is known, and SANSA is recognised as leading in this field.

With the space weather centre operating 24/7 to support industries such as aviation, the Space Weather team has grown significantly. SANSA now employs eight space weather forecasters, seven of whom are women. Given that there are no tertiary qualifications for space weather forecasting in South Africa, SANSA employed graduates with a background in physics and meteorology and provided a one-year in-house training program. The training included a working trip to the United Kingdom (UK) Met Office, where the trainees gained hands-on experience in a 24/7 operational space weather centre

Leading the team is Dr Mpho Tshisaphungo, who has been involved in SANSA's space weather program since the beginning. A new addition is the SANSA South African Research Chairs Initiative (SARChI) Research Chair in Space Weather, Dr Martin Snow, who is pioneering solar physics in South Africa and already has five new students for the 2023 academic year. This development highlights the importance of science, technology, and innovation in developing new applications and technologies in South Africa and solving global challenges through the research-to-operations value chain.

The operational Space Weather Services Capability is fully operational, and the project is currently standing at 100% completion. Continual improvement is an ongoing effort with more products and services being developed.

Figure 5: Space Weather Capability

RESEARCH WITHOUT BORDERS – SANSA'S CONTRIBUTION TO INTERNATIONAL SPACE SCIENCE

SANSA researchers are leading the way in research excellence and putting SANSA at the forefront of international space science for the research and development undertaken at SANSA. This is demonstrated through the high impact value publications that are peer reviewed; the leading roles that SANSA researchers have been requested to play on international platforms; and the number of peer review requests that came to SANSA to evaluate the work of international researchers.

In the 2022/23 financial year, the SANSA SARChI Research Chair in Space Weather, Dr Martin Snow, received a B2 rating from the National Research Foundation (NRF). He joins Chief Scientist, Dr Michael Kosch, and Dr John Bosco Habarulema, as B rated researchers in SANSA (the "B" club). The B Category of researcher is an "internationally acclaimed researcher".

A significant metric for researchers is the publication rate of papers that appear in high impact journals. This work requires a strong editorial team at the journal who are volunteers from within the research community as well as regular willing and credible reviewers. SANSA's researchers are often sought to review papers from other institutions and contribute to the field that they are in through peer review. Dr John Bosco Habarulema has received many journal complements over the years for being the best of the best in terms of paper review. He has now joined the editorial team at the journal Radio Science (a journal of the American Geophysical Society) as an Associate Editor which is testimony to his standing in the community. In addition, Dr Tshimangadzo Matamba, an early career researcher at SANSA, is currently one of the Topical Editors (TE) for the topical Issue "Solar Sources of Space Weather", in the Journal of Space Weather and Space Climate.

Dr Michael Kosch, Chief Scientist for the SANSA Space Science Programme, has been appointed as a member of the Executive Committee of the International Association of Geomagnetism and Aeronomy (IAGA), and Dr Stefan Lotz has been appointed as the South African National Representative to IAGA. Both of these appointments demonstrate the leading role that SANSA is playing in international organisations upholding SANSA's credibility in geomagnetism.

Dr Rendani Nndanganeni is leading the International Civil Aviation Organisation (ICAO) African Regional Met Project on Space Weather with 22 countries represented, and Dr Lee-Anne McKinnell was appointed co-chair of the World Meteorological Organisation (WMO) expert team on Space Weather. Both these appointments by leading international organisations demonstrate the confidence that the international community has in SANSA's expertise.

Dr Martin Snow is actively participating in two world leading institutions in the field of space weather. He is part of the NASA Solar Irradiance Science team working on extending the spectral range of the Robotic Lunar Observatory model to climate science relevant wavelengths. He is also a part of the National Oceanic and Atmospheric Administration Earth Science Research team, looking at Operational Geostationary Satellite Systems through the determination of Exospheric Neutral Hydrogen Density from GOES-R and GOES High cadence Operational Total Irradiance. Furthermore, Dr Snow is collaborating on two NASA Space Missions including the Occultation Wave Limb Sounder – Instrument on INSPIRESat-3 and the Total and Spectral Irradiance Sensors-2.

SAFETY AND SECURITY FROM SPACE KNOW-HOW

High Frequency (HF) communication is an essential tool used across the globe and especially on the African continent for long distance communications. Over the past decade SANSA's Hermanus facility has become a centre of excellence in HF Communications. SANSA has both the infrastructure and expertise to monitor the layers of the ionosphere that are responsible for HF communications, as well as to forecast the impact that adverse space weather will have.

SANSA's Infrastructure includes a network of four Ionospheric Radars in South Africa that continually measures the upper atmosphere to give us an indication of what is happening at any time and place. The data from these instruments is sent to the SANSA Space Weather Centre in real time and forecasters use the real time data with additional data from the sun to predict the impact of Space weather on communications including HF.

In addition to infrastructure, SANSA also has experts to disseminate and interpret information. These experts utilise the data from the specialised instruments for real-time monitoring and to build models that predict the conditions for HF communications. SANSA provides space weather information reports that are tailored to HF Communication and communications planning support based on user requirements. The Agency has also developed software called Ionospheric Characterisation and Prediction Tool (IOCAP) which is a modern, user-friendly tool designed to simplify HF communications planning.

IOCAP features a robust, proven prediction engine that provides dependable frequency predictions in the 3–30 MHz frequency band. The application is simple to use and contains innovative features not found in any other HF prediction software. In addition, SANSA provides HF propagation training to users to enable a deeper understanding and appreciation for the science of HF communications and the impact from space weather events. The combination of access to infrastructure, reliable data products, and experienced experts makes SANSA your go-to organisation for any HF Communications requirements. A true centre of excellence on the African continent.

SANSA is recognised as national experts in magnetic technology applications and provides quality-controlled services to clients in the defence, aviation, and aerospace industry. These services contribute significantly to the work of private aviation companies, national airports, the South African Navy, and South African Air Force (SAAF), and thus to the safety and security of all South Africans. With more than 80 years of magnetic operations under its belt, SANSA's Hermanus facility offers state-of-the-art equipment and services and operates a magnetically clean facility that enables them to perfectly calibrate landing compasses.

The aviation sector is a highly regulated industry with detailed requirements for relevant applications in the military, civil and private operations environment. A key application is that of the calibration of landing compass equipment for aircraft. International safety regulations require that there be mechanical compasses on board all aircraft and marine vessels, for emergency loss of power conditions, in addition to the more modern Global Positioning System (GPS) systems with electronic compasses. The compass calibration procedure is a highly specialised procedure requiring scarce expertise and a magnetically clean environment to manually adjust the compass and compensate for the host platform's magnetism and alignment to the Earth's magnetic field.

Furthermore, the calibration of these landing or reference compasses can only be done in close physical proximity to magnetic observatory instruments (e.g., D/I inclinometer) and these instruments can only operate in a magnetically clean environment. The South African Civil Aviation Authority requires every aircraft landing compass to be calibrated once per annum. Linked to this is the procedure for aircraft compass swings; a procedure where the magnetism of the aircraft is measured and calculated, and the aircraft's compass is adjusted accordingly. This procedure is usually only performed within a magnetically surveyed area.

PROTECTING A NATIONAL RESOURCE - SANSA HERMANUS BECOMES A NATIONAL KEY POINT

The SANSA Hermanus Site was declared a National Key Point (NKP) on 23 December 2022 and the implication of this declaration is that SANSA must now apply the provisions of the NKP Act No 102 of 1980. The definition of a NKP is "Any place or area that is so important that it's loss, damage, disruption or immobilisation may prejudice the Republic, or it is necessary or expedient for the safety of the Republic or in the Public interest." One of the responsibilities of the site owner is to establish a Joint Planning Committee with the aim of effectively planning and coordinating all activities concerning the safeguarding of the NKP. The responsibility for the protection of the site is a collective responsibility that involves SANSA, the South African Police Services, the State Security Agency, and Disaster Management Representatives. SANSA Hermanus is implementing several physical security upgrades in line with the NKP requirements.

9.1.1 SANSA STRATEGIC INITIATIVES

SANSA SHARES BENEFITS OF SPACE WITH INTERNATIONAL PRIVATE SECTOR LEADERS

In June 2022, SANSA participated at the inaugural Financial Times Live Investing in Space event in London. The objective of the event was to explore how the commercial space business is maturing and the extent to which it is providing fertile ground for sustainable investment. It was an ideal platform to share with international private sector stakeholders and the space community how SANSA unlocks the potential of space for the benefit of South Africa, the continent and beyond. Furthermore, it highlighted the role SANSA plays as a key enabler of government's policy imperatives through the increase of awareness about our space activities, the local space capabilities and featuring key projects including the Space Weather Centre, Space Infrastructure Hub, and Digital Earth Africa (DEA) to name a few.

IAC 2022, A RESOUNDING SUCCESS FOR LOCAL SPACE

The International Astronautical Congress (IAC) 2022 was held at the Paris Convention Centre in France from 18-22 September 2022. A delegation from South Africa attended the event and it included representatives from SANSA, DSI, the **dtic**, CSIR, academia and local space industry representatives as well as the Chairperson of the Parliamentary Portfolio Committee on Higher Education, Science and Innovation.

The key objective of SANSA's participation was to showcase South Africa's space heritage, and world-renowned capabilities and provide a platform for local space companies to display their products and services in the South African pavilion.

Furthermore, we achieved the objective of showcasing South Africa's skills, knowledge, and expertise in the space industry to attract foreign

investments and develop collaborations and partnerships that will support the implementation of the National Space Strategy.

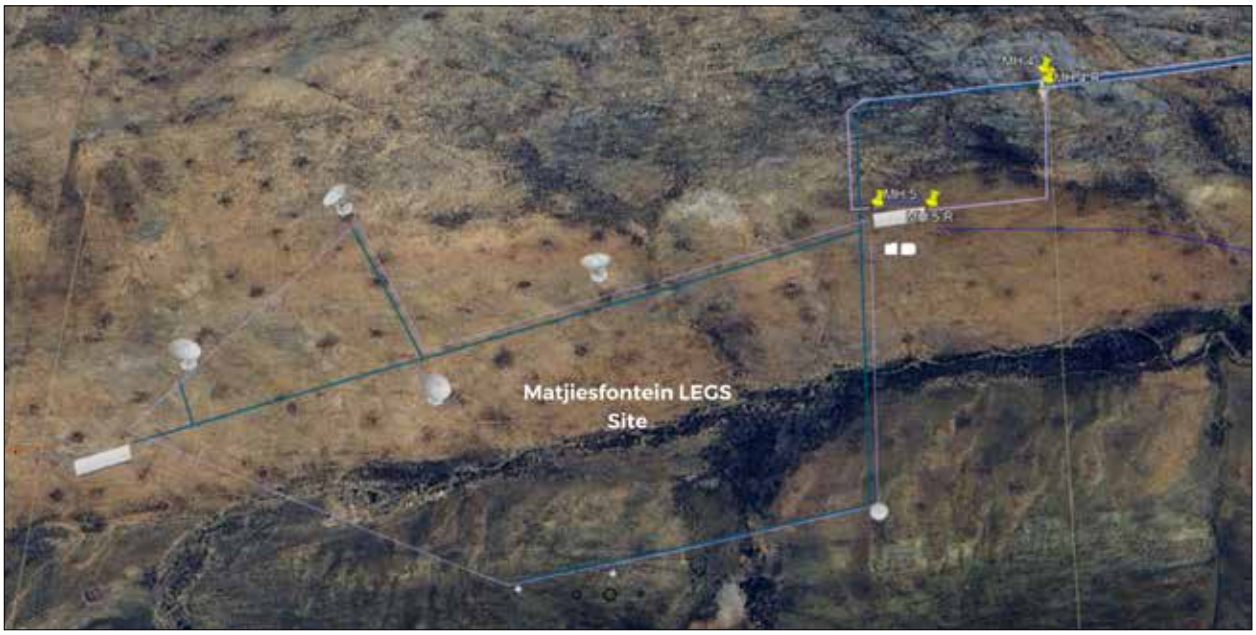
MATJIESFONTEIN, GROUND-BREAKING FOR SOUTH AFRICA

SANSA and NASA renewed their partnership in lunar exploration with a ground-breaking ceremony of a new Deep Space Network ground station in Matjiesfontein (MTJ) on 08 November 2022 in the Western Cape. The ceremony was preceded by the signing of a Joint Statement of Intent between NASA and the DSI to formalise their space exploration partnership. The installation of the MTJ ground station will be an opportunity for South Africa to enter the international space exploration missions, improving space operations capabilities and offerings. The facility will help the Artemis mission to return humans to the moon.

SPACE INFRASTRUCTURE HUB

On 19 October 2022 SANSA received feedback from Budget Facility for Infrastructure (BFI) on the SIH Phase 1 business case submission along with an appraisal report. The report highlighted that the submission sufficiently justified the need for the project and demonstrated that if implemented, the SIH would result in the modernisation and rejuvenation of the South African space industry.

Overall, funding over the 2024 Medium Term Expenditure Framework was provisionally recommended which is a positive outcome. To this end, SANSA was required to address some gaps identified in the report to meet the condition of the provisional recommendation for funding by 31 March 2023. These included the appointment of a Cost Benefit Analysis (CBA) specialist. In line with SANSA's transformation priorities and supplier development targets, a decision was made to procure the services of a local company for the provision of a CBA service instead of a recommended international company. The procurement process was completed successfully, and all other identified gaps were addressed in time for the SIH supplementary submission to be made by 31 March 2023. At the closing of the financial year SANSA was awaiting the outcome on the final submission from the BFI.



10. External Audit Report: **Predetermined Objectives**

The External Auditors perform the necessary audit procedures on the Agency's performance information to provide reasonable assurance in the form of an audit conclusion. The audit conclusion on the performance against predetermined objectives is included in the report to management, with material findings being reported under the Predetermined Objectives heading in the report on other legal and regulatory requirements section of the auditor's report.

Refer to pages 126 to 132 of the Report of the Auditors Report, published as Part F: Financial Information.

10.1 SERVICE DELIVERY ENVIRONMENT

The work of SANSA continues to be driven by a vision of "an integrated National Space Capability that responds to socio-economic challenges in Africa by 2030". During the 2022/23 financial year this vision remained central to the spearheading of strategic initiatives aimed at propelling the Agency towards achieving its strategic outcomes and stimulating an enabling environment for the development of a growing and inclusive local space sector.

The Agency's developmental agenda aimed at transforming the space industry is aligned to the policy imperatives of government, and priorities of the DSI. The implementation of planned initiatives during the reporting period would not have been feasible without the entity having taken due consideration of external factors impacting its service delivery environment. Key amongst these was an economic environment characterised by low levels of growth which was exacerbated by perpetually competing priorities of government that reduced the availability of funding streams for SANSA and other similar public entities. To this end SANSA continuously worked closely with government departments and entities in promoting the use of space products and applications to address the socio-economic challenges confronting citizens of South Africa. Strategic collaborations with national stakeholders as well as regional and international partners were central to SANSA's resource mobilisation efforts to enable delivery of developmental initiatives for the provision of capacity building, research and product development solutions that respond to private and public sector client requirements.

10.2 ORGANISATIONAL ENVIRONMENT

The agency's priorities during the 2022/23 financial year were informed by the following key objectives as provided in the SANSA Act:

- Promote the peaceful use of outer space,
- Support the creation of an environment conducive to industrial development in space technology,
- Foster research in space science, communications, navigation, and space physics,
- Advance scientific, engineering, and technological competencies and capabilities through human capital development outreach programmes and infrastructure development, and
- Foster international cooperation in space related activities.

SANSA's delivery during the reporting period was driven by the following organisational programmes in accordance with the entity's five-year strategy: (i) Programme 1: Administration; (ii) Programme 2: Earth Observation; (iii) Programme 3: Space Science; (iv) Programme 4: Space Operations and (v) Programme 5: Space Engineering.

The Agency maintained a conservative stance in relation to the setting of its performance targets for the 2022/23 financial year in alignment with constraints relating to the availability of adequate financial resources. During the 2022/23 financial year SANSA's performance was measured against the twenty (20) performance indicators outlined in the approved Annual Performance Plan and the entity concluded the year with seventeen (17) of these having been met – resulting in an 85% overall achievement of the planned annual targets.

In keeping with its aim to develop a national space capacity that services national, regional, and global needs through infrastructure investment SANSA's key priorities for the 2022/23 period included securing funding and initiation of acquisition processes for the SIH Phase-1 mission system. Although some traction was realised in terms of SANSA engagements with the BFI, progress relating to securing the requisite funding for the SIH project implementation was slower than anticipated. SANSA has established Technical Task Teams that include all relevant stakeholders to review the entire SIH Programme, the SIH Project Charter and SIH Project Implementation Plan to enable its rollout in the coming financial year.

The delayed transfer of the Houwteq facility from Denel to SANSA unfortunately continued to negatively impact the planned establishment of an AIT facility by the entity to ensure the provision of relevant support to the local space industry. The envisaged 50% progress towards an upgraded AIT facility was therefore not realised, however, Denel confirmed its decision to transfer the Houwteq AIT facility and Spaceteq capability inclusive of all Intellectual Property and artifacts to SANSA. As at the end of the financial year SANSA had begun a process of negotiating early access to the Houwteq AIT facility through engagements with Denel to enable commencement of the upgrade project. The negotiation agreement is planned for completion by the end of first quarter of the 2023/24 period while the AIT facility upgrades are anticipated to be finalised by the end of the 2024/25 financial year.

The Space Science programme kicked off the financial year with a primary goal of operationalising space weather by ensuring that SANSA can provide 24/7 operational space weather services to the African region by the end of 2022/23.

SANSA proudly launched the Space Weather Centre during the third quarter of the financial year following the successful implementation of its business case and finalisation of the construction phase. This was a historic accomplishment for the African continent which was possible through support from the DSI. Focus into the future will be on operationalisation of the Space Weather Centre.

Another key infrastructure flagship project for SANSA is the Matjiesfontein (MTJ) Deep Space Network (DSN) to be implemented through the Space Operations programme to develop a new ground station. This seeks to strengthen South Africa's deep space capabilities as well as build capability to track cubesats from the MTJ facility. Years of engagements between SANSA and National Aeronautics and Space Administration (NASA), emanated in the renewal of their partnership in lunar exploration and a ground-breaking ceremony of the MTJ groundstation in the third quarter of the financial year – paving the way for South Africa to enter international space exploration missions.

10.3 KEY POLICY DEVELOPMENTS AND LEGISLATIVE CHANGES

The institutional policies and strategies, as reflected in the 2020 - 2025 Strategic Plan, were not changed and therefore remained relevant for the 2022/23 Financial Year. Developments in relation to the Legislative Environment are summarised below:

The Science and Technology Laws Amendment Act has been promulgated and the implications to SANSA will be studied and enforced, as part of our regulatory compliance measures. It should also be noted that the Department of Trade, Industry and Competition (the **dtic**) is in the process of revoking and replacing the Space Affairs Act, which will only be realised in the next year or two.

The Space Affairs Act will be repealed and replaced with a new South African Industry Regulation Act, which seeks to reduce the liability/vulnerability of the State. Once assented, it will have an implication on the licencing requirements for SANSA. Amongst other requirements, SANSA will have to apply for a licence for its facilities, to register with the regulatory body and have insurance for space missions.

The promulgation of regulations for the Critical Infrastructure Protection Act (CIPA) will impact the Hartebeesthoek and Hermanus sites as National Key Points are to be moved to the CIPA, and the impact is as yet unknown.

Amendments to the Preferential Procurement Policy Framework Act (PPPFA): Regulations gazetted on 4 November 2022, following a Constitutional Court ruling in the matter between Afribusiness and the Minister of Finance where inter alia, the Constitutional Court upheld a Supreme Court of Appeal's declaration that the Preferential Procurement Regulations of 20 January 2017 were invalid. Subsequent amendments to the PPPFA Regulations in November 2022 necessitated additional updates to the Supply Chain Management (SCM) policy, key of which is replacement of preferential procurement scoring based on BEE status level only with specific goals.

SANSA will continuously scan the legal and policy environment to determine the passing of any Court Judgements and / or legislative updates that the entity considers as having an impact on its capability to deliver on the mandate provided by the SANSA Act (No. 36 of 2008).

11. Overview of **Performance**

11.1 STRATEGIC OUTCOMES

This annual report for the 2022/23 performance period reflects SANSA's progress towards achieving the following five strategic outcomes as outlined in the Revised 2020/2025 Strategic Plan:

Table 1: SANSA strategic outcomes, outcome indicators and five-year targets

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE-YEAR TARGET (MARCH 2025)
MTSF 2019-2024: PRIORITY 2 – ECONOMIC TRANSFORMATION AND JOB CREATION			
Outcome 1: **Increased space-relevant knowledge that supports the developmental agenda**	O1.1. Average research publication rate for South African researchers in direct space-related areas	New outcome indicator	Average annual research publication rate of 3 for South African researchers in direct space-related areas
MTSF 2019-2024: PRIORITY 2 – ECONOMIC TRANSFORMATION AND JOB CREATION			
Outcome 2: **Stimulated and growing, inclusive space sector**	O2.1. Average operational expenditure on SMEs	New indicator	Lower target: 20% Desired target: 30% Upper target: 40%
MTSF 2019-2024: PRIORITY 3 – EDUCATION, SKILLS, AND HEALTH			
Outcome 3: **Increased human capacity for the implementation of key space initiatives**	O3.1. Percentage of graduated students to registered students in postgraduate space-related fields nationally	New indicator	Up to 20% of all registered (in space-related fields) postgraduate students graduate with space-related degrees
	O3.2. Percentage students and interns mentored by SANSA absorbed by the formal labour market	New indicator	Up to 50% of all students and interns mentored by SANSA absorbed by the formal labour market
MTSF 2019-2024: PRIORITY 3 – EDUCATION, SKILLS, AND HEALTH			
Outcome 4: **SANSA positioned as a key enabler for the implementation of government's space-related policies**	O4.1. Percentage of government departments and public entities that are using space products and services	42% of government departments and public entities that are using space products and services	80% of government departments and public entities that are using space products and services
	O4.2. External audit outcome	Unqualified audit opinion with material findings	Achieve and maintain an unqualified audit opinion with no material findings
MTSF 2019-2024: PRIORITY 2 – ECONOMIC TRANSFORMATION AND JOB CREATION			
Outcome 5: **Enabling infrastructure developed and upgraded to support the space sector value chain**	O5.1. Percentage growth in the Rand value of the national infrastructure asset base	R473.7 million value of the national infrastructure asset base	Lower target: 25% Upper target: 50%

Table 1: SANSA strategic outcomes, outcome indicators and five-year targets (continued)

OUTCOME	OUTCOME INDICATOR	BASELINE	FIVE-YEAR TARGET (MARCH 2025)
MTSF 2019-2024: PRIORITY 7 – A BETTER AFRICA AND WORLD / PRIORITY 2 – ECONOMIC TRANSFORMATION AND JOB CREATION			
Outcome 6: Increased participation of the national space programme in the regional and global space market	O6.1. Percentage growth in revenue generated from space products and applications	R405m from Space Operations (based on the previous five-year term)	Lower Target: 5% (primarily through space operations) Upper Target: 8% (Including potential new revenue streams from products and applications to be developed once the market analysis has been completed)
	O6.2. Percentage growth in products and services provided to the market	New indicator	Lower target: 20% Upper target: 40%

11.2 PROGRESS TOWARDS ACHIEVEMENT OF INSTITUTIONAL IMPACT AND STRATEGIC OUTCOMES

The table below provides a summary of the progress made by SANSA as of 31 March 2023 towards achieving the 9 outcome indicators reflected in the entity's 2020/2025 Revised Strategic Plan.

Table 2: SANSA strategic outcomes, outcome indicators and five-year targets (Revised Strategic Plan 2020-2025)

OUTCOME INDICATOR	2024/25 TARGET	ACTUAL ACHIEVEMENT AS AT 31 MARCH 2023
O1.1. Average research publication rate for South African researchers in direct space-related areas	Average annual research publication rate of 3 for South African researchers in direct space-related areas	Total number of publications: 107
O2.1. Average operational expenditure on SMEs	Lower target: 20%; Desired target: 30%; Upper target: 40%	2020/21 - 51% 2021/22 - 20% 2022/23 - 43% (Average:38%)
O3.1. Percentage of graduated students to registered students in postgraduate space-related fields nationally	Up to 20% of all registered (in space-related fields) postgraduate students graduate with space-related degrees	35 student graduates (those supported by SANSA)
O3.2. Percentage students and interns mentored by SANSA absorbed by the formal labour market	Up to 50% of all students and interns mentored by SANSA absorbed by the formal labour market	217 students and interns supported, with 35 student graduations.
O4.1. Percentage of government departments and public entities that are using space products and services	80% of government departments and public entities that are using space products and services	55,39%
O4.2. External audit outcome	Achieve and maintain an unqualified audit opinion with no material findings	Unqualified external audit opinion with no material findings for the 2021/22 financial year
O5.1. Percentage growth in the Rand value of the national infrastructure asset base	Lower target: 25%; Upper target: 50%	7%
O6.1. Percentage growth in revenue generated from space products and applications	Lower Target: 5%; Upper Target: 8%	6% (R 277.72 m generated)
O6.2. Percentage growth in products and services provided to the market	Lower target: 20%; Upper target: 40%	80%

Satisfactory progress has been made to date; however, SANSA is continuing with efforts to put in place measures to mitigate against non-achievement of targets by the end of the current strategic term.

These include:

(i) Resolution of Houwteq facility access and transfer;

(ii) Development of data collection instrument: SA's average research publication rate in space – related areas;

(iii) Development of data collection instrument: Percentage of graduated students to registered students in postgraduate space-related fields nationally;

(iv) Development of data tracking instrument: Percentage students and interns mentored by SANSA absorbed by the formal labour market; and

(v) Growth in the rand value of the national infrastructure asset base: Rollout key infrastructure projects - SIH, EOSat-1, AIT and MTJ.

11.3 SUMMARY OF 2022/23 ACHIEVEMENT OF STRATEGIC OUTPUTS

An overview of the Agency's progress towards achieving its planned annual targets for the 2022/23 financial year is depicted in Figure 6 below. A total of twenty (20) performance indicators were due for delivery and reporting during the period under review.

SANSA was at an 85% performance achievement with the following targets having remained unmet at year-end:

(i) Percentage implementation of Audit Action Plan: The entity has prioritised the resolution of audit findings throughout the reporting period with 69% of the planned actions having been implemented against the targeted 95%. This continues to be a critical area of focus for SANSA,

(ii) Development of the Space Infrastructure Hub (SIH): Finalisation of contracting for acquisition of the Phase-1 mission system was not concluded and implementation of this project will continue in the 2023/24 financial year, and

(iii) Percentage progress towards an upgraded AIT Facility: Transfer negotiations and discussions for SANSA to secure early access to the Houwteq AIT Facility are ongoing.

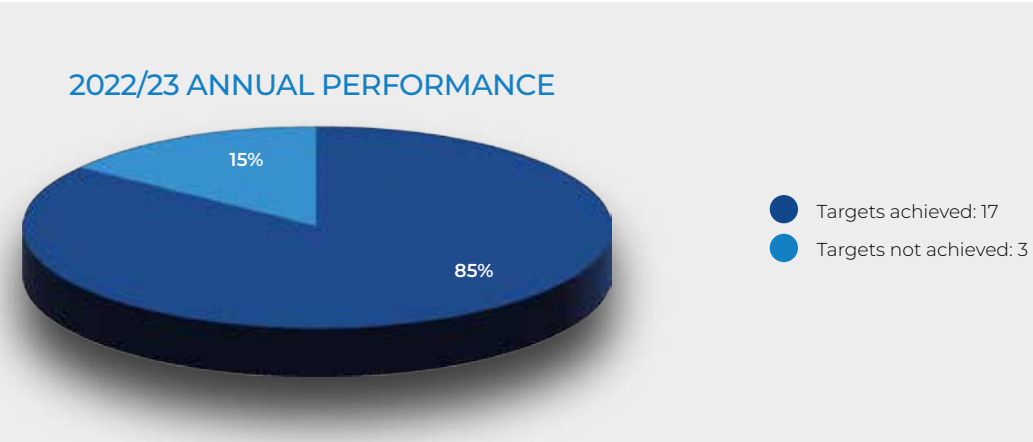


Figure 6: Summary of Annual Performance

11.4 CONSOLIDATED PERFORMANCE INFORMATION

Table 3: Consolidated Annual Performance: 2022/23 Financial Year

OUTCOME INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	VARIANCE AGAINST 2022/2023 TARGET
OUTCOME O1 Increased - space relevant knowledge that supports the developmental agenda.					
O1.1. National research productivity score for supported R&D	1 904.44	1 805.27	1 445	1 660.74	+215.74
OUTCOME O2 Stimulated and growing, inclusive space sector.					
O2.1.1 Percentage Operational expenditure spend on SMEs	51%	20%	30%	43%	+13%
2.2.1. The total contract expenditure to the broad space-related industry for core space projects	R13.68 million	R 13.1 million	R61 million	R61,8 million	+ R800 thousand
OUTCOME O3 Increased human capacity for the implementation of key space initiatives.					
O3.1.1. Number of youth directly engaged on space-related sciences	2 937	30 320	37 250	54 351	+17 101
O3.2.1. Number of students and interns supported for formalised training	60	86	72	73	+1
OUTCOME O4 SANSA positioned as a key enabler for the implementation of government's space-related policies.					
O4.1.1. Number of initiatives to transform SANSA into a high-performing Agency	4	Skills Audit and Workplace Plan not concluded	2 (Change Management Process; Online Performance Management System)	2 (Change Management Process; Online Performance Management System)	None
O4.2.1. Percentage implementation of Audit Action Plan	-	-	95%	69%	-26%
O4.3.1. Number of joint initiatives undertaken through formal international partnerships	Indicator Reframed	21	9	18	+9
O4.3.2. Number of joint initiatives undertaken through formal African partnerships	Indicator Reframed	11	10	14	+4
O4.3.3. Number of joint initiatives undertaken through formal National partnerships	Indicator Reframed	22	13	22	+9
O4.4.1. Number of awareness and training interventions to key users of space-related products and services	9	20	8	27	+19

Table 3: Consolidated Annual Performance: 2022/23 Financial Year (continued)

OUTCOME INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	VARIANCE AGAINST 2022/2023 TARGET
OUTCOME O4 **SANSA positioned as a key enabler for the implementation of government's space-related policies. (continued)**					
O4.5.1. Number of additional government departments and public entities that are using space products and services	Indicator Reframed	Indicator Reframed	10	15	+5
OUTCOME O5 **Enabling infrastructure developed and maintained to support the space sector value chain.**					
O5.1.1. Development of Digital Earth South Africa	Ingestion of SPOT archive not achieved	100% Ingestion	Ingestion of additional (1) sensor	Ingestion of 1 additional (1) sensor (100% completion against the project action plan)	None
O5.1.2. Development of the SIH	-	New Indicator	Initiate acquisition of the Phase-1 mission system	Contracting and acquisition of the SIH phase I mission system not concluded by year-end	Initiation process for acquisition of the Phase-1 mission system delayed
O5.1.3. Percentage progress towards a new operational space weather centre, as per an approved Business Case	42.8%	70.1%	100%	100%	None
O5.1.4. Percentage progress towards the development of deep space capabilities	-	New Indicator	Cost benefit and proposal to government and funders Site establishment 20%	100%	+80%
O5.1.5. Percentage progress towards an upgraded Assembly, Integration, and Testing (AIT) Facility	Project delayed	Revised project schedule and implementation plan	50%	0%	-50%
OUTCOME O6 **Increased participation of the National Space Programme in the regional and global space market.**					
O6.1.1. Number of products and applications	7	8	7	9	None
O6.2.1. Rand value of total revenue generated from space operations activities	R75.65 million	R82.3 million	R70 million	R105.2 million	+ R35.2 million
O6.3.1. Successful satellite pass monitoring rate for Earth Observation	99.35%	99.73%	98%	99.28%	+1.28%

12. Performance
Information by Programme

12.1 PROGRAMME 1: ADMINISTRATION

PROGRAMME PURPOSE

The Administration Programme provides management, administrative and technical support at an Enterprise level across the organisation. This facilitates operational efficiency and cost-effective management, alignment with sound governance principles and the seamless integration and collaboration within the organisation.

The focus of the Administration Programme during the reporting period was to ensure efficient and effective execution of the Agency's mandate, a strong focus on new business development, strategic leadership, effective engagement with key stakeholders, and the impactful communication and promotion of SANSA's activities.

In contributing towards the SANSA impact of *"A sustainable South African space sector that contributes meaningfully to socio-economic development across the African continent"*, the Administration Programme delivers against the following outcome and five-year targets in the approved Strategic Plan:

- **Outcome 2:** Stimulated and growing, inclusive space sector; and
- **Outcome 4:** SANSA positioned as a key enabler for the implementation of government's space-related policies.

PERFORMANCE AGAINST OUTCOMES

OUTCOME 2: STIMULATED AND GROWING, INCLUSIVE SPACE SECTOR.

The Administration programme aimed to contribute to the Outcome 2 by supporting SMEs in targeted expenditure, spending 43% of SANSA's operational expenditure on SMEs.

OUTCOME 4: SANSA POSITIONED AS A KEY ENABLER FOR THE IMPLEMENTATION OF GOVERNMENT'S SPACE-RELATED POLICIES.

The programme prioritised two (2) initiatives in the reporting period aimed at transforming SANSA into a high-performing Agency, namely: the development of an automated Performance Management System as well as implementation of the organisation Change Management process aligned to the new SANSA values and culture improvement initiative.

SANSA sought to ensure that previously identified audit findings were resolved through continuous in-year monitoring and implementation of the entity's Audit Action Plan. The entity however, managed to achieve 69% against the plan during the reporting period and implementation of the internal and external audit action plans remains a priority.

PROGRAMME 1: PERFORMANCE AGAINST 2022/23 OUTPUT INDICATORS AND TARGETS

ADMINISTRATION PROGRAMME

Table 4: Administration Performance: 2022/23 Financial Year

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME O2 **Stimulated and growing, inclusive space sector.**								
2.1 **Targeted expenditure**	2.1.1. Percentage operational expenditure spend on SMEs	51%	20%	30%	43%	+13%	Provision of support to SMEs	Not applicable
OUTCOME O4 **SANSA re-positioned as a key enabler of government's space – related policies.**								
4.1.1 **Initiatives to transform SANSA into a high performing Agency**	O4.1.1 Number of initiatives to transform SANSA into a high-performing Agency	4	Skills Audit and Workforce Plan not concluded	2 (Change Management Process; Online Performance Management System)	2 (Change Management Process; Online Performance Management System)	No deviation	Not applicable	Not applicable
	4.2.1. Percentage implementation of Audit Action Plan	-	New indicator	95%	69%	-26%	There were gaps in relation to monitoring implementation of the action plans and related processes due to the organisation's disintegrated operating model	Monitoring implementation of Audit Action plans continues to be an area of focus. Follow - up tests to be conducted so as to drive improvements in the coming financial year

PROGRAMME 1: PERFORMANCE HIGHLIGHTS FOR THE 2022/23 FINANCIAL YEAR

KEY PARTNERSHIPS AND ENGAGEMENTS

SANSA is party to several national, continental, and international partnership agreements at corporate level. The Agency also has programme specific arrangements either through agreements, projects, or contracts.

NATIONAL STAKEHOLDER ENGAGEMENTS

National Earth Observation and Space Secretariat (NEOSS) of the Council for Scientific and Industrial Research (CSIR)

The DSI officially launched the SANSA NEOSS annual space event at the National Space Conference. The event was a great success and presented a platform for discussions on multi-disciplinary space topics and the audience spanned from high school learners to senior government officials.

South African Weather Service (SAWS)

A follow up executive meeting was hosted by SAWS reflecting on the work done since the last meeting in September 2021. The meeting noted that the cooperation agreement is scheduled to lapse in 2023 and nominated two executives to drive actions until November 2023.

Council for Scientific and Industrial Research (CSIR)

SANSA and CSIR have established a functional Steering Committee (SteerCo) and of the two meetings that were convened one was an introductory relationship building session for the newly appointed SteerCo, further allowing for a review of the MoU and the draft work programme. The other reviewed the MoU and defined projects for implementation. The two entities are planning a workshop on reviewing the Decadal Plan in accordance with their mandates.

South African Air Force (SAAF)

Discussions on collaboration between SAAF and SANSA are ongoing, specifically in relation to how they could jointly achieve space and air power. SANSA was invited to attend the Air and Space Power Symposium on 22 September 2022, where they presented to an internationally representative delegation of Air and Space Forces.

Independent Communications Authority of South Africa (ICASA)

SANSA is working on formalising its relationship with ICASA considering challenges regarding radio frequency interference and spectrum planning and management; as well as other general technical or administrative challenges that the facility has been experiencing.

CONTINENTAL STAKEHOLDER ENGAGEMENTS

Algerian Space Agency (ASAL)

SANSA has been engaging ASAL to resuscitate relations and is reviewing and updating the Joint Development Plan that was previously developed for cooperation with ASAL, to ensure a partnership model that outlines equal ranking status of the two agencies.

Egyptian Space Agency (EgSA)

During the 9th South Africa – Egypt Joint Commission for Cooperation (JCC), which took place in Cairo, Arab Republic of Egypt, from 23-27 May 2022, SANSA supported the DSI in a Department of International Relations and Cooperation (DIRCO) led delegation and subsequently signed a memorandum of understanding (MoU) agreement with the Egyptian Space Agency on 24 May 2022.

The Agencies have further agreed to prioritise the following areas as part of the initial implementation of the MoU:

a) SAR technology development
b) Hyper spectral imaging
c) Space weather research
d) Ocean coast information management system
e) Human capital development
f) Outreach and awareness (e.g., an Educational CubeSat project)

Three working groups have been constituted to drive the above projects.

The Democratic Republic of Congo (DRC) Ministry of Scientific Research and Technological Innovation (MoSRTI)

The DSI and the DRC MoSRTI signed a long anticipated bilateral agreement on cooperation in science and technology during the World Science Forum. The National Remote Sensing Centre of DRC and SANSA are organising a meeting between their heads to discuss the implementation of space cooperation in the signed bilateral agreement. The DRC MoSRTI was hosted at SANSA's Hermanus site for a facilities tour.

Space Science and Geospatial Institute of Ethiopia (SSGI)

The Ethiopian Space Science and Technology Institute has been merged with the Geospatial Institute and is now known as the Space Science and Geospatial Institute (SSGI). All discussions with ESSTI are being carried over and discussed with SSGI. SANSA invited the DSI to the meeting because space actions in the DSI and the Ethiopian Ministry of Innovation shall be implemented through the SANSA SSGI MoU that is under discussion. They presented possible areas of collaboration.

Zimbabwe National Geospatial and Space Agency (ZINGSA)

ZINGSA was identified as a potential partner for hosting Global Navigation Satellite System (GNSS) equipment in Zimbabwe as part of the African Instrumentation Network. Discussions with ZINGSA incited mutual interest as they are also interested in having access to the GNSS data. The SANSA ZINGSA cooperation has since been formalised.

National Remote Sensing Centre of Zambia (NRSC)

Zambia is establishing a ground receiving station for Landsat and establishing a national space programme. They have demonstrated interest in collaborating on lessons learnt from SANSA and gaining possible access to Sentinel data through the proposed Sentinel mirror site at SANSA. Discussions are being followed up with the NRSC.

The Namibian Ministry of Scientific Research and Technological Innovation

The DSI visited Namibia with a delegation from the following institutions: the Ministry of Higher Education, Technology and Innovation, the National Commission on Research, Science and Technology, and two universities working on the development of the Namibian Space Science Policy. During this visit Namibia expressed interest in working with SANSA and a SANSA EO Offering was submitted to the delegation.

Ghana Ministry of Science and Technology

A delegation from the Ghana Ministry of Science and Technology visited SANSA Space Operations to explore space cooperation. Discussions on concluding areas of interest are ongoing through our national Department of Science and Innovation.

INTERNATIONAL STAKEHOLDER ENGAGEMENT

BRICS Space Cooperation

SANSA is the chair of the 2023 BRICS Space Cooperation on the Remote Sensing Satellite Constellation (RSSC) project. A workplan detailing the coordination activities was presented to the BRICS Space Agencies at the 3rd BRICS RSSC Working Group.

German Aerospace Center (DLR)

Bilateral discussions with the DLR concluded that the two agencies should focus on renewing their cooperation agreement through defining and refining the joint areas of cooperation. Furthermore, the agencies have considered working in small technical / expert level teams to better define recommendations on how to structure the cooperation agreement.

European Space Agency (ESA)

SANSA and ESA concluded bilateral discussion to explore exchange projects under the ESA EO Africa Initiative and the African Research Fellowship Programme; exchange programmes for SANSA researchers; and the possibility of a joint small mission that could be tested in a joint concurrent design facility (CDF)session.

United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS)

SANSA supported the DSI, the **dtic**, DIRCO and the South African Mission in Vienna at UNCOPUOS; contributing to interventions made at the science and technology and legal subcommittees particularly on matters pertaining to space weather; water; climate change; sustainable development; capacity building in space law; and long-term sustainability of outer space.

International Astronautical Federation (IAF)

During the IAF Spring Meetings in Paris, SANSA participated and contributed to discussions of the Administrative Committee on Connecting Emerging Space Eco-Systems; the Inclusive Diversity Equity Administrative Committee and the Committee for Liaison with International Organisations and Developing Nations. All these committees met to discuss their strategies leading to the IAC. SANSA's involvement ensures our contribution in driving the 3G agenda of geography, generation, and gender representation within the IAF.

State Space Corporation (ROSCOSMOS)

The project on the installation and use of an electro-optical system for detection and measurement of motion parameters of space debris (PanEOS) through SANSA Space Operations is near completion and SANSA and ROSCOSMOS are considering discussions on new projects to implement.

Ministry of Foreign Affairs and Trade of Hungary

The Ministry of Foreign Affairs and Trade of Hungary, in its capacity as the host of the Hungarian Space Office and SANSA concluded to prioritise projects relating to industry pairing; capacity building through scholarships; joint space research and development for South African and Hungarian universities.

UK Satellite Applications (UKSA) Catapult

Discussions on the implementation of the cooperation agreement with UKSA have led to possible projects with the UKSA Catapult. Following the information sharing exercise for the benefit of the Foreign, Commonwealth and Development Office Satellite Application Catapult - South Africa Market Opportunity Scoping, further discussions on actual projects to implement are ongoing.

COMMUNICATIONS PROTOCOL AND STRATEGY

Communications is reported on from a SANSA perspective on key activities undertaken during the financial year as part of efforts aimed at promoting visibility and interest in SANSA. The SANSA Communications unit continued to support Agency activities both locally and globally:

The Communications team have arranged and supported numerous events/ conferences to provide awareness of SANSA from the Joint SND-SA-GEO conference in Pretoria to the IAC in Paris. These events showcase what SANSA does and provide opportunities and platforms to enable exposure for the local industry and academia.

Following a year of analysis and review of the current branding of SANSA, it was decided that the brand required a refresh and realignment with the future ambitions of SANSA. The brand revamp journey was successfully concluded, and the Agency has a revised logo, clear brand descriptor and platform and all templates and marketing material are being redeveloped and utilised.

SANSA communicates with external and internal stakeholders through newsletters, website, social media, events such as public lectures and conferences as well as mainstream/ specialised media.

SANSA has seen some exciting stories develop from the space missions supported, the launch of the Space Weather Centre and Sod turning at Matjiesfontein to name a few.

The resourcing for communication and marketing does remain a challenge and SANSA will aim to support more efforts to generate the SANSA story and drive awareness and brand equity through alignment of programmes and projects.

The SANSA media coverage received by SANSA indicated an Advertising Value Equivalency (AVE) of R 121 250 412 across print, online and broadcast platforms with a circulation / reach amount of over 300 million. The AVE is the estimated monetary value to SANSA from free media through interviews with spokespeople and media releases distributed to media outlets. The volume of media content was highest online, followed by print and then radio. Some of the media coverage can be seen below:

Media coverage acquired through interviews.

SANSA Brand Revamp

Having recently celebrated 10 years of its existence in the 2021/22 financial year SANSA proudly embarked on an exciting rebranding journey during the reporting period which is summarised below:

Figure 8: Old SANSA brand

This was reflective of SANSA's high awareness within the international space sector as an agency that carries various space related activities that benefit the broader industry but lower awareness and connection with local stakeholders and regular South Africans. The brand had been in place for +10 years and the agency needed to evolve with the changing industry landscape and re-establish its relevance.

Figure 9: Current SANSA brand

Future reality: The world is changing, our knowledge and capabilities in the space industry are expanding, space opportunities abound! It's time for the SANSA story to evolve, be told and to bring renewed wonder and benefit of space, closer to everyone on Earth. The new brand seeks to build toward relevance and distinctiveness beyond the space industry with a single- minded proposition that places SANSA in the hearts and minds of people.

SANSA Brand Pillars and Essence

AUDIENCE INSIGHT	Innovation and technology has now become second nature to people. The world is expected to innovate, however people sometimes feel that most innovations are fleeting and do not m,ake an impact in people's lives. The memorable innovations change how people experience the world forever.		
BRAND ESSENCE	**INFINITE IMPACT**		
BRAND PILLARS	Creativity	Bold innovation	Human centric
BRAND PERSONALITY	Ambitious, confidence, original, authentic.	Curious, analytical, searching and inquisitive.	Empathy and understnding.
BRAND STORY/THEME	Through unbound creativity we endeavour to unlock bold innovations that drive future progress of the prople of South Africa through impactful human centred technology.		

Figure 10: SANSA brand pillars

HUMAN RESOURCE MANAGEMENT

The Agency welcomed its third Chief Executive Officer (CEO) on 01 April 2023 and this was a momentous day as the Agency celebrated its 12th Anniversary of the establishment. The appointment of the new CEO came at an opportune time to provide leadership and direction to the Agency, achieving its mandate of contributing to the South African Space Industry.

STUDENT DEVELOPMENT PROGRAMME

The SANSA Student Development Programme has grown from strength to strength over the years with a focus on previously disadvantaged individuals and promoting balance and diversity within the areas and fields critical to the advancement of the national and international space industry. SANSA received student development funding through NRF grants, and the DSI Human Capital Development (HCD) grant. Through our collaborative efforts our HCD initiatives identify and recruit talented individuals from universities. This is done through accessing a diverse pool of students and grooming young researchers who can bring new ideas and perspectives to the field of space related projects. Our initiatives promote diversity and inclusion by providing opportunities for individuals from under-represented groups to develop skills and knowledge in priority areas.

In 2022/23 SANSA introduced a new research area to the South African academic landscape through Dr Martin Snow, the SANSA SARChI Research Chair in Space Weather who is a specialist in Solar Physics. Previously SANSA embarked on an intense awareness campaign in collaboration with our university stakeholders, and as of 2023 Dr Snow is supervising three (3) students, Ms Siphumelele Ndlovu (MSc - UKZN), Ms Abigail Mthethwa (MSc – UJ), Mr Jaden Da Mata (Hons – UJ). All three are SANSA bursars and two are located at the SANSA Hermanus campus.

SANSA's programme focuses on building a pipeline of talent and a total of 179 postgraduate students have been supported (with 337 bursaries) over seven (7) years through their postgraduate lifespan, from their honours through to their doctoral degrees. One example of many, is Dr Golekamang Thaganyana, who completed his Doctor of Physics degree - A statistical study of travelling ionospheric disturbances over the African-European and American sectors at Rhodes University (RU) on 31 March 2023. Dr Thaganyana started his academic career at North-West University where he completed his BSc in Chemistry and Computer Science (2015) and his Honours in Applied Radiation and Technology in 2017, funded through SANSA. He relocated to Hermanus in 2018 where he was supervised by Dr Rendani Nndanganeni and Dr Michael Kosch (MSc 2 years - UWC) and Dr John Bosco Habarulema (PhD 3 years - RU) until completion in 2022. He will now embark on his postdoctoral journey as a Research Software Engineer at the University of Bath (UK) under supervision of Dr Biagio Forte.

The student infrastructure was given a significant boost during 2022/23 with the construction of a new wing on the SANSA Hermanus Student Residence. The new wing provides six additional rooms and twelve beds bringing the total occupancy capacity to eighteen rooms and thirty-six beds. The residence also received a make-over with a total remodelling of the kitchen area to accommodate the additional occupancy and a new laundry facility.

Human capital development is critical for our success and in our mission to build a skilled workforce. SANSA's initiatives and collaborations are a platform for training and developing the next generation of scientists, engineers, and technicians.

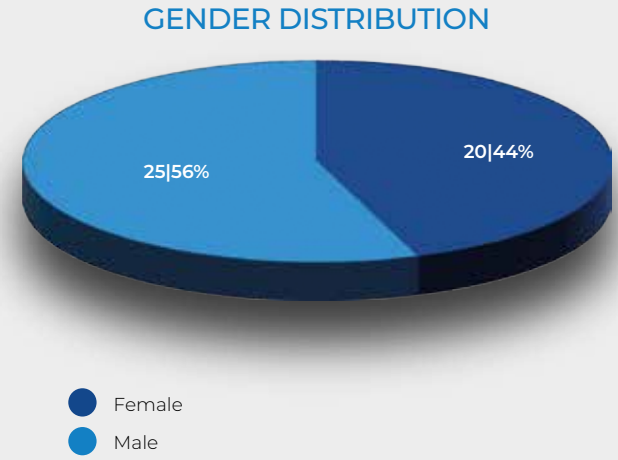


Figure 11: Gender Distribution of students

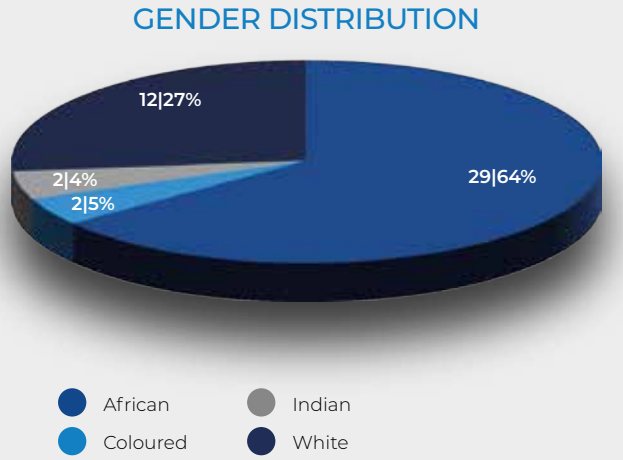


Figure 12: Race Distribution of students

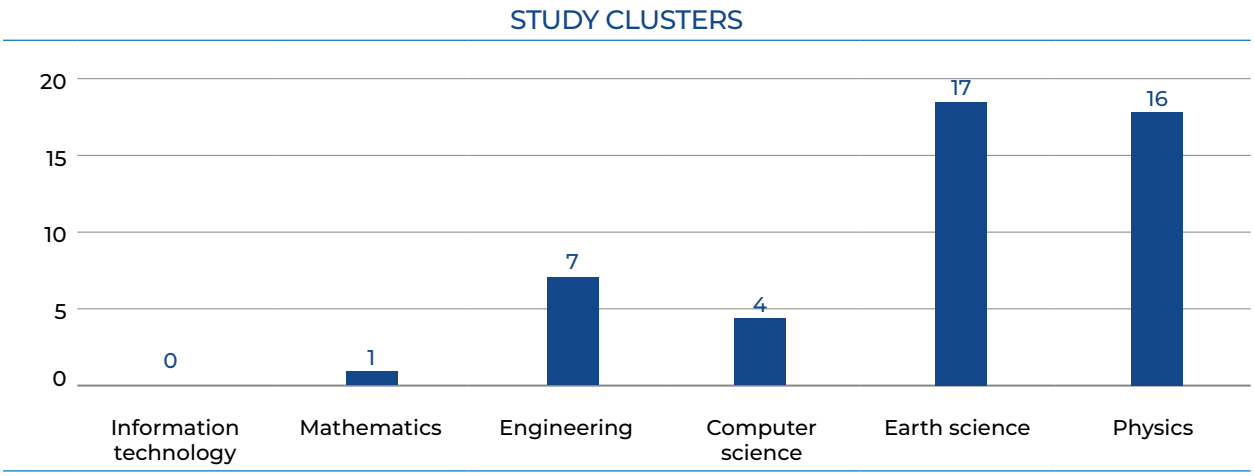


Figure 13: Study Clusters of students

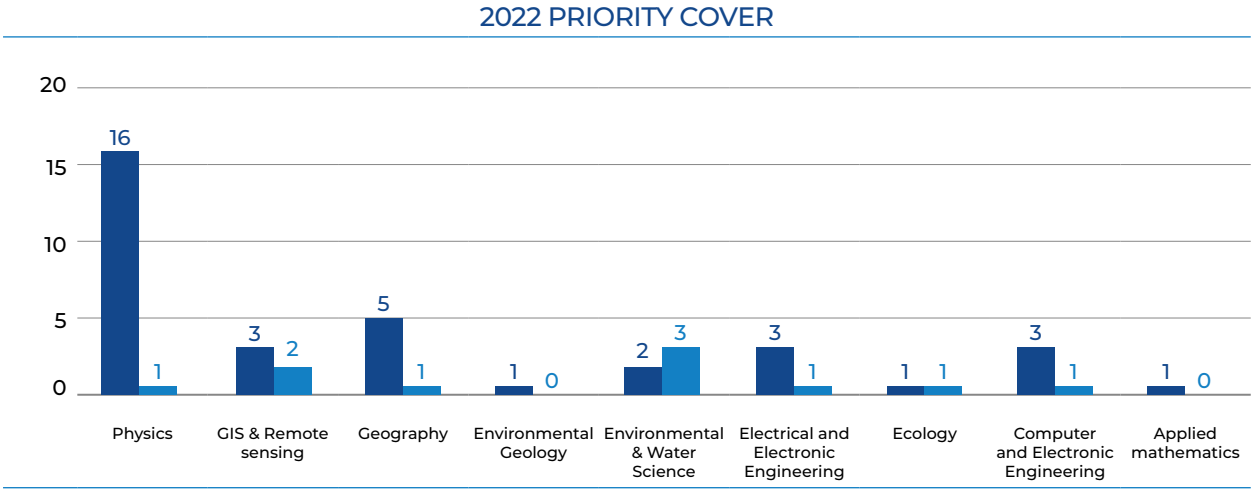


Figure 14: 2022 Priority Cover

ENTERPRISE RISK MANAGEMENT

Over the past year, SANSA has developed and implemented a Risk Appetite and Tolerance Framework with a view to ensure that potential risks to which SANSA is exposed are prevented from materialising, through reflection of the potential risks in the strategic drivers, risk appetite and tolerance framework, as well as alignment to the potential consequences in the risk register. Further, the risk management policy was reviewed to ensure alignment to the risk appetite and tolerance framework. The Policy review necessitated an overhaul of the risk management processes and methodologies which have been widely adopted across the organisation.

SANSA developed and maintained a Business Continuity Management System, which afforded management an opportunity to ensure organisational readiness and agility as well as gaining a deeper understanding of risks and resilience levels for key functions, thus requiring more innovative solutions in responding to continuity risks. The Business Continuity Plans were successfully exercised during quarters 3 and 4 to ensure continual improvement in relation to business resilience.

FRAUD RISK MANAGEMENT

Fraud management was strengthened through the development of a Protected Disclosure policy which seeks to ensure the protection of whistle blowers. During the year under review, two separate sessions were held focusing on whistle blowing, fraud indicators, ethical conduct, inter alia. Clear reporting channels, both internal and external, were re-emphasised with a view to build confidence by employees in relation to reporting fraudulent activities.

SAFETY, HEALTH, ENVIRONMENT AND QUALITY (SHEQ)

SANSA continued to implement planned SHEQ management activities which entailed the effective identification and mitigation of SHEQ risks through ensuring ongoing SHEQ compliance, training, and certification. All SHEQ compliance measures were up to date at the closing of the financial year.

As ongoing SHEQ awareness plays a role in embedding a safety culture in an organisation, weekly SHE talks are being developed and communicated. Information Management Systems (IMS) awareness was also conducted for the management team. To intensify compliance levels, an initiative was taken by SHEQ to have a holistic site inspection every quarter which will afford leadership an opportunity to assess SHE Representatives competency levels following the training they received.

MEDICAL SURVEILLANCE PROGRAMME

Forty-eight (48) employees underwent medical screening during 2022/23 financial year which included lung function, vision, and audio screening. All were found to be in a healthy condition, however, the fitness status of 13% of the SANSA SO employee complement is unknown as their medical certificates have expired. This is an issue that will be addressed by the Agency going forward.

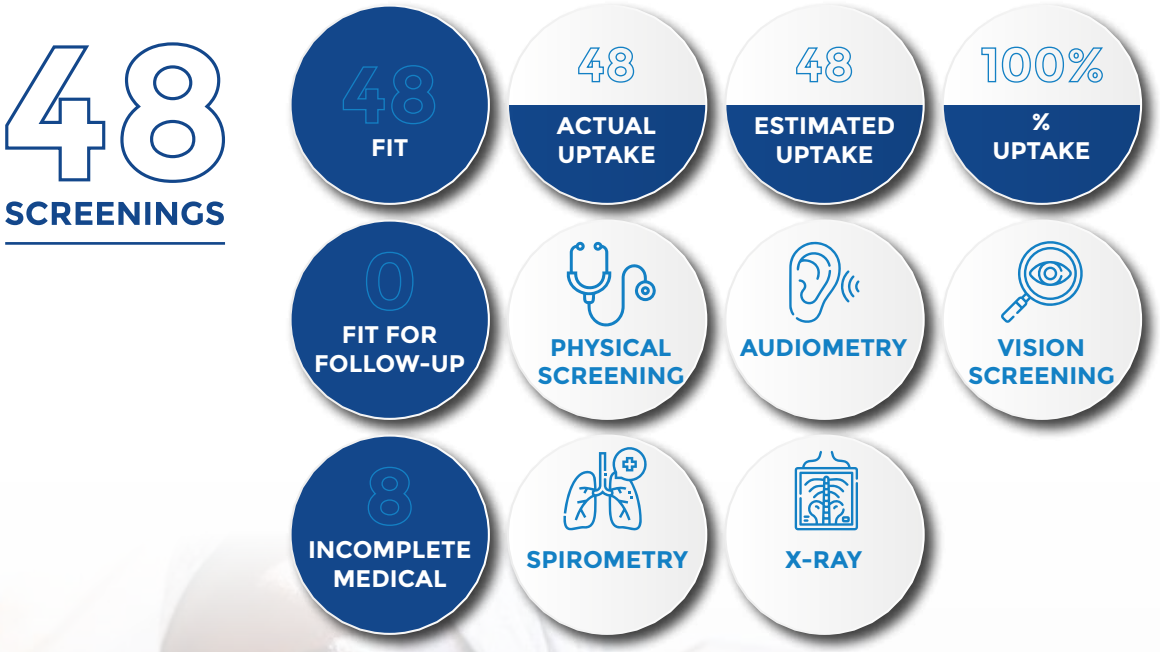


Figure 15: Summary of medical screening results

SCIENCE ENGAGEMENT

SCIENCE IN ACTION AT SCIFEST AFRICA

SANSA participated in the Scifest Africa National Science Festival at the 1820 Settlers Monument, Grahamstown from 06 – 14 September 2022. The SANSA team conducted space awareness outreach alongside the UK National Space Academy (UKNSA) team in the Sarah Baartman and Amathole Districts of the Eastern Cape (EC)Province.

This was the first physical Scifest since the Covid-19 outbreak in 2020 in South Africa. The team consisted of 10 members from SANSA and three members from the UKNSA. The team successfully delivered workshops and outreach programmes to the nearby schools and exhibited during the festival. The highlight of the festival was the UKNSA winning the best workshop for Scifest 2022. During its outreach program the team visited nine (9) nearby High Schools with UKNSA team members to raise awareness of the exciting work done by SANSA and UKNSA.

Figures 16 &17: The team at the SANSA Exhibition booth for Scifest Africa and teams doing outreach in the field during the festival

HANDS-ON DEMONSTRATIONS DURING SCIENCE WEEK

SANSA participated in the National Launch of National Science Week (NSW), an initiative by the DSI. The event was held on 30 July 2022 at the Umlazi campus of the Mangosuthu University of Technology. After the keynote address by DSI Director General, Dr Phil Mjwara, the SANSA team and DSI officials engaged several key decision-makers from KZN. SANSA also conducted a telephone interview with Vuma FM.

National Science Week, enabled by grant funding from NRF South African Agency for Science and Technology Advancement (SAASTA), was a major highlight of the 2022/23 Science Engagement calendar. "*We cherish this opportunity to reach learners and introduce them to SANSA and the amazing work being done at the Agency*," remarked one of the Science Engagement Managers.

The NSW programme was conducted at SANSA's Science Centre in Hermanus and on the road with the Mobile Science Lab from 01-05 August 2022. A team of three (3) individuals visited the Overberg and Cape Winelands districts, while another team visited the Central Karoo and Eden districts. At the SANSA Science Centre in Hermanus, the team hosted Primary Schools from the Overberg and Cape Winelands, with groups of grade 6 and 7 learners visiting the Science Centre every day of the week. On 02 August 2022, the team visited Zwelihle Primary School, in the Overberg District, to accommodate more learners. For the enrichment session on 03 August 2022, the team engaged with two groups: a local school and the Zwelihle STEM club.

A SANSA team visited the Central Karoo and Eden Districts, focusing on the General Education and Training (GET) phase, with the aim of creating excitement about STEM. A few learners from grade 4 were included by some of the schools, however, the majority were GET learners. The SANSA team focused on the National Science Week theme and aligned the activities to the school curriculum, with a focus on hands-on Energy and Change activities. The hands-on activities and corresponding worksheets were specifically on Electrical Circuits, Static Electricity and Forces for all the grade 6 and GET phase learners. SANSA developed hands-on activities that demonstrated the topics. An introductory lecture on SANSA covering the Agency's different programmes was presented to the learners. Key areas of learning

included space, our solar system, the sun, space weather, and the magnetosphere. These topics will assist the learners with the fourth term curriculum theme of earth and beyond.

GIRLS RULE THE WORLD DURING WORLD SPACE WEEK

World Space Week (WSW) took place from 04 -10 October and SANSA ran several programmes that involved direct engagements with learners and the public. The programmes were aligned to the WSW theme for 2022; "Space and Sustainability". The first day of WSW began with the "Take a Girl Child to Work" initiative and several SANSA employees took part in the initiative, motivating the girls and creating career awareness, not only based on STEM subjects, but exploring different types of careers one can follow at SANSA. Science Clubs from three districts in the Western Cape (Overberg, Cape Winelands, and Cape Metro) were invited to the Hermanus Science Centre. SANSA also exhibited at Whale Coast Mall in Hermanus with the main target being the public. To end WSW the team hosted youth from Overstrand and the Child Youth Care Centre, the activities of the day proved to be impactful as none of the youth that formed the group had been previously exposed to science. SANSA however believes in engaging through interactive activities, and through these engagements the youth thoroughly enjoyed the experience at SANSA.

Figure 18: National Science Week activities

SPACING-UP IN THE UK

In November 2022, eight (8) members of the SANSA Science Engagement team participated in a space training program at the UK National Space Academy in Leicester. Led by Science Engagement Managers, Thandile Vuntu and Dan Matsapola, the team gained exposure to various space organisations across the entire space value chain. The program showcased best practices for public engagement with space, which SANSA plans to implement in the Southern African Development Community in the short term and Africa in the long term. The week-long program included visits to RAL Space and Leicester Space Park, as well as hands-on activities for learners and discussions with various National Space Centre stakeholders. The team established numerous connections, learned valuable STEM engagement skills, and innovative ways to develop hands-on, interactive activities for learners and the public. To end the week the team had the opportunity to visit the King Power Stadium.

Figure 19: The SANSA Science Engagement teams at the National Space Centre in Leicester, UK

Figures 20 & 21: UK Space Academy showcases hands-on demonstrations to local learners visiting the SANSA Science Centre

ALL BOXES CHECKED – SCIENCE CENTRE RECEIVES ACCREDITATION

The SANSA Science Centre located at the Hermanus facility was established in 2004 and has been serving the Western Cape communities for almost 20 years by inspiring the youth to take up STEM through demonstrating science using space. The Science Centre has an exhibition room, offices, a classroom, and a garden where hand-made rockets are launched on a regular basis. The Science Centre received accreditation from the DSI SAASTA on 28 July 2022. This achievement affirms the hard work that the team has invested into the Science Centre and its operations.

24 YEARS AS A SPACEFARING NATION

SANSA celebrated 24 years of South Africa as an African spacefaring nation with February Spacefaring Month activities in the Free State, Eastern Cape, and North-West provinces. The space awareness activities, which produced 80% of the quarter 4 target of 6 000 youth directly engaged through space-related science, allowed the SANSA Pretoria and Hermanus teams to work together in the Fezile Dabi District (Free State) with over 40 primary schools from 13 – 17 February 2023. During this week the teams managed to engage with more than 1 000 learners.

INTERNATIONAL PARTNERSHIPS – SANSA PARTNERS WITH UKSA

SANSA hosted the United Kingdom National Space Academy (UKNSA) from 04-09 July 2022 at SANSA Hermanus. The SANSA and UKNSA teams hosted learners from the local Overberg schools. The UKNSA team presented several STEM activities to the learners and to the SANSA employees. On 09 July 2022 the two teams joined forces for the quarterly mall exhibition at the Whale Coast Mall in Hermanus. It was a very productive day with a lot of public interactions. UKNSA donated a Space Suit, Rocket launcher and a Thermal Infrared Camera to SANSA for its Science Engagement Activities. These items are helping SANSA in its learner engagements especially for demonstration purposes with STEM concepts.

ROLE MODELS IN SPACE – SETTING AN EXAMPLE IN RURAL SOUTH AFRICA

Following the successful National Space Conference 2022 held at the CSIR International Convention Centre 30 August – 02 September 2022, SANSA collaborated with Research Manager at the Water Research Commission: Dr Brilliant Petja as the space role model to inspire Limpopo Province youth and public through the Eding! International Science Festival held at Jack Botes Hall in Polokwane from 03 – 06 October 2022 through which 1 300 learners were directly engaged. Dr Brilliant Petja is South Africa's first black PhD scientist in Remote Sensing and GIS (2008) from University of Limpopo.

SANSA and Dr Brilliant Petja engaged with 175 youth and school learners from three Nokotlou Education Circuit schools and the public gathered at Madikeleng Community Hall in gaMathabatha village on 07 October 2022 through the Capricorn District Municipality (CDM) Disaster Risk Awareness event to celebrate the International Day for Disaster Risk Reduction (in line with the Sendai Framework for Disaster Risk Reduction 2015 – 2030) and expose school learners to Space Science and Technology careers. SANSA has an existing MoU with CDM in the context of the District Development Model and routinely conducts space awareness activities in 49 Science Clubs within the Capricorn District.

In total, 1 475 Limpopo Province youth were directly engaged by SANSA working collaboratively with Dr Brilliant Petja of the Water Research Commission through the two platforms provided by regular SANSA partners. The Nokotlou Circuit Manager attended the CDM event and was so impressed by the STEM education support work of SANSA that she undertook to organise visits to her circuit schools in 2023.

SPACE KNOW-HOW FOR SCIENCE CENTRES – SANSA PROVIDES GIS TRAINING

SANSA delivered two days GIS training to the National Network of Science Centres through the platform provided by the Southern African Association of Science and Technology Centres (SAASTEC) from 28-29 June 2022. The training was aimed at developing capacity of science centres to use GIS to map their science engagement activities with a view to establishing the reach of their activities and identifying gaps in reach to support inclusivity. This follows several conference papers on the use of GIS delivered by SANSA since November 2019 to the SAASTEC community, and partially addresses a Committee on Earth Observation Satellites (CEOS) Working Group on Capacity Building and Data Democracy deliverable in the 2022 – 2024 CEOS Work Plan that SANSA is responsible for. The GIS training was delivered by SAASTEC Board Member: Ms. Sinesipho Ngamile, with support from the Science Engagement Unit.

LAUNCH YOUR FUTURE – DEPUTY MINISTER VISITS SANSA HERMANUS

Towards the end of February SANSA hosted a very successful fun-filled day with hands-on activities with Deputy Minister Buti Manamela of Department of Science and Innovation and learners from Zwelihle Primary School Space Club. The Deputy Minister spent half a day engaging with the learners, through interactive educational activities including building and launching rockets, with the aim of stimulating an interest and raise awareness about the importance of STEM.

Figure 22: Deputy Minister Buti Manamela of Department of Science and Innovation and learners from Zwelihle Primary School at SANSA Hermanus

12.2 PROGRAMME 2: EARTH OBSERVATION

PROGRAMME PURPOSE

The Earth Observation (EO) programme provides for the development and promotion of Earth observations products for socio-economic development and improved livelihoods in South Africa and the African continent. The objective is to collect, assimilate and disseminate Earth observation data and products to support South Africa's policy-making and implementation for socio-economic growth through areas that include food security, water resource management, integrated spatial planning and land reform, disaster management, peace and security, oceans economy and global change.

The EO Programme delivered against the following outcome and five-year targets in the approved Strategic Plan:

- **Outcome 1:** Increased space relevant knowledge that supports the developmental agenda.

  The EO programme contributed towards the achievement of Outcome 1 through the achievement of a Research productivity score of 488.70 against a targeted 345 for the year. The Research productivity score is a composite of publications, graduated students, research funding and research rating, which all contribute to the growth in space-relevant knowledge development agenda.
- **Outcome 3:** Increased human capacity for the implementation of key space initiatives.

  Contributing to the achievement of Outcome 3, the EO program employed a diverse approach that involved financing postgraduate students, conducting brief training courses, delivering guest lectures at universities, co-supervising students, organising internships and studentship programmes. The Science Engagement unit carried out space awareness programmes nationwide, targeting schools and the public across various provinces of South Africa, successfully reaching over 40 000 youth.
- **Outcome 4:** SANSA positioned as a key enabler for the implementation of government's space-related policies.

  The strategic positioning of SANSA as a key enabler within the local, African, and global space sector remained a priority and was monitored through the number of joint space-programme initiatives undertaken through partnerships. There were seven (7) international initiatives: seven (7) African initiatives, and thirteen (13) National initiatives undertaken by the EO programme during the reported period. The Programme further conducted more than 16 training and awareness interventions with users from various sectors within South Africa with the objective of encouraging the utilisation of space products and services within the context of the national space awareness programme.

  SANSA continues to work closely with government departments to ensure an increased number of government departments and public entities benefit from the utilisation of space products and services. To this end an additional 15 departments and public entities were supported by the entity to use space products and services during the financial year.
- **Outcome 5:** Enabling infrastructure developed and upgraded to support the space sector value chain.

  The DESA platform was launched in beta form in October 2022, to facilitate user co-design and allow further optimisation of products and the platform. The platform will be used to disseminate real-time Satellite Pour l'Observation de la Terre (SPOT) based products from April 2023 under a new acquisition contract.

  SANSA also received funding from DSI to develop a South African Earth Observation Systems of Systems Portal. The project is at the requirements stage, with development anticipated to commence soon.

  In relation to the development of a Space Infrastructure Hub (SIH), the targeted contracting of a space system was not concluded during the reporting period. In the final quarter of the financial year, SANSA, however, focused on addressing gaps identified through feedback from the Budget Facility for Infrastructure (BFI) on the SIH

Phase 1 submission with the aim of ensuring the project is funded and implemented in the coming year. The entity held engagements with the BFI technical team seeking to address the entity's SIH business case submission gaps, mainly related to the Cost Benefit Analysis (CBA). A supplementary submission for the SIH project was made on 31 March 2023 and SANSA awaits final approval in the new financial year.

- **Outcome 6:** Increased participation of the National Space Programme in the regional and global space market.

The EO Programme aimed to ensure the development and implementation of operational EO applications with high socio-economic benefit throughout the 2022/23 financial year.

PROGRAMME 2: PERFORMANCE AGAINST 2022/23 OUTPUT INDICATORS AND TARGETS

EARTH OBSERVATION PROGRAMME

Table 5: Earth Observation Performance

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME 01 **Increased - space relevant knowledge that supports the developmental agenda.**								
1.1. National research and development output in space-related sciences	1.1.1. National research productivity score for supported R&D	567.44	517.64	345	488.70	+143.70	Annual target was exceeded due to numerous publications	Not applicable
OUTCOME 03 **Increased human capacity for the implementation of key space initiatives.**								
3.1. Youth awareness of space-related sciences	3.1.1. Number of youth directly engaged on space-related sciences	2 660	22 224	30 000	42 707	+12 707	Target exceeded due to opportunities realised	Not applicable
	3.2.1. Number of students and interns supported for formalised training	20	25	28	24	-4	At the beginning of the 2022 academic year some of the students offered support did not take it up due to factors such as alternate offers from other institutions	2023/24 priorities to include establishment of a pipeline of prospective students to enable continued support to students and interns
OUTCOME 04 **SANSA positioned as a key enabler of government's space – related policies.**								
4.3. Joint space programme initiatives undertaken through partnerships	4.3.1. Number of joint initiatives undertaken through formal international partnerships	7	7	5	7	+2	Target exceeded due to opportunities realised for collaborations	Not applicable

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME O4 **SANSA positioned as a key enabler of government's space – related policies. (continued)**								
4.3. Joint space programme initiatives undertaken through partnerships	4.3.2. Number of joint initiatives undertaken through formal African partnerships	7	5	6	7	+1	Target exceeded due to opportunities realised for collaborations	Not applicable
	4.3.3. Number of joint initiatives undertaken through formal national partnerships	12	12	9	13	+4	Target exceeded due to opportunities realised for collaborations	Not applicable
4.4. Awareness and training to key users of space-related products and services	4.4.1. Number of awareness and training interventions to key users of space-related products and services	5	16	5	16	+11	Target exceeded due to awareness and training interventions responsiveness to the demand	Not applicable
4.5. Government departments and public entities using space products and services	4.5.1. Number of additional government departments and public entities that are using space products and services	-	Indicator reframed	10	15	+5	Target exceeded due to SANSA's responsiveness to the demand	Not applicable
OUTCOME O5 **Enabling infrastructure developed and maintained to support the space sector value chain.**								
5.1. Infrastructure developed or upgraded	5.1.1. Development of Digital Earth South Africa	0% Ingestion	100% Ingestion	Ingestion of additional (1) sensor	Ingestion of additional (1) sensor 100% completion against the project action plan		No Deviation	Not applicable
	5.1.2. Development of the SIH	-	New Indicator	Initiate acquisition of the Phase-1 mission system	Contracting and acquisition of the SIH phase I mission system not concluded by year-end	Initiation process for acquisition of the Phase-1 mission system delayed	Preparation of thematic user requirement and mission user requirement and contracting not concluded	Prioritise publication of thematic user requirement and mission user requirement in preparation for the acquisition
OUTCOME O6 **Increased participation of the national space programme in the regional and global space market.**								
6.1. Space products and applications	6.1.1. Number of products and applications	2	3	3	2	-1	Only Data as a Service, Remote Sensing Products were delivered as informed by client requirements	Utilisation of infrastructure to support clients with required products and applications

PROGRAMME 2: PERFORMANCE HIGHLIGHTS FOR THE 2022/23 FINANCIAL YEAR

SCIENCE ENGAGEMENT HIGHLIGHTS

The section below highlights impact stories for space awareness and Human Capital Development (HCD) namely:

- SANSA takes space to the masses in rural areas with 10% of NDP target met.
- Geography educators supported in rural areas with practical GIS skills.
- SANSA repeats national reach through National Science Week 2022.
- District Space Weeks as vehicles for supporting the DSI and Department of Basic Education (DBE) agreement.
- SANSA Science Clubs contribute to the Capricorn District One Plan.
- Space exhibit in EC used to drive youth engagements.
- Municipalities trained in the use of Earth Observation.
- SANSA supports the Science Engagement Community to promote GIS utilisation.
- South Africa celebrates 24 years in space through February Spacefaring Month 2023.
- Cape Town Metro school adopted ahead of GEO Ministerial Summit.

SANSA takes space to the masses in rural areas

The SANSA Earth Observation Science Engagement Unit has directly engaged with over 40 000 learners in 36 of South Africa's 52 districts during the 2022/2023 financial year, which marked the tenth consecutive financial year since the unit was established in January 2013. The National Development Plan – Vision 2030 has as one of its targets the production of 450 000 science graduates annually, leading to the year 2030. The year 2022/2023 marked a significant milestone where SANSA is contributing over 10% of the targeted direct youth engagements in space-related science.

Geography educators in rural areas supported with GIS skills

SANSA has an existing MoU with the University of Fort Hare (UFH) that is implemented through the EO programme to achieve the required critical mass of skills in GIS and Remote Sensing. The two institutions also work together on the Working Group on Capacity Building and Data Democracy of the Committee on Earth Observation Satellites (CEOS) that SANSA has been Vice Chair of since November 2021. Geography educators from 40 high schools in the predominantly rural Dr Ruth Segomotsi Mompati District benefited from the joint SANSA-

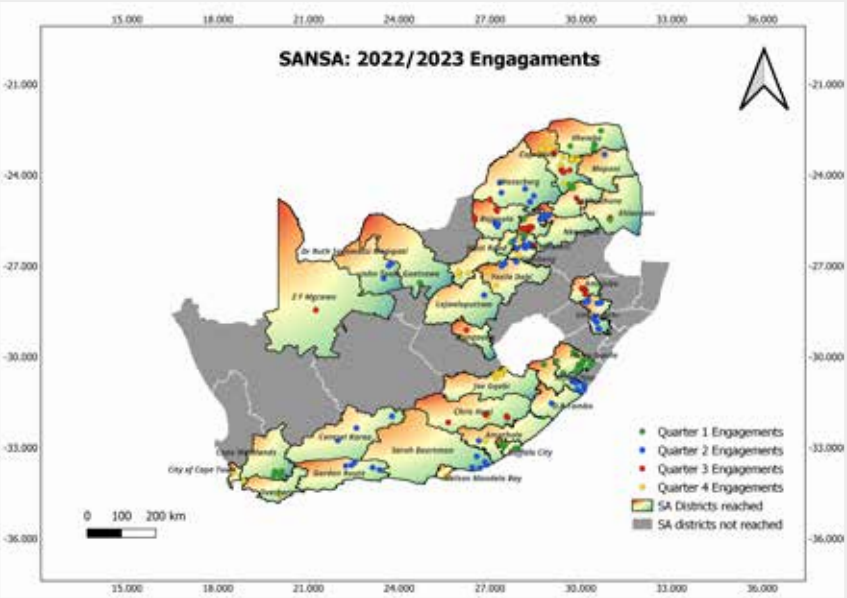


Figure 23: SANSA reaches 36 of the 52 districts in South Africa during 2022/23

Figures 24 & 25: SANSA delivers GIS and Remote Sensing training with UFH to Geography educators

UFH training in GIS and remote sensing aimed at equipping them to deliver this to their grade 10 – 12 learners in the classroom. The training was part of the CEOS Work Plan and was successfully delivered with district officials also in attendance.

SANSA repeats national reach through National Science Week 2022

National Science Week (NSW) is a project of the Department of Science and Innovation aimed at celebrating science at multiple sites across the country. SANSA has consistently applied and been granted funding to conduct space awareness workshops to diverse stakeholders identified in the Cabinet-approved Science Engagement Strategy of the DSI. Since the 2019 edition of NSW, SANSA successfully conducted space-related science activities at nine (9) sites simultaneously prior to the COVID-19 era. The 2019 achievement was repeated in 2022 following the lifting of the lockdown restrictions, with over 17 000 youth directly engaged in all 9 provinces.

District Space Weeks as vehicles for supporting the DSI & DBE agreement

SANSA is among the leading DSI entities that are pioneering new models in youth engagement in support of the existing agreement between DSI and the DBE, aimed at improving learner performance in the gateway subjects of Mathematics and other science subjects. Modelled after the National Science Week model of weeklong activities targeting 10 schools, SANSA has used this model to support over 20 districts during the 2022/23 financial year. The signature of this model is the establishment and support of Science Clubs as contributions to the youth development aspects of the District One Plans.

SANSA Science Clubs contribute to Capricorn District One Plan

Following several training sessions conducted by SANSA to Capricorn District Municipality employees in 2018 and 2019, the Science Engagement Unit leveraged district initiatives such as the Back-To-School campaign aimed at creating awareness in schools on natural and man-made disasters in the context of the Sendai Framework on Disaster Risk Reduction 2015 – 2030. SANSA established the first 16 Science Clubs in the Capricorn District during the 2021/22 financial year and continued to support the existing Science Clubs with NRF SAASTA during 2022/23 that saw Mamolemane Science Club representing Limpopo Province at the national finals in Gauteng Province of the South African Institution of Civil Engineering Bridge Building Competition in August 2022.

Space exhibit in Eastern Cape used to drive youth engagements

There are only three provinces whose districts the EO Science Engagement Unit has covered in full during the 2022/23 financial year, namely, Gauteng, Limpopo, and the Eastern Cape (EC). The main driver for the coverage of the EC was the establishment of the permanent space exhibit at the Albertina Nontsikelelo Sisulu Science Centre in Cofimvaba that was launched in October 2021 by the EC Premier and DSI Minister. SANSA leveraged partnerships with the education stakeholders and event organisers to reach all the districts of the EC Province during the reporting period.

Municipalities trained in the use of Earth Observation

Following the November 2021 Local Government Elections, SANSA has used funding provided by the DSI to train selected district municipalities in the use of Earth Observation to support their mandates. The training attracted diverse teams from disaster management, infrastructure support, and spatial planning supported by the District Development Model Champions to understand the various tools and techniques that Remote Sensing and GIS bring to service delivery. The trained teams support the newly elected councillors in executing their duties for the benefit of the citizens at the local sphere of government.

Figures 26 & 27: SANSA pioneering District Space Weeks as mass participation youth platforms

Figures 28 & 29: SANSA expanding the human capital development pipeline with key partners

SANSA supports the Science Engagement Community to promote GIS utilisation

SANSA routinely supports the National Network of Science Centres that is coordinated at the Southern African Association of Science and Technology Centres (SAASTEC) to use the Geographic Information System (GIS) in their science engagement activities. The Science Engagement Unit has presented several conference papers at SAASTEC conferences since 2019, showcasing how GIS can be used as a tool for measuring the degree to which science engagement activities are inclusive. SANSA has trained science interpreters as well as employees of the NRF SAASTA on how to integrate GIS into their business processes, including gap identification and analysis using Free and Open-Source Software packages such as Quantum GIS.

South Africa celebrates 24 years in space

South Africa celebrated 24 years as an African spacefaring nation on 23 February 2023, following the launch of SUNSAT-1 on 23 February 1999. Rather than a one-day celebration, the SANSA and DSI outreach teams collaborated to deliver February Spacefaring Month in multiple provinces that culminated in most of the youth being directly engaged during quarter 4 through this unique concept. The highlight of the month-long celebration was the visit by Deputy Minister: Mr Buti Manamela (Science and Innovation) to SANSA's Hermanus facility as well as SANSA Board Member and Woman in Space Entrepreneur Ms. Jessie Ndaba's public engagements through the National Youth Development Agency and other professional platforms.

Cape Town Metro school adopted ahead of GEO Ministerial Summit

Ahead of the Group on Earth Observation (GEO) Ministerial Summit to be hosted in South Africa from 6 – 10 November 2023, SANSA has partnered with the Aerospace Systems Research Institute (ASRI) of the University of KwaZulu Natal on the back of the Phoenix rocket test launches at DENEL Overberg Test Range to enthuse high school learners in the space value chain. SANSA conducted space awareness workshops at Nomzamo High School in the township of Lwandle on 13 March 2023 and arranged for grade 11 learners from the school to attend the Phoenix Campaign Space Day at DENEL Overberg Test Range on 14 March 2023 as the first activity since the adoption by SANSA. A subsequent visit to SANSA's Hermanus facility has been arranged to expand the horizon of the learners and their educators.

Figures 30 & 31: SANSA exposes township learners to key national space facilities

SUPPORTING DECISION MAKING AND DECISION SUPPORT TOOLS

Mzansi-Amanzi National Water Quantity Information Service

Water is a critical resource that underpins economic development, food security and human livelihood. A monitoring system that provides state of water resources across the country for management purposes and policy planning is of very high value. Since June 2020 SANSA has been providing monthly surface water area and dam water volume levels data for water bodies across South Africa. SANSA partnered with industry (Geo Terra Image and EkoSource) as part of the Agency's legislative mandate to create a conducive environment for industrial development. Therefore, SANSA acquired the product from industry. The first phase of the product was for 24 months and ended in 2022. SANSA stakeholders were satisfied with the provision of the product from industry and requested further provision of the data. SANSA has committed to continue with the delivery of the water monitoring product for a duration of 36 months in partnership with industry in response to our various stakeholder needs.

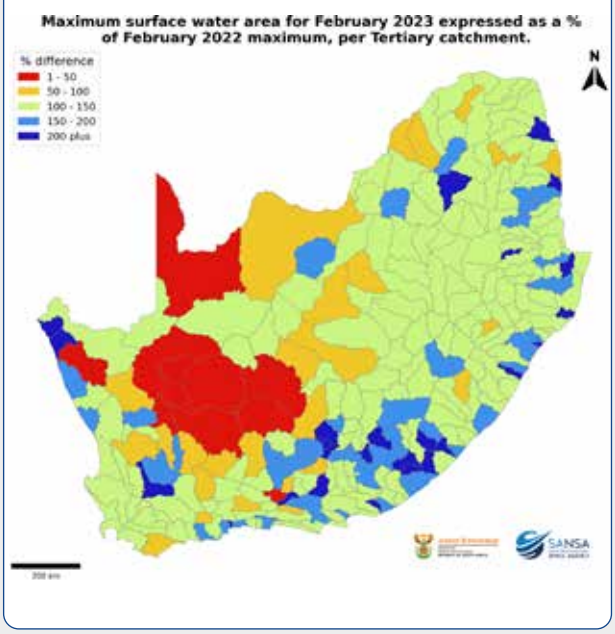
The '*status of surface water resources*' indicates the area of available surface water in both natural and man-made water features, each month, across the full South African landscape. It is reported in terms of an index of water area per Tertiary-level hydrological catchment, which represents broad-area water management regions. This surface water information is generated from Sentinel 1 and 2 satellite imagery, which supports the detection of all water features larger than 0.25 ha. Additional information on this national water monitoring capability is available on the water monitoring website.

Monthly Water Monitoring Reports

LONG-TERM COMPARISON

Total surface water area for the current month versus long-term maximum extent.

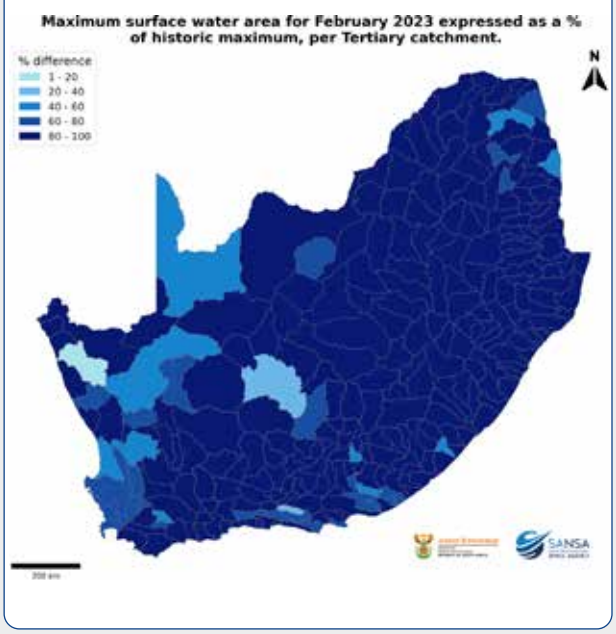
FEBRUARY 2023



SHORT-TERM COMPARISON

Total surface water area for the current month versus same month in the previous year.

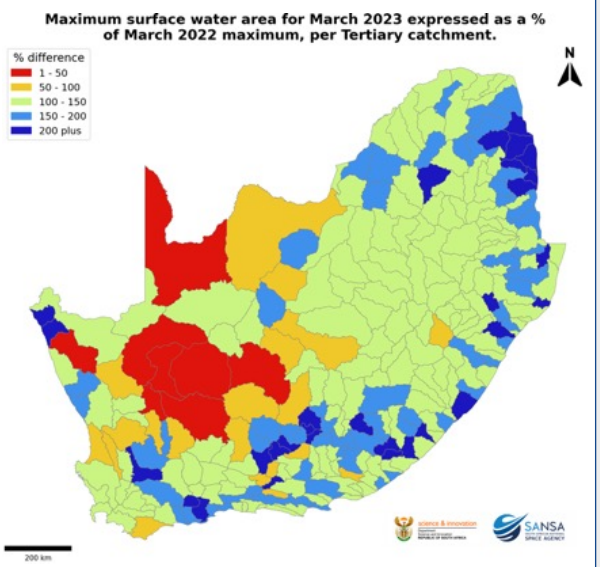
FEBRUARY 2023



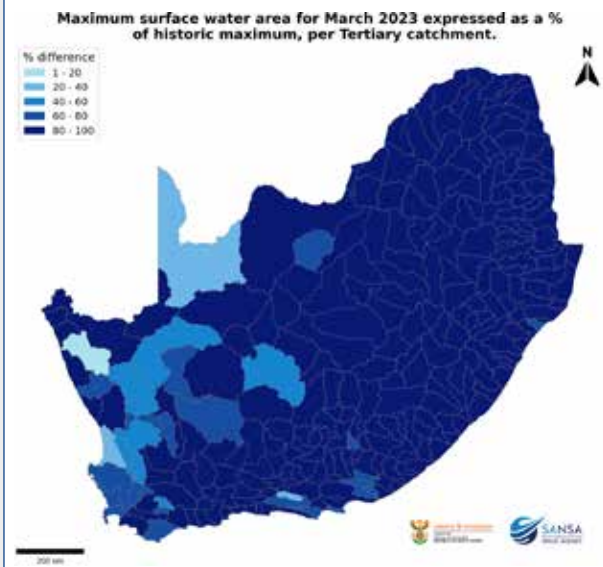
Figures 32 &33: Monthly water Monitoring report

Monthly Water Monitoring Reports

MARCH 2023



MARCH 2023



Figures 34 & 35: Monthly water Monitoring report

Web-based decision support platform for monthly water area detection and volume estimates examples

The web-based decision support platform provides access for all users, both private and governmental organisations.

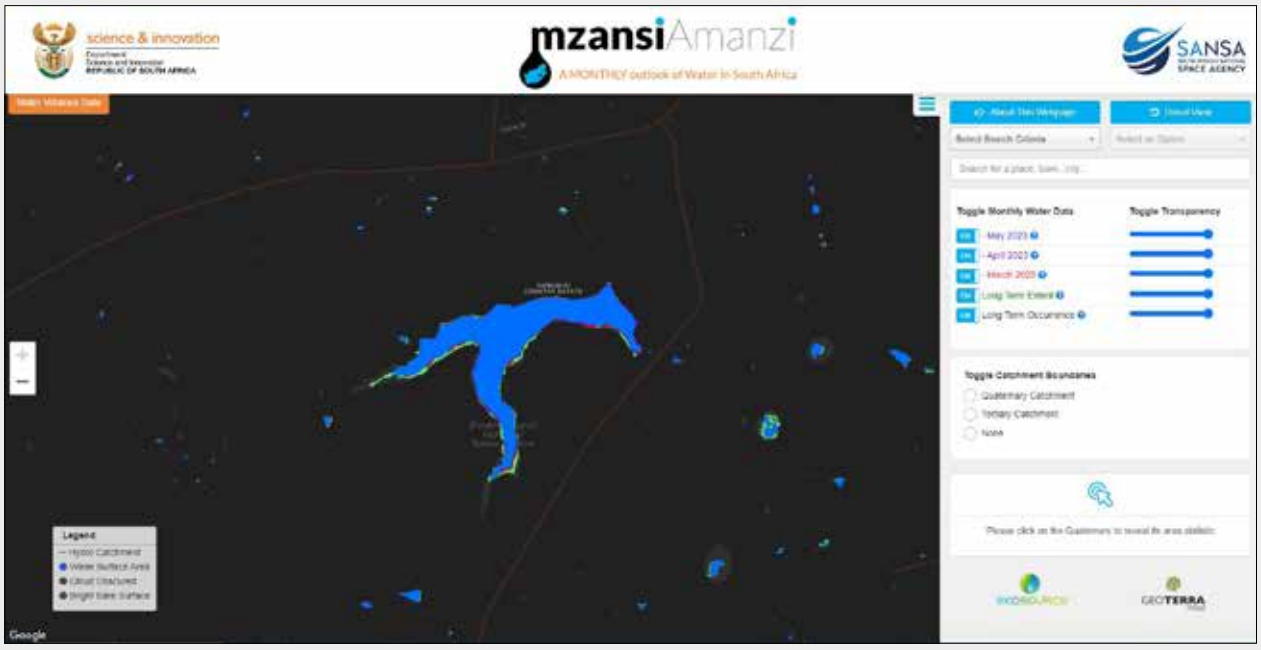


Figure 36: Web-based platform for water area monitoring platform

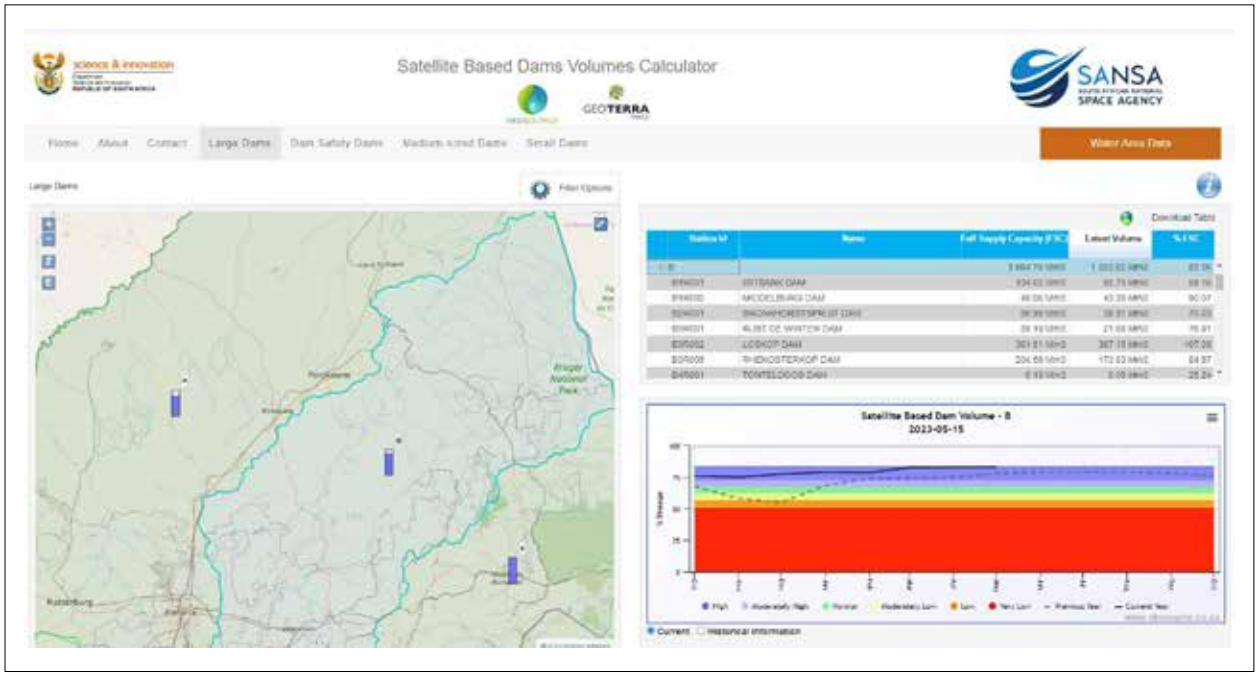


Figure 37: Web-based platform for Volume estimates and dashboards

ACCOMPLISHMENTS

More stakeholders are now using the data that includes government departments, research institutions, and universities for various purposes. In-house, SANSA is assisting the Department of Water and Sanitation in utilising the data for Sustainable Development Goal (SDG) 6.6 reporting.

Supporting flood disaster management during the Kwazulu-Natal floods and Jagersfontein mine dam collapse

Earth Observation Satellite Imagery was used in areas that were affected by floods in KwaZulu Natal and some parts of the Eastern Cape. The intelligence derived from the data was provided to the National Disaster Management Centre and local authorities to aid the disaster response efforts. The data was analysed by SANSA to map the extent of damage to property and infrastructure in flood affected areas. The floods caused damage in large parts of Kwazulu-Natal. Earth Observation derived intelligence aided in conducting post-flooding disaster quantification and supported the estimation of overall damage, thus indicating the importance of such data in government response efforts.

Following the Jagersfontein Dam collapse in the Free State on 11 September 2022, flood water caused damage to property and the loss of lives. The intelligence derived from SANSA's EO satellite data was accessed by the National Disaster Management Centre, Department of Water and Sanitation, local authorities and affected businesses to aid the disaster response efforts and to quantify the damage caused by the flood.

Earth Observation for Water Quality (EO4WQ) High Resolution Coastal Water Quality Service

SANSA, through the NEOFrontiers programme and in collaboration with the CSIR and the CyanoLakes Small, Medium and Micro Enterprise is in the process of developing new high resolution (<300 m resolution) near coastal and estuarine/embayment water quality products, based primarily on the Sentinel 2 and Sentinel 3 Full Resolution (FR) sensors. These products are expected to be integrated into the existing Oceans and Coastal Information Management System (OCIMS) Water Quality Decision Support Tool, with appropriate development of the relevant OCIMS front end. The project is building an online tool to help track coastal oil spills, sea surface temperatures, invasive water plants or algal blooms in South Africa's coasts and estuaries. The EO4WQ tool will make it free and easy for researchers, marine farmers, fishery managers, environmental watchdogs, and local authorities to monitor historical or near real-time changes in water quality, using detailed imagery from the world's best Earth observation satellites. More information on the services and project can be found at https://eo4wq.tumblr.com

An intermediate service, developed by CyanoLakes can be found at https://online.cyanolakes.com/eo4wq/ and an example product is shown below:

Figure 38: Water quality mapping through satellite imagery

SUPPORT THE DEVELOPMENT OF A CRITICAL MASS OF SKILLS

NEOFrontiers Activities

Four successful projects which started in 2022, worth R23 million in total, are in their second year of running, with successful examples outputs. These include EO4WQ High Resolution Coastal Water Quality monitoring system as part of the OCIMS, and a publication submitted to Nature (Data Science) from the HyperCAAT hyperspectral R&D project.

Three successful proposals were awarded with total funding of R11 million for 2023 for the following calls:

- Support Action SA/2022/1: Development of Climate Change Hazard Indices based on the DEA Platform,
- Support Action SA/2022/2: High resolution multi-sensor object-based detection for road network monitoring, and
- Domain Development Action DDA/2023/1: Collaboration with the NASA BIOSCAPE initiative and the South African Multi-Sensor Campaign.

Space Infrastructure Hub (SIH) activities

The SIH Thematic User Requirements will be released in May 2024, after an extensive synthesis of the information gathered in the 2022 Expert Advisory Groups and Community Workshops. The synthesis of these requirements across all the thematic areas covered provide the following capabilities to direct the SIH investment:

- A mission solution space for the SIH Phase 1 mission, determined by the most common scales, information content, innovation, and complementary aspects across the widest range of thematic areas,
- An overview of key user interventions and the intelligence required for critical decision making across thematic areas, and
- An overview of how users across thematic areas wish to be presented with EO derived intelligence, identifying common multi-thematic needs to realise greatest end-user value.

An example of the synthesised output regarding the value of new mission solution spaces across thematic areas can be seen in the figure below:

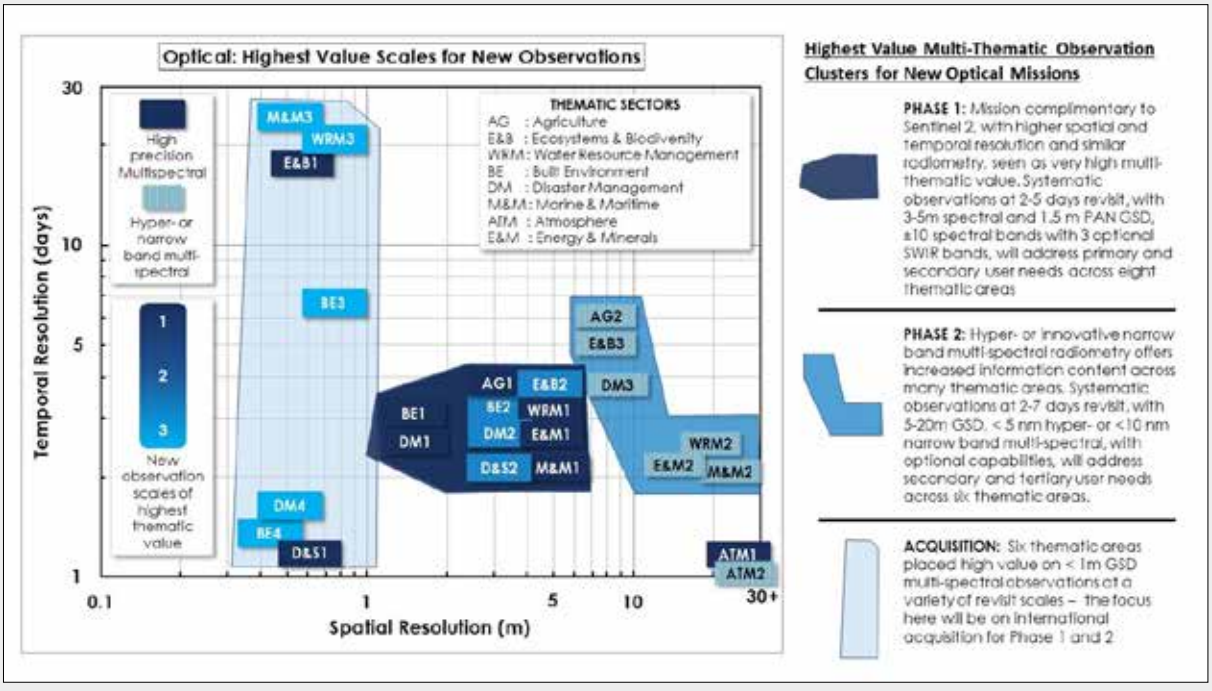


Figure 39: Highest Value Multi-Thematic Observation Clusters for New Optical Mission Solution Spaces

RESEARCH PRODUCTIVITY

SANSA published nine (9) papers in peer reviewed international publications, examining issues ranging from climate and vegetation issues, air quality, Southern Ocean phytoplankton ecology, clouds and lidar, and informal settlement growth patterns through the EO programme. Over R3 million was also realised in external R&D funding.

AFRICULTURES

SANSA leads the demonstration of the AfriCultuReS operational system in Africa

The Agency participated in the H2020 project, AfriCultuReS (Enhancing Food Security in African Agricultural Systems with the support of Remote Sensing) funded by the European Commission under grant agreement number 774652. The aim of the project was to develop the earth observation-based decision support system to support food security in Africa. SANSA led the demonstration activities of the operational AfriCultures platform in the seven (7) pilot countries namely, South Africa, Ghana, Tunisia, Niger, Mozambique, Kenya, and Rwanda, from September 2022 to October 2022.

The aims of the workshops were to demonstrate the operational platform and to collect user feedback on the AfriCultuReS services regarding their quality, accessibility, and interoperability of the platform. The demonstration workshops were combined with the Capacity Development workshops where users were trained on how to use the platform, and that activity was led by the University of Sheffield. The workshop participants were from various government departments, universities, research organisations, private EO/GIS companies, financial institutions, and agribusiness companies. The total number of attendees of the workshops both online and in person was 137, with 107 men and 30 women.

The demonstration results also indicated that most of the demonstration activities met the required expectation as depicted in the table below.

A demonstration report, which was the main deliverable for the task, was submitted to the EUC in December 2022 and was accepted in March 2023.

Digital Earth South Africa (DESA) Project

The DESA platform was launched in beta form in October 2022, to facilitate user co-design and allow further optimisation of products and the platform. The platform will be used to disseminate real-time SPOT based products from April 2023 under a new acquisition contract. Significant progress has been made to resolve a technical issue with the DESA maps involving changing the SPOT imagery to the latest Cloud Optimized GeoTIFF format.

Table 6: Results per Key Performance Indicator

PERFORMANCE OBJECTIVES	PERFORMANCE INDICATOR	DEMO RESULTS	PERFORMANCE OBJECTIVE STATUS
Operational Demonstration of AfriCultuReS services	Number of users involved	137 participants from all the demonstration sites	The demonstration exercise meets the required expectation
	Products made available	All the service products (low, and medium) resolutions were developed and uploaded to the platform. The high-resolution products are available for livestock, crop services and burnt areas	The demonstration exercise meets the required expectation
Provision of actionable information	Needed information delivered through the platform	The maps and statistics are accessible and downloadable through the WeBGIS.	The demonstration exercise meets the required expectation
Feedback collection	Number of questionnaires filled	88 responses from Rwanda, Mozambique, Ghana, Kenya, South Africa, Niger, and Tunisia	The demonstration exercise meets the required expectation

12.3 PROGRAMME 3: SPACE SCIENCE

PROGRAMME PURPOSE

The Space Science (SS) Programme leads multidisciplinary space science research and development. Key functions include fundamental and applied space science research, the support of space-facilitated science through science data acquisition, coordination and management of scientific data ground segments, provision of space weather and other geo-space and magnetic technology products and services on a commercial and private basis to the defence, maritime, communications, aviation, and energy sectors. The programme also provides leadership in postgraduate science and engineering student training, as well as science engagement through both learner and educator science support.

The Space Science Programme delivers against the following outcomes and five-year targets in the approved Strategic Plan:

- **Outcome 1:** *Increased space relevant knowledge that supports the developmental agenda.*

  The SS programme contributed towards the achievement of Outcome 1 through the achievement of a research productivity score of 1 172.04 against a targeted 1 100 for the year. The research productivity score is a composite of publications, graduated students, research funding and research rating, which all contribute to the growth in space-relevant knowledge development agenda.

- **Outcome 3:** *Increased human capacity for the implementation of key space initiatives.*

  SS utilised numerous initiatives towards the achievement of Outcome 3. These include sponsoring postgraduate students, offering short training courses, guest lecturing at universities, co-supervising students, coordinating internships and studentship programmes. The Science Engagement unit carried out space awareness programmes throughout the Western Cape, targeting schools and the public, effectively reaching over 11 600 youth during these engagements against an annual target of 7 215.

- **Outcome 4**: *SANSA positioned as a key enabler for the implementation of government's space-related policies.*

  The strategic positioning of SANSA as a key enabler within the local, African, and global space sector remained a priority and was monitored through the number of joint space-programme initiatives undertaken through partnerships. There were eleven (11) international initiatives: seven (7) African initiatives, and nine (9) National initiatives against annual targets of three (3) respectively during the reported period.

  The SS programme conducted 11 training and awareness interventions with users from various sectors within South Africa with the objective of encouraging the utilisation of space products and services within the context of the implementation of the national space awareness programme.

- **Outcome 5:** *Enabling infrastructure developed and upgraded to support the space sector value chain.*

  The Operational Space Weather Services Capability establishment project has been concluded with the capability reported to be 100% complete and fully operational.

- **Outcome 6:** *Increased participation of the National Space Programme in the regional and global space market.*

  The SS Programme aimed to ensure the development and implementation of operational SS applications with high socio-economic benefit. During the reporting period the programme developed and implemented two (2) space applications and products summarised as follows:

  PS4: Magnetic Technology products and services

  Products and services provided under PS4 include Compass Calibrations; Magnetic Navigation Ground Support Services; Magnetic Field Model Maps; Magnetic Sensor Sourcing; and Aircraft Swing Courses.

  PS5: Space weather products and services

  Products and services provided under PS5 include High Frequency (HF) Propagation Prediction Services; Space Weather Bulletins and Alerts; Space Weather Courses; and Space Weather Support Tools.

PROGRAMME 3: PERFORMANCE AGAINST 2022/23 OUTPUT INDICATORS AND TARGETS

SPACE SCIENCE PROGRAMME

Table 7: Space Science Performance

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME O1 **Increased space relevant knowledge that supports the developmental agenda.**								
1.1. National research and development output in space-related sciences	1.1.1. National research productivity score for supported R&D	1 337	1 287.63	1 100	1 172.04	+72.04	Rate of publications and students completing was more than anticipated	Not applicable
OUTCOME O3 **Increased human capacity for the implementation of key space initiatives.**								
3.1. Youth awareness of space-related sciences	3.1.1. Number of youth directly engaged on space-related sciences	277	8064	7 250	11 672	+4 422	Target exceeded due to opportunities realised	Not applicable
	3.2.1. Number of students and interns supported for formalised training	25	26	28	29	+1	Additional support provided to students and interns	Not applicable
OUTCOME O4 **SANSA positioned as a key enabler for the implementation of government's space-related policies.**								
4.3. Joint space programme initiatives undertaken through partnerships	4.3.1. Number of joint initiatives undertaken through formal international partnerships	5	13	3	11	+8	Target exceeded due to opportunities realised for collaborations	Not applicable
	4.3.2. Number of joint initiatives undertaken through formal African partnerships	8	6	3	7	+4	Target exceeded due to opportunities realised for collaborations	Not applicable
	4.3.3. Number of joint initiatives undertaken through formal National partnerships	7	10	3	9	+6	Target exceeded due to opportunities realised for collaborations	Not applicable
4.4. Awareness and training to key users of space-related products and services	4.4.1. Number of awareness and training interventions to key users of space-related products and services	4	4	3	11	+8	Exceeded due to awareness and training interventions held during the year	Not applicable
OUTCOME O5 **Enabling infrastructure developed and maintained to support the space sector value chain.**								
5.1. Infrastructure developed or upgraded	5.1.1. Percentage progress towards a new operational Space Weather Centre, as per an approved Business Case	42.8%	70.1%	100%	100%	No Deviation	Not applicable	Not applicable
OUTCOME O6 **Increased participation of the National Space Programme in the regional and global space market.**								
6.1. Space products and applications	6.1.1. Number of products and applications	2	2	2	2	No Deviation	Not applicable	Not applicable

PROGRAMME 3: PERFORMANCE HIGHLIGHTS FOR THE 2022/23 FINANCIAL YEAR

PUTTING THE Q IN SHEQ – MAINTAINING ISO 9001: 2015 STATUS

SANSA Hermanus was recommended for continued ISO 9001:2015 certification following a surveillance audit on 8 February 2023. The site's products and services received its initial ISO 9001:2015 certification after a two-day audit in February 2022 and the quality management system has since become a part of life. The surveillance audit demonstrated the embedding of ISO 9001 into the site processes and after a deep dive into the quality system documentation on M-Files the auditor declared the certification to still be valid. The next surveillance audit will take place on 1-2 February 2024, and will be a preparation for re-certification in 2025.

INTERNATIONAL PARTNERSHIP IN SPACE WEATHER FORECASTER TRAINING

During quarter one of 2022/23, the training of the four new Space Weather Forecasters was concluded when the operational space weather team travelled to the United Kingdom (UK) to job shadow forecasters at the UK Met Office. Prior to leaving for the UK, the team undertook a field trip to the SANSA Sutherland Optical Research Laboratory where they experienced first-hand how valuable data needed for research and operations is collected. The team gained hands-on experience in operating a 24/7 space weather centre and could engage with experienced forecasters from the UK Met Office.

INTERNATIONAL PARTNERSHIPS – SPACE WEATHER CAMP

The International Space Weather Camp (ISWC) is a collaboration between SANSA, the DLR, and the University of Alabama Huntsville in the USA. The ISWC is held annually, with the host rotating between the three partner institutions, with two institutions hosting at a time. There is a classroom element and a practical component. Normally, the students from all three countries will visit the host countries to attend both components. However, in 2020, 2021 and 2022 the classroom component has been conducted online and the students visit their national institution to participate in the practical component in person. This year 12 Physics, Computer Science and Electronics Engineering Honours and Masters students were selected from various universities around South Africa to come to Hermanus to work on SANSA researcher-led, hands-on projects. These students are participating in four projects devoted to space weather, atmospheric radiation, radio antenna design, and a data science project on GPS position accuracy and heliophysics, leading to the location of a hidden geocache. The projects culminate in presentations by the students on their research. The 2022 ISWC has been an overwhelming success.

Figure 40: Prof Mike Kosch and the Space Weather Forecasters at the SANSA Sutherland Optical Research Laboratory

Figure 41: The SANSA team who organised and presented at the ISWC 2022

NATIONAL PARTNERSHIPS – RAISING AWARENESS OF THE NEW SPACE WEATHER CAPABILITY

Throughout 2022/23, Stakeholder engagements relating to operational Space Weather Services have continued with SANSA participating in several national, regional and international forums directly related to the space weather project, including the ICAO Met Panel Space Weather Centre Coordination Group meetings, the Pan European Consortium for Aviation Space Weather User Services meetings, the Advisory Committee for Aeronautical Meteorological Services quarterly meetings, the ICAO Met Panel Working Group on MET Cost Recovery Guidance and Governance, and the World Meteorological Organisation (WMO) Expert team on Space Weather. SANSA's participation in these forums is essential for maintaining the leadership role in Space Weather Research and Operations for the African continent.

SANSA continued to host events and bilateral engagements, with the main aim of showcasing the new Space Weather capability, and to promote SANSA's products and services. These included targeted stakeholder engagement days for the stakeholders residing near and around the Hermanus Facility, members of the Defence Force, the Aviation community, the South African National Antarctic Programme community, the University sector, and the Space Industry. In addition, SANSA hosted the Operational Space Weather Centre contractors to a stakeholder day in which the product of their hard work was demonstrated. An important success factor in achieving the establishment of the space weather capability was the contractor team who took pride and ownership in their contributions toward SANSA's success.

SANSA also engaged the space industry and media during the World Science Forum that resulted in positive exposure and further exploration of partnering with industry on matters such as skills development.

An important stakeholder group for SANSA is that of the South African Universities, and they have not been forgotten in SANSA's stakeholder engagements. SANSA hosted approximately 30 stakeholders from 10 universities across South Africa at the Space Weather Centre in Hermanus. The delegates from the Universities were given an overview of the activities on site including a live space weather forecast and demonstration and a demonstration on magnetic technology. Dr Martin Snow shared a presentation about solar physics as a new field of study in South Africa, and Juchelle Ontong engaged the group on SANSA's Human Capital Development programme, and many ideas were shared on how to improve the visibility and update of SANSA bursaries.

Figure 42: University Stakeholder Engagement Day

REGIONAL PARTNERSHIPS - AFRICAN INSTRUMENTATION DEPLOYMENT

SANSA is continuing to grow the African Instrumentation Network and has over the past three years installed seven (7) GNSS TEC receivers and five (5) GNSS Scintillation receivers at African partner institutions. The latest station was installed and became operational in December 2022 at Busitema University in Tororo, Uganda. Uganda's space science team, led by Associate Professor Edward Jurua from Mbarara University, led a day of stakeholder engagements with SANSA's Engineering and Data Acquisition Unit Manager, Jonathan Ward, and key University leadership, academic staff and students during the visit. SANSA considers Uganda as a key strategic partner in Africa and will use this partnership to further support and nurture the creation of a Uganda space science capability as well as support the expansion of Uganda infrastructure around the country to monitor the near-Earth space environment.

SPRITES CAMPAIGN IN JAN 2023

The SANSA sprites campaign took place from 23 January to 3 February 2023 for the first time since the Covid pandemic hit in 2020. Sprites are atmospheric discharge phenomena powered by large lightning strikes. South Africa is a worldwide lightning hot spot during the summer months. The chosen location is Carnarvon in the Karoo desert near the SKA radio astronomy telescope site because this is a radio-quiet zone with good clear sky conditions and close to the summer thunderstorms over South Africa. The viewing range of the cameras is up to 900 km. The campaign was led by SANSA's Prof. Michael Kosch with Dr. Martin Fullekrug from University of Bath UK with a postdoctoral fellow and a PhD student. The experiment was supported by SANSA and the UK Newton Fund grant. Several scientific firsts resulted from this campaign, and it is expected that a few publications will result.

Figure 43: Prof Mike Kosch with Dr. Martin Fullekrug from University of Bath UK with a postdoctoral fellow and a PhD student at Carnarvon on the sprites campaign

12.4 PROGRAMME 4: SPACE OPERATIONS

PROGRAMME PURPOSE

The Space Operations (SO) Programme is responsible for the acquisition of satellite data for the Earth Observation Programme and the provision of ground segment support. Through this programme, SANSA conducts various space operations, including launch and early orbit support, in-orbit testing, satellite lifecycle support and satellite mission control for both national and international space industry clients and governments. The programme also supplies hosting capabilities with the intention of expanding this capability to teleports.

SANSA SO is planning to develop a new ground station at Matjiesfontein. This will ensure that South Africa has the capability to heed the worldwide call from the space sector for deep space capabilities, selected teleport services, as well as the capability to track cubesats from that facility. The facility is also to create the opportunity for the RSA cubesat manufacturers to further develop their programmes in the ground station segment to fulfil the total value chain of satellite building.

The SO Programme delivers against the following outcome and five-year targets in the approved Strategic Plan:

- **Outcome 5:** *Enabling infrastructure developed and upgraded to support the space sector value chain.*

  The Matjiesfontein Deep Space Network Project is well underway, with funding of R75 million already received and teams working on the facility requirements. The ground station seeks to ensure that South Africa has a deep space capability, selected teleport services, ability to track cubesats as well as other requirements of the satellite building value chain.
- **Outcome 6:** *Increased participation of the National Space Programme in the regional and global space market.*

  The SO Programme aimed to ensure the development and implementation of operational SO applications with high socio-economic benefit. During the reporting period the programme developed and implemented five (5) space applications and products, summarised as follows:
  - Maintenance and management of a Dark Fibre link to Teraco,
  - Link for Avanti to Teraco,
  - Link for OneWeb to Teraco,
  - Link for Intelsat to Teraco, and
  - Link for CNES to Teraco.

PROGRAMME 4: PERFORMANCE AGAINST 2022/23 OUTPUT INDICATORS AND TARGETS

SPACE OPERATIONS PROGRAMME

Table 8: Space Operations Performance

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME 03 **Increased human capacity for the implementation of key space initiatives.**								
3.1. **Youth awareness of space-related sciences**	3.2.1. Number of students and interns supported for formalised training	-	-	0	8	+8	Opportunities realised for the provision of formalised support to interns	Not applicable
OUTCOME 05 **Enabling infrastructure developed and maintained to support the space sector value chain.**								
5.1. **Infrastructure developed or upgraded**	5.1.4. Percentage progress towards the development of deep space capabilities	-	New Indicator	Cost benefit and proposal to government and funders Site establishment 20%	100%	+80%	Progress made with project implementation	Not applicable
OUTCOME 06 **Increased participation of the National Space Programme in the regional and global space market.**								
6.1. **Space products and applications**	6.1.1. Number of products and applications	2	3	1	5	+4	Space Operations products and applications delivered to client requirements	Not applicable
6.2. **Revenue generated from Space Operations activities**	6.2.1. Rand value of total revenue generated from Space Operations activities	R75.65 million	R82.3 million	R70 million	R105.2 million	+R35.2 million	Growth in revenue generation	Not applicable
6.3. **Reputable space operations activities**	6.3.1. Successful satellite pass monitoring rate for Earth Observation	99.35%	99.76%	98%	99.28%	+1.28%	Successful satellite pass monitoring rate	Not applicable

PROGRAMME 4: PERFORMANCE HIGHLIGHTS FOR THE 2022/23 FINANCIAL YEAR

THE MATJIESFONTEIN GROUND STATION IN COOPERATION WITH NASA

SANSA continues to work toward the establishment of the Matjiesfontein ground station. There are several parallel activities centred on the securing of funding, signing of required agreements and technical progress. A high-level delegation from NASA visited South Africa in November 2022 to sign the letter of commitment that forms the basis to the agreement between SANSA and NASA and is the requirement for the progress towards the allocation of budget from the DSI. This culminated in the event at Matjiesfontein leading to the signing of the agreement by SCAN (NASA) director Badri Younis and DSI DG Dr Phil Mjwara in Matjiesfontein and the soil turning ceremony at MTJ.

On the technical front several working groups have been established to pursue the different technical aspects of the project. The teams (SANSA and NASA) have been engaging on facilities requirements. The NASA project team visited both the MTJ and Hartebeesthoek sites to see the sites and to meet the team working on the project. The visit was the first interaction in person between the SANSA and NASA technical teams and the opportunity was used to narrow the gap in understanding of the requirements from both SANSA and NASA.

Figure 44: Signing of the Letter of Intent

Figure 45: Soil turning event at the MTJ site

SUPPORT STATISTICS

Missions supported by SANSA Space Operations for the period 01 April 2022 to 31 March 2023 are as follows:

Table 9: Missions supported by SO

Support	Completion Date	Type of support	Customer
HOTBIRD F1	20/03/2023	EOR	INTELSAT
F9 SES 18	18/03/2023	Launch	KSAT
F9 INMARSAT	18/02/2023	Launch	KSAT
F9 AMAZONAS	07/02/2023	Launch	KSAT
F9 EROS-C	30/12/2022	Launch	KSAT
F9 MPOWER-A	16/12/2022	Launch	KSAT
F9 SWOT	16/12/2022	Launch	KSAT
ARTEMIS-1	05/12/2022	Toss	SSC
F9 EUTELSAT 10B	23/11/2022	Launch	KSAT

Table 9: Missions supported by SO (continued)

Support	Completion Date	Type of support	Customer
F9 G31_G32	12/11/2022	Launch	KSAT
HOTBIRD F2	05/11/2022	Toss	INTELSAT
F9 HOTBIRD F2	03/11/2022	Launch	KSAT
FALCON HEAVY USSF 44	01/11/2022	Launch	KSAT
HOTBIRD F1	18/10/2022	Toss	INTELSAT
GALAXY-33	17/10/2022	Toss	INTELSAT
F9 HOTBIRD F1	15/10/2022	Launch	KSAT
F9 G33_G34	08/10/2022	Launch	KSAT
F9 SES-22	29/06/2022	Launch	KSAT
F9 NILSAT301	08/06/2022	Launch	KSAT
TURKSAT-5B	15/05/2022	EOR	INTELSAT
F9 NROL-85	17/04/2022	Launch	KSAT
GOES-T (GOES-18)	11/03/2022	Toss	SSC

SPACE OPERATIONS CUSTOMER SATISFACTION

Customer satisfaction is measured with each support and/or mission service provided to a SANSA customer. Customer satisfaction is critical to high-tech organisations and can help an organisation to sustain and grow by penetrating the market faster, connecting better with clients, seizing big opportunities, and increasing its competition edge. A total of twenty-two (22) customer surveys were sent to customers, 50% (i.e., 11) of customers responded with excellent rating.

INTELSAT PROJECT

SANSA started the testing of the newly installed antenna system at the beginning of January 2023. The client reviewed the tests and feedback is being incorporated into the final test report for sign off. In terms of construction, no snags were identified, and the project was signed off and the construction closeout report was received from the engineers on 08 February 2023.

Figure 46: New Viasat RTE Site

VIASAT PROJECT

The site was inspected and signed off and is now operational.

KSAT HA05 AND HA06 PROJECT

The construction of the HA05 antenna which included the earthwork, steel work and concrete work was completed in December 2022. The antenna assembly was done in January 2023. The commissioning and testing of the antenna was completed and awaits client sign-off. The designs of the KSAT HA06 antenna were approved by the client in December 2022. The steel work was completed, and the foundation cast on 23 March 2023.

EO DATA DOWNLOADS

The financial period under review saw a decrease in the total number of passes scheduled and the total minutes of data recorded of approximately 57% and 60% respectively, as compared the previous year. This is due to the 3m SAWIDRA antenna being suspended from service in August 2022.

INFORMATION COMMUNICATION TECHNOLOGY

INTERNET SERVICES

The VIASAT Direct Internet Access (DIA) communication circuit installation, commissioning and integration has been completed. This connection provides Viasat with 1Gbps internet connection through SANSA fibre.

SECURITY

The annual security audit resulted in 96% compliance. Space Operations security and contingency plans has been reviewed but still awaits inputs and feedback from our disaster representative that forms part of our protection authorities.

The audit focused on the following modules:

- Module 1 Management and owner compliance to the NKP act
- Module 2 Security administration
- Module 3 Physical security protection

Achievement per module is as depicted in the graph below.

SANSA is part of a functional joint operational structure that holds regular meetings with protection groups. Physical security at the Hartebeesthoek facility has been challenging in that the boundaries are expanding due to business growth. This growth makes the site more visible and desirable for criminals who have made several attempts to breach the fence. As a counter measure, SANSA has strengthened the closed-circuit television systems and is working on improving night illumination within the premises.

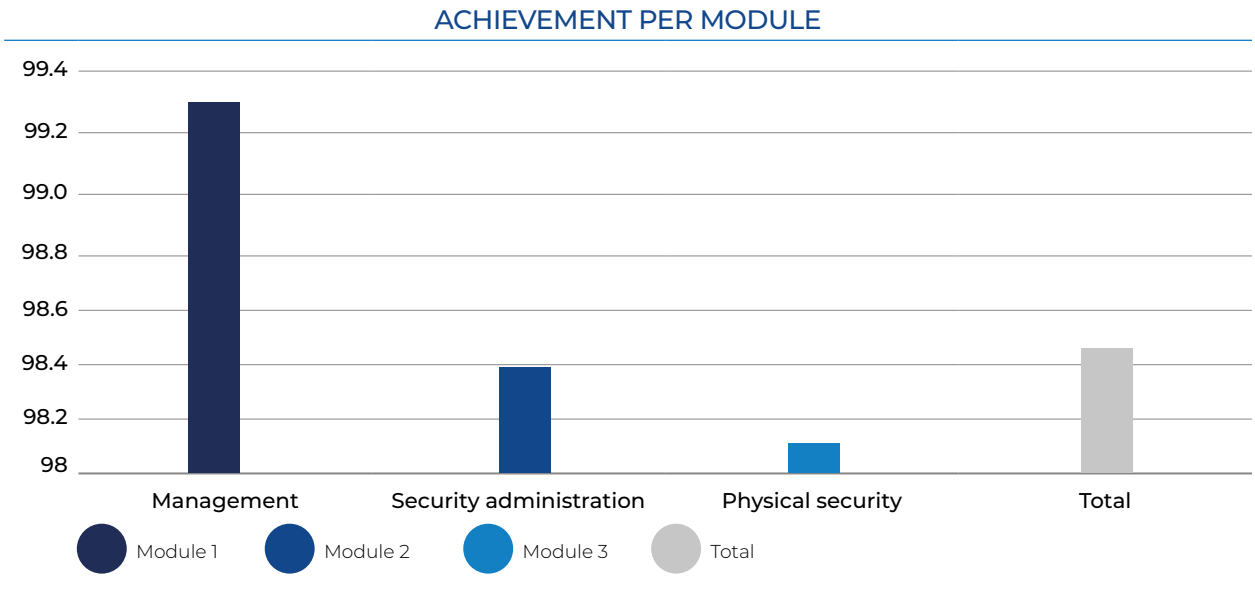


Figure 51: Network attacks

12.5 PROGRAMME 5: SPACE ENGINEERING

PROGRAMME PURPOSE

The Space Engineering (SE) Programme leads systems engineering and project management excellence and drives a small satellite development programme in South Africa in partnership with external contractors, Research and Development (R&D) institutions, and private sector partners. The programme conducts satellite and subsystems analysis, leads the technical side of the Space Programme project management, human capital development in space engineering, as well as facilitates private space industry partnerships.

The Space Engineering Programme delivers against the following outcome and five-year targets in the approved Strategic Plan:

- **Outcome 2:** *Stimulated and growing, inclusive space sector.*

  SANSA contributed towards the achievement of Outcome 2 through the entity's expenditure on space-related projects. The entity spent R61.8 million on core space projects across its Programmes.

- **Outcome 3:** *Increased human capacity for the implementation of key space initiatives.*

  As part of efforts aimed at raising youth awareness of space-related sciences nine (9) students and one (1) intern were supported for formalised training provided through this programme.

- **Outcome 4:** *SANSA positioned as a key enabler for the implementation of government's space-related policies.*

  The strategic positioning of SANSA as a key enabler within the local, African, and global space sector remained a priority and was monitored through the number of joint space-programme initiatives undertaken through partnerships. Work is continuing to ensure relevant strategic partnerships are pursued.

- **Outcome 5:** *Enabling infrastructure developed and upgraded to support the space sector value chain.*

  The capacitation of the Space Engineering Programme is prioritised since it is crucial to the effective delivery of key infrastructure development initiatives such as the SIH programme and operationalising the concurrent design engineering facility (CDEF).

- **Outcome 6:** *Increased participation of the National Space Programme in the regional and global space market.*

  The SE Programme continued to be impacted by capacity challenges in the financial year under review resulting in no CDEF session being held due to the Space Engineering not having the necessary capacity to conduct CDEF studies amongst other project delays. Recruitment of system engineers and project managers will commence in the first quarter of the 2023/24 financial year.

PROGRAMME 5: PERFORMANCE AGAINST 2022/23 OUTPUT INDICATORS AND TARGETS

SPACE ENGINEERING PROGRAMME

Table 10: Space Engineering Performance

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME O2 **Stimulated and growing, inclusive space sector.**								
2.2. **SANSA space-related industry expenditure**	2.2.1. The total contract expenditure to the broad space-related industry for core space projects	R1.99 million	R13.1 million	R61 million	R61,8 million	+ R800 000	Consolidated spend on core space projects across the entity	Not applicable
OUTCOME O3 **Increased human capacity for the implementation of key space initiatives.**								
3.1. **Youth awareness of space-related sciences**	3.2.1. Number of students and interns supported for formalised training	9	17	16	10	-6	Retraction of bursary offers made to 6 students at a late stage due to students being offered other opportunities	Future priorities to include establishment of a pipeline of prospective students to enable continued support to students and interns
OUTCOME O4 **SANSA positioned as a key enabler for the implementation of government's space-related policies.**								
4.3. **Joint space programme initiatives undertaken through partnerships**	4.3.1. Number of joint initiatives undertaken through formal international partnerships	1	1	1	0	-1	There were no joint initiatives undertaken through formal international partnerships due to inadequate SE capacity	SANSA to prioritise capacitation of the SE Programme and leverage a database of international stakeholders for potential cooperation / partnership
	4.3.2. Number of joint initiatives undertaken through formal African partnerships	0	0	1	0	-1	There were no joint initiatives undertaken through formal African partnerships due to inadequate SE capacity	SANSA to prioritise capacitation of the SE Programme and leverage a database of international stakeholders for potential cooperation / partnership
	4.3.3. Number of joint initiatives undertaken through formal National partnerships	1	0	1	0	-1	There were no joint initiatives undertaken through formal National partnerships due to inadequate SE capacity	SANSA to prioritise capacitation of the SE Programme and leverage a database of international stakeholders for potential cooperation / partnership

Table 10: Space Engineering Performance (continued)

OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2020/2021	AUDITED ACTUAL PERFORMANCE 2021/2022	PLANNED ANNUAL TARGET 2022/2023	ACTUAL ACHIEVEMENT 2022/2023	DEVIATION FROM PLANNED TARGET	REASON FOR DEVIATIONS	MITIGATION ACTIONS
OUTCOME O5 **Enabling infrastructure developed and upgraded to support the space sector value chain.**								
5.1. **Infrastructure developed or upgraded**	5.1.5. Percentage progress towards an upgraded AIT Facility	0% AIT project delayed	Revised project schedule and implementation plan	50%	0%	-50%	The Houwteq AIT Facility has not been transferred to SANSA as negotiations were ongoing at year - end	SANSA is negotiating an agreement with Denel that will enable initiation of the upgrade project The AIT Implementation Plan is being finalized and the upgrade of the facilities will begin in Q3 of 2023/24 FY
OUTCOME O6 **Increased participation of the National Space Programme in the regional and global space market.**								
6.1. **Space products and applications**	6.1.1. Number of products and applications	-	-	1	0	-1	Operationalisation of the CDEF was impacted by SE capacity challenges	Capacitation of Programme is to be prioritised to enable operationalisation of the CDEF Recruitment process for systems engineers and programme managers in Q2 of the 2023/24 FY

PROGRAMME 5: PERFORMANCE HIGHLIGHTS FOR THE 2022/23 FINANCIAL YEAR

CONCURRENT DESIGN ENGINEERING FACILITY

SANSA completed the establishment of a pilot Concurrent Design Engineering Facility (CDEF) at its Pretoria offices. The facility is established with the scope to provide a mission design environment for the conceptual design of new space missions applied to pre-phase acquisition assessment studies where concurrent engineering principles are applied. This provides for a more effective organisation of existing mission analysis and design tools; and human resources; and a generic approach to capture corporate knowledge for further reuse.

The CDEF Process Elements are:

- Conduct plenary meeting where representatives of all space engineering domains participate from early phases (requirement analysis) to end of design (costing),
- Team leader coordination,
- Customer participation,

Figure 47: Pretoria site Concurrent Design Engineering Facility

- Model driven,
- On-line design, and
- Highly co-operative and interactive.

CDEF provides for a very consistent mission design including technical feasibility, programmatic, risk and cost. It facilitates a better understanding of technical issues between Scientists and Engineers and supports fast modification and analysis of new mission scenarios with the capability of quick and complete design iterations in terms of trade-offs and options evaluation. It also ensures performance and quality results compatible with the trend of new project life cycles i.e., reduced timespan from mission concept to deployment.

The CDEF provides the Agency with a better understanding of technical issues between SANSA and the contractor (Industry), thereby improving individual skill and system level awareness. It also enables the build-up of corporate knowledge (models, databases) by centralising system-engineering tools as part of an integrated facility as the CDF/CEF acts as reference for the development of domain specific analysis and design tools.

Other possible applications of the method and facility include:

- Extend to later phases of the project life cycle,
- Support reviews,
- System requirements definition,
- Proposal evaluation,
- Instrument conceptual design, and
- Training.

EO-SAT1 SATELLITE PROGRAMME COMPLETION

A proposal for the completion of the EO-Sat1 Programme was submitted by SANSA to the DSI at the request of the DSI Director-General, in the first Quarter of the 2022/23 financial year. DSI confirmed receipt of the proposal in July 2022 and indicated support of the proposed option. DSI also requested SANSA to submit an EO-Sat1 Project Implementation Plan which includes Transformation and Human Capital Development (HCD) before approval to proceed with the proposed option. The EO-Sat Implementation Plan was submitted to the DSI and SANSA will resume with the project as soon as the authorisation to proceed is granted by the DSI.

HOUWTEQ ASSEMBLY, INTEGRATION, AND TESTING (AIT) FACILITY UPGRADE

SANSA is in the process of negotiating an agreement with Denel as the property owner to enable SANSA to commence with the Houwteq AIT facility upgrade project. The negotiation process will be managed in consultation with the DSI. The Houwteq AIT Facility Project Implementation Plan and all associated Statements of Work (SOWs) have been completed. The upgrade project is planned to commence in the first quarter of the 2023/24 financial year as soon as an agreement with Denel is finalised.

TRANSFER OF THE HOUWTEQ AIT FACILITY FROM DENEL TO SANSA

Denel confirmed their decision to transfer the Houwteq AIT facility, Spaceteq capability inclusive of all Intellectual Property and artifacts to SANSA. This decision was communicated by Denel at a meeting that was co-chaired by the Denel Acting Group CEO and SANSA Acting CEO on 14 September 2022.

SANSA has to date established a Management Task Team to officially commence the transfer process and the Task Team Project Charter was approved by the SANSA Executive Committee in Quarter 4 of the 2022/23 financial year. The Task Team has to date decided to appoint an external service provider to conduct due diligence following a non-binding offer made by Denel. The SANSA Board has also established a Board Task Team that will have oversight over the activities of the Management Task Team.

SPACE LAUNCH CAPABILITY PROJECT

The Space Launch Capability Project, of which the liquid fuel engine development is contracted to the University of KwaZulu-Natal (UKZN) Aerospace Systems Research Institute (ASRI) by the DSI. SANSA was invited to observe the launch of the Phoenix Hybrid Rocket at the Denel Overberg Test Range in the Western Cape. Two student-developed suborbital hybrid rockets were flight-tested to assess vehicle performance and give experience of the real world of rocket launch operations.

Both vehicles include design changes to the airframes and onboard systems that are intended

Figure 48: Launch of the Phoenix 1D hybrid rocket

to improve performance, with the goal of lifting the altitude capability of the group's suborbital rockets and taking the new designs from the lab to the real world.

The Phoenix 1C is a low-altitude rocket that carried experimental payloads for SANSA, DUT/CPUT and MaxIQ Space. It has a target apogee of 5 to 10 km and was successfully launched, to a limited apogee of around 6 km, landwards from pad LP0A on 16 March 2023.

Phoenix 1D is a higher-altitude rocket that was launched, to its maximum nominal apogee of greater than 20 km, out over the Indian Ocean and was tracked by radar from lift-off to impact. The test was conducted on the 13th of March and 1D reached an altitude of 23 km setting up a new African record, breaking the previous record set by the same group.

MARITIME DOMAIN AWARENESS SATELLITE (MDASATS) MISSION

The MDASat project team has successfully commissioned all the satellite subsystems since the successful launch of the three (3) MDAsats in January 2022. Commissioning of the payload is still underway. The remaining MDAsats project milestones are outlined below:

- Operations Readiness Review: planned for early June 2023, and
- Hand over to operations: planned for end June 2023.

SPACE ENGINEERING PRIORITIES FOR THE 2023/24 FINANCIAL YEAR

SPACE SYSTEMS ACQUISITION POLICY

SANSA will develop a space systems acquisition policy that provides for a single, streamlined, and uniform system governing the acquisition of space systems. The establishment of this system is mandated by the following:

a. National Government Policy,
b. The White Paper on Science and Technology,
c. The DSI Decadal Plan,
d. The National Space Strategy,
e. The National Security Policy, and
f. The Public Finance Management Act.

The policy will also provide for the transformation of the space industry and guide in ensuring security of supply and local ownership.

The policy developed shall comply with the following outcomes:

a. Acquisition of technologically advanced and operationally effective and efficient space systems.
b. Ensure that the entire acquisition process is based on seeking best value for money and minimum risk to SANSA.
c. Ensure that space systems acquisition activities are executed within national objectives, policies, and constraints.
d. Provide direction for the management of the total spectrum of space systems acquisition activities to be carried out by the participating organisations to meet the requirements of the users of space-based products and services.
e. Reflect the principles of transparency and accountability in SANSA.
f. Provide an audit trail to enable accountability.
g. Ensure the integrity and traceability of the decisions in the decision making and approval process.
h. Establish SANSA as the nodal point with relevant organisations pertaining to all space systems acquisition activities.
i. Ensure that space systems acquisition is executed by means of the system engineering and project management principles and process which could be tailored for the uniqueness of a specific acquisition project.
j. Create the flexibility needed to manage design development as interrelated with technology development and industrial development during the process of space systems acquisition.

SPACE SYSTEMS ACQUISITION FRAMEWORK REVIEW AND UPDATE

The SANSA space systems acquisition framework provides for the acquisition of space systems and technology by means of procedures and processes based on system engineering and project management principles. The framework will be reviewed and updated to fully align with the developed acquisition policy. A technical baseline review board will be established to formally approve agreed project technical baselines and guide integrated project teams tasked with the execution of specific acquisition projects.

COMPLETION OF THE EO-SAT1 SATELLITE PROGRAMME

A major priority of the Space Engineering Programme will be the completion of the EO-Sat1 Satellite Programme as South Africa's first operational earth observation satellite. The project implementation plan has been completed and submitted to the DSI for a final go-ahead to complete the project.

SPACE INFRASTRUCTURE HUB (SIH) PROGRAMME

Space Engineering will also lead in the acquisition of both the SIH's earth observation and space science missions. The Programme will be responsible for the delivery of the space segment, launch segment and the integration of the whole space system up to the commission phase.

HOUWTEQ ASSEMBLY, INTEGRATION AND TEST (AIT) FACILITY UPGRADE PROJECT

As an enabler for the execution of all space missions, the Houwteq AIT facility will be a critical element of the SIH Programme delivery. The Houwteq AIT facility upgrade project will commence in 2023 and is planned to be fully completed in 24 months. The Houwteq AIT facility business case is being developed for the commercialisation of the facility.

CONCURRENT DESIGN ENGINEERING FACILITY

The CDEF will be operationalised to support the SIH missions' feasibility studies and to develop services that will be offered to the high-tech industry in South Africa. Concurrent design processes and templates including a training manual are being developed. A collaborative mission is planned with an international partner as a precursor to fully operationalising the facility. The SIH space science mission has been earmarked for this collaborative study.

PROJECTS TO BE TRANSFERRED TO SANSA

A SANSA-DSI Steering Committee is being established to migrate projects from the DSI to SANSA. Projects to be transferred are listed below.

a. K-Line Sensor Development,
b. Synthetic Aperture Radar (SAR) Development,
c. Launch Capability Establishment,
d. Cube Sats Programme:
    - Marine Domain Awareness Satellite (MDASat) Constellation, and
    - Machine to Machine Satellite (M2Msat) Missions.

13. Linking Performance with Programme Budgets

Table 11: Linking Performance with Budgets

Programme	2021/22 Financial Year (R'000)			2022/23 Financial Year (R'000)		
	Budget	Actual Expenditure	(Over) / Under Expenditure	Budget	Actual Expenditure	(Over) / Under Expenditure
Programme 1: Administration	99 268	68 851	30 417	92 249	98 592	(6 343)
Programme 2: Earth Observation	93 603	66 414	27 189	102 841	66 181	36 660
Programme 3: Space Science	77 187	91 548	(14 361)	85 047	70 500	14 547
Programme 4: Space Operations	88 737	64 553	24 184	123 401	99 874	23 526
Programme 5: Space Engineering	12 639	7 042	5 597	7 314	6 417	897
Total (R'000)	**371 434**	**298 408**	**73 026**	**410 852**	**341 564**	**69 288**

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

Underspending under Earth Observation was mainly due to grant related expenditure that was below budget by R27.5m because of delayed grant funding that was either pending or received towards the end of the year, impacting on project implementation timelines. In addition, data license costs were below budget by R6.5m due to lower customer demand that resulted in fewer licenses being acquired.

Underspending under the Space Science programme was mainly due to lower spending under repairs and maintenance of R4.2m where work was mostly committed for towards the end of the financial year and into 2023/24. The programme also had underspending of R7m under consulting services where actual expenditure was below budget. Furthermore, research grant expenditure was below budget by R3.6m due to the impact of the Covid-19 pandemic on research activities internationally and the resultant postponement of some in-person events. It is anticipated that this will normalise in 2023/24.

Underspending under the Space Operations Programme was mostly due to projects that were completed after year-end.

14. Revenue **Information**

Table 12: Revenue Information

Revenue Sources	2021/22 Financial Year (R'000)			2022/23 Financial Year (R'000)		
	Estimate	Actual Amount Collected	(Over)/Under Collection	Estimate	Actual Amount Collected	(Over)/Under Collection
Contract Income: Public	20 771	16 710	(4 061)	22 693	22 349	344
Contract Income: Private	5 436	6 451	1 015	6 004	7 030	(1 026)
Contract Income: Foreign	41 853	51 839	9 987	53 031	102 249	(49 219)
Other Income	3 286	8 019	4 733	6 193	11 419	(5 226)
Total (R'000)	**71 345**	**83 019**	**11 674**	**87 920**	**143 047**	**(55 127)**

Public sector revenue was below budget due to the delay in contracting with the Directorate Geospatial Information.

Private sector income exceeded the budget due to additional demand for compass calibration and increases in electricity charges recovered at Hartebeeshoek.

The foreign income exceeded budget due to the favourable exchange rate, a new contract with ViaSat and increase in adhoc projects from existing clients.

Other income exceeded budget due to the increased interest income resulting from higher bank balances.

15. Capital **Investment**

CAPITAL INVESTMENT, MAINTENANCE AND ASSET MANAGEMENT PLAN

SANSA policies assist in ensuring resources are effectively and efficiently managed. The Asset Management Policy is aligned with proper management of asset infrastructure and reporting thereof. The application of resources is monitored through maintenance plans, risk management processes and business continuity management plans to safeguard the optimal utilisation of SANSA's infrastructure for operational and industry applications.

In the financial year under review the SIH project was not implemented as envisaged and the project is budgeted for the 2023/24 financial period. The Solar Telescope installation also was not implemented during the 2022/23 financial year. In relation to the Matjiesfontein project SANSA received R75m in March 2023 and implementation and expenditure is anticipated for 2023/24.

Table 13: Capital Investment

2022/23 Key Infrastructure Projects	Pipeline Projects
Space Infrastructure Hub (SIH)	
Regional 24-hour Space Weather Centre with Data Centre	Solar Telescope installation
Extension of student Residence (Hermanus site)	
Matjiesfontein Ground Segment	

The following infrastructure projects were initiated and / or completed in the 2022/23 financial year:

- Proposals submitted for the Space Infrastructure Hub (SIH.)
- Completion of the Space Weather building, on-site accommodation, and Generator House at SANSA Hermanus.
- Establishment of the 24/7 operational Space Weather capability.
- The extension of the student residence at SANSA Hermanus which commenced for completion in the following financial year.
- The funding for the Matjiesfontein ground segment was secured and received in March 2023 for implementation in the following financial year.

Part C
Governance

16. **Introduction**

SANSA was established in terms of the SANSA Act (Act 36 of 2008, as amended) and forms part of the portfolio of entities overseen by the Department of Higher Education, Science, and Innovation. The Agency adheres to the legislative mandate outlined in the Space Affairs Act (Act No. 84 of 1993), an instrument of the **dtic** which establishes the regulatory and policy framework for a South African space programme. SANSA, a Schedule 3A entity, is governed by the PFMA and National Treasury Regulations. The Agency endeavoured to maintain the highest levels of governance and adherence to best practices throughout the financial year ended 31 March 2023, adopting principles of the King IV Report on Governance.

17. Portfolio **Committee**

Parliament exercises its role through evaluating the performance of public entities by interrogating their annual financial statements and other relevant documentations which are required to be tabled, in addition to any other documentation tabled.

The Portfolio Committee on Higher Education, Science and Innovation oversees the delivery of services by public entities and assesses the non-financial information included in their annual reports. The Committee's focus is on enhancing economic growth and ensuring effective service delivery. In this regard, SANSA presents its Strategic Plan and Annual Performance Plans to the Portfolio Committee.

18. Executive **Authority**

SANSA reports to the Minister of Higher Education, Science and Innovation as prescribed by the PFMA and SANSA Act. The Executive Authority has the power to appoint and dismiss the Board of a public entity and must ensure that members of the Board have the necessary skills and experience to guide the public entity. SANSA presents the annual report, strategic plan and annual performance plans to the Minister of Higher Education, Science and Innovation. During the year under review SANSA submitted all prescribed reports (e.g., quarterly reports) and complied with the provisions of the PFMA.

19. The Accounting Authority / **the Board and Board Committees**

The Board is the Accounting Authority in terms of the PFMA and reports to the Minister of Higher Education, Science, and Innovation (Executive Authority). The Board is responsible for providing SANSA with strategic direction, ethical leadership and ensures that the Agency abides by good corporate governance principles.

THE ROLE OF THE BOARD

The responsibilities of the Board are dictated primarily by the SANSA Act and the PFMA. Section 9 of the SANSA Act stipulates the Board's main function and responsibility, which are to add significant value to SANSA by:

- Performing any function imposed upon it in accordance with the policy issue by the Minister and in terms of the SANSA Act,
- Overseeing the functions of the Agency,
- Monitoring the research priorities and programmes of the Agency,
- Giving effect to the strategy of the Agency in the performance of its functions,
- Notifying the Minister immediately of any matter that may prevent or materially affect the achievement of the objectives of the Agency, and
- Establishing or disbanding the Agency's organisational divisions, as appropriate, after consultation with the Minister.

THE BOARD CHARTER

The Charter sets out the role and functions of the Board, highlights the fiduciary responsibility and accountability, as well as the internal structures and operations of the Board. The Charter is informed by several legislative prescripts and governance guidelines. These include the provisions of the South African National Space Act 36 of 2008 (the Act) as amended, the Public Finance Management Act 1 of 1999 (the "PFMA") and the King IV report on Corporate Governance. In accordance with the provisions of section 6(1) of the Act, the Board governs the Agency.

COMPOSITION OF THE BOARD

As of 31 March 2023, the Board consisted of thirteen non-executive members and the Acting CEO as an ex officio member of the Board. In terms of the SANSA Act, Board members are appointed for a term not exceeding four years and are eligible for re-appointment for one further term thereafter. The Minister appointed the current Board members with effect from 01 September 2022. During the reporting period, the Board lost two Members, namely, Mr Rajesh Ramchunder Ramgolam who passed on 27 January 2023, and Advocate Kealotswe-Matlou who resigned from the SANSA Board effective from 28 February 2023.

SANSA BOARD MEMBERS: 01 APRIL 2022 – 31 AUGUST 2022

Table 15: Composition of the Board: 01 April 2022- 31 August 2022

Name	Designation (in terms of the SANSA Board structure)	Appointment Date	Termination Date	Qualifications	Area of Expertise	Active Board Directorships (List the entities)	Other Committees or Task Teams
Ms Xoliswa Kakana	Board Chairperson	01/09/2018	08/07/2022 (Resignation)	BSc (Maths and Applied Science); MSc (Electronic Engineering); MBA; MS, Global Leadership, and Innovation Programme; Master's in Public Administration	Innovation and technology service and business development	ICT-Works (Pty) Ltd; University of Johannesburg (Council Member); ZACR –ZA Central Registry (NPC)	Board Chairs Committee
Dr Ashley Naidoo	Board Member	01/09/2014 Reappointed 01/09/2018	31/08/2022	BSc (Paed), BSc (Hons); MSc (Marine Zoology) PhD (Ocean Governance)	Environment, Ocean Science and Governance	-	Audit and Risk Committee
Professor Azwinndini Muronga	Board Member Appointed as Acting Board Chairperson effective 26/7/2022 to 31/08/2022	01/09/2018 Reappointed 01/09/2022	-	PhD (Physics); MSc (Physics); BSc (Mathematics and Physics); University Education Diploma	Physics and education	-	Strategy and Investment Committee Chairperson
Advocate Icho Kealotswe-Matlou	Board Member	01/09/2018 Reappointed 01/09/2022	-	LLM, LLB	Space Law	-	Human Resources Social and Ethics Committee; Audit and Risk Committee
Ms Innocentia Pule	Board Member, and Audit and Risk Committee Chairperson	08/06/2016 Reappointed 01/09/2018	31/08/2022	CA(SA); GEDP; TGM	Finance	M-Care Operating Holdings (Pty) Ltd; M-Care Property Holdings (Pty) Ltd; OneLogix Group Ltd; xcellerate Holdings; Mwaloni Holdings	Audit and Risk Committee; Board Chairs Committee
Ms Lumka Msibi	Board Member	01/9/2018 Reappointed 01/09/2022	-	BSc (Aeronautical Engineering)	Aerospace engineering	AstroFarm Technologies	Strategy and Investment Committee; Audit and Risk Committee
Ms Mariam Paul	Board Member	01/09/2018 Reappointed 01/09/2022	-	MIng (Electrical and Electronics); B. Tech (Electrical and Electronics) MBA	Telecommunications and technology	-	Human Resources Social and Ethics Committee Strategic and Investment Committee
Ms Mbali Mfeka	Board Member	01/09/2014 Reappointed 01/09/2018	31/08/2022	BCom (Hons); MBL; MDP; GEDP	Finance	Gammatec NDT Suppliers SOC Ltd	Audit Risk Committee
Ms Nomfuneko Majaja	Board Member and Human Resources Social and Ethics Committee Chairperson	01/09/2018 Reappointed 01/09/2022	-	BCom (Hons); MA (Development Econ)	Government, legal and compliance (Including space affairs and special economic zones)	Ubuntu's Guest House; Poz Perfect Pampering	Human Resources Social and Ethics Committee; Board Chairs Committee
Mr Wilie van Biljon	Board Member	01/09/2014 Reappointed 01/09/2018	31/08/2022	BSc Eng (Mech), M Eng (Mech)	Aerospace Engineering and Business Development	Paramount Industrial Holdings (Pty) Ltd; Paramount Aerospace Industries (Pty); Paramount Aerospace Innovations (Pty) Ltd; Paramount Advanced Technologies (Pty) Ltd; Spire Solidz (Pty) Ltd	Human Resources Social and Ethics Committee; Strategy and Investment Committee
Ms Andiswa Mlisa	Acting Chief Executive Officer and ex officio Board Member	01/03/2022	-	MSc: GIS & Remote Sensing, MBA	Space Science, Technology, Earth Observation, Geographic Information System	-	Strategy and Investment Committee

SANSA BOARD MEMBERS: 01 SEPTEMBER 2022 – 31 MARCH 2023

Table 16: Composition of the Board: 01 September 2022- 31 March 2023

Name	Designation (in terms of the SANSA Board structure)	Appointment Date	Termination Date	Qualifications	Area of Expertise	Board Directorships (List the entities)	Other Committees or Task Teams
Mr Patrick Ndlovu	Board Chairperson	01/09/2022	-	MSc Eng (Satellite-Based Communication, Navigation & Surveillance), BSc Eng (Electronics), Executive Development Programme, Management Development Programme, Program in Project Management	Engineering and space technology	Infinity Investments (Pty) Ltd; Infinity Investments (Pty) Ltd; Infinity Aerospace (Pty) Ltd; Danebo Logistics (Pty) Ltd; Steelform Industries (Pty) Ltd	N/A
Mr Tlou Ramaru	Board Member	01/09/2022	-	BSc Honours, Degree Environmental Science, Total Quality Management Certificate, African Management Certificate, Community Based Natural Resource Management	Earth observation and Communication	-	Strategy, Technology and Investment Committee; Human Resource and Social and Ethics Committee
Mr Francois Denner	Board Member	01/09/2022	-	B.Eng. (Electronic Engineering), MSc Development Studies	Engineering and Space Technology	The Enceladus Group (Pty) Ltd; Aerosud Holdings (Pty) Ltd; ZASpace NPO; Measuring Instruments Technology (Pty) Ltd; Denner Foundation Trust; Nebula Trust	Chairperson of the Strategy, Technology and Investment Committee
Ms Jessie Ndaba	Board Member	01/09/2022	-	BSc (Electrical)	Engineering and Space Technology	Astrofica Technologies (Pty) Ltd; Astrofica Telecomms (Pty) Ltd; Not operational JesTurc (Pty) Ltd; NdabaMakwane (Pty) Ltd	Strategy, Technology and Investment Committee; Human Resource and Social and Ethics Committee
Advocate Lindelwa Ndziba	Board Member	01/09/2022	-	BA Arts in Law, LLB, Certificates in Strategic HR Leadership, Professional Business Coaching and Leadership in Board Governance.	Space law, human resources, and governance	Martotex (Pty) Ltd	Audit and Risk Committee Strategy, Technology and Investment Committee
Advocate Lufuno Tokyo Nevondwe	Board Member	26/07/2022 Reappointed 01/09/2022	-	LLB; LLM in Human Rights Law	Space law, human resources, and governance	National Lotteries Participants Trust; Independent Development Trust (IDT); Agreement South Africa; Films and Publication Board (FPB); Nelson Mandela Museum; Woodhill Estate Homeowners Association; Govhani Forensic Investigation Services; Tshipapule Trading and Projects; Phusuphusu Security Services; Classy Living collection; University of Limpopo	Audit and Risk Committee Strategy, Technology and Investment Committee

Table 16: Composition of the Board: 01 September 2022- 31 March 2023 (continued)

Name	Designation (in terms of the SANSA Board structure)	Appointment Date	Termination Date	Qualifications	Area of Expertise	Board Directorships (List the entities)	Other Committees or Task Teams
Mr Molawa Ngoetjana	Board Member	01/09/2022	-	B.Eng. Electronic Engineering, System Engineering & Management Course, Bachelor of Engineering, Electronic Engineering	Engineering (space engineering, systems engineering/project management, contract management/ finance etc.)	-	Strategy, Technology and Investment Committee
Mr Nkhangweni Rambau	Board Member	01/09/2022	-	Finance and Auditing, Information Technology, Governance, Risk, Ethics, and Combined Assurance	EDP12, MBL, MIT, Dip IT, Dip IS, Cert IS, BA, Dip Ed.	Tenacity Science & Technology, Engineering & Mathematics (STEM) Foundation; Mukhuthu Arts & Cultural Foundation; Kopano Renewals (Pty) Ltd	Audit and Risk Committee; Human Resource and Social and Ethics Committee
Mr Rajesh Ramgolam	Board Member	01/09/2022	27/01/2023 (Deceased)	Engineering (space engineering, systems engineering/project management, contract management/ finance etc.)	MSc Engineering, MBA, PR Eng, MSAIEE, ENSP	VAYU 3R Engineering (Pty) Ltd; Crypt 3R Consultants (PTY) Ltd (Inactive); Equestria Ext 152 Home Owner Association	Former Chairperson of the Strategy, Technology and Investment Committee; Former member of the Human Resource and Social and Ethics Committee
Ms Charlotte Segage	Board Member	01/09/2022	-	Finance and Auditing, Information Technology, Governance, Risk, Ethics, and Combined Assurance	CA(SA), Bcompt Hons	Cashew Registered Auditors Inc	Chairperson of the Audit and Risk Committee Strategy, Technology and Investment Committee
Professor Azwinndini Muronga	Board Member	01/09/2018 Reappointed 01/09/2022	-	PhD (Physics); MSc (Physics); BSc (Mathematics and Physics); University Education Diploma	Physics and education	-	Audit and Risk Committee; Strategy, Technology and Investment Committee
Advocate Icho Kealotswe-Matlou	Board Member	01/09/2018 Reappointed 01/09/2022	28/02/2023 (Resignation)	LLB; LLM	Space law, Human Resources, and Governance	Leadza Noodles (Pty) Ltd; Laedza Group	Former member of Audit and Risk Committee; Former member of Strategy, Technology and Investment Committee
Ms Lumka Msibi	Board Member	01/09/2018 Reappointed 01/09/2022	-	BSc (Aeronautical Engineering)	Aerospace engineering	AstroFarm Technologies	Audit and Risk Committee; Strategy, Technology and Investment Committee
Ms Mariam Paul	Board Member	01/09/2018 Reappointed 01/09/2022	-	MIng (Electrical and Electronics); B.Tech (Electrical and Electronics) MBA	Telecommunications and technology	-	Audit and Risk Committee; Strategy, Technology and Investment Committee
Ms Nomfuneko Majaja	Board Member	01/09/2018 Reappointed 01/09/2022	-	BCom (Hons); MA (Development Econ)	Government, legal and compliance (including space affairs and special economic zones); Industrial Policy & Strategy development	Ubuntu Guest House	Human Resource and Social and Ethics Committee

Table 17: Board Meeting Attendance

Member	Date of Meeting																
	20/04/2022	19/05/2022	26/05/2022	27/07/2022	04/10/2022	19/10/2022	26/10/2022	03/11/2022	19/01/2023	30/01/2023	07/02/2023	08/02/2023	10/02/2023	15/02/2023	20/02/2023	24/02/2023	28/02/2023
A Muronga	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×
A Naidoo	✓	✓	×	✓	•	•	•	•	•	•	•	•	•	•	•	•	•
I Kealotswe -Matlou	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓
I Pule	✓	✓	×	✓	•	•	•	•	•	•	•	•	•	•	•	•	•
L Msibi	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	×	×
M Mfeka	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	•
M Paul	✓	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓
N Majaja	✓	×	✓	✓	✓	✓	✓	×	✓	×	×	✓	✓	×	✓	✓	✓
W van Biljon	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	•
X Kakana	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	•	•
L Nevondwe	•	•	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A Mlisa	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M Ngoetjana	•	•	•	•	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N Rambau	•	•	•	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
F Denner	•	•	•	•	✓	×	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓
J Ndaba	•	•	•	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C Segage	•	•	•	•	✓	✓	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓
T Ramaru	•	•	•	•	✓	×	✓	×	✓	✓	×	×	×	✓	×	✓	✓
L Ndziba	•	•	•	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P Ndlovu	•	•	•	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R Ramgolam	•	•	•	•	•	✓	✓	✓	×	•	•	•	•	•	•	•	•

✓ *Present* × *Apology* • *Not a member*

Members of the **Board**

Mr Patrick Ndlovu
(Chairperson)

Mr Tlou Ramaru

Prof Azwinndini Muronga

Mr Rajesh Ramgolam

Mr Francois Denner

Adv Lindelwa Ndziba

Mr Nkhangweni Rambau

Mr Molawa Ngoetjana

Ms Mariam Paul

Ms Jessie Ndaba

Adv Kealotswe-Matlou

Adv Lufuno Nevondwe

Ms Charlotte Segage

Ms Lumka Msibi

Ms Nomfuneko Majaja

BOARD COMMITTEES

The responsibilities and functions of Board Committees are set out in respective Board approved Board Committee(s) charters which are reviewed annually. There are three (3) standing Board Committees supporting the Board in discharging its functions.

Following the new Board inauguration on 01 September 2022, the Board Chairs Committee (BCC) was dissolved. The BCC was responsible for assisting the Board in fulfilling its oversight responsibilities in all matters; to resolve issues that require urgent attention, or any matter(s) referred to the BCC by the Board, the Board Chairperson, or any Board Committee Chairperson through the Board Chairperson. The BCC had approval authority as delegated by the Board through the SANSA Delegation of Authority Policy or otherwise as the Board may determine from time to time.

Table 18: BCC Attendance

Member	Date of Meeting									
	14/04/22	20/04/22	21/04/22	25/04/22	26/04/22	19/05/22	24/05/22	08/06/22	10/06/22	20/07/22
X Kakana	✓	✓	✓	✓	✓	✓	✓	✓	✓	•
I Pule	×	✓	✓	✓	✓	✓	✓	✓	✓	✓
N Majaja	✓	✓	✓	✓	✓	×	✓	✓	✓	✓
A Muronga	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A Mlisa	×	✓	×	×	×	×	×	✓	×	✓
Adv I Kealotswe-Matlou	✓	×	✓	✓	✓	×	✓	×	×	×

✓ *Present* × *Apology* • *Not a member*

AUDIT AND RISK COMMITTEE

The establishment of the Audit and Risk Committee complies with Sections 76(4)(d) and 77 of the PFMA and Section 3 of the National Treasury Regulations. As at 31 March 2023, the Committee consisted of seven (7) non-executive members and the Committee Chairperson was Ms Charlotte Mahlako Segage, as indicated in table below.

During the period under review Advocate Kealotswe-Matlou resigned as a Board Member with effect from 28 February 2023 and ceased to be a member of the Committee. Following the passing away of Mr Rajesh Ramchunder Ramgolam who was a Chairperson of Strategy, Technology & Investment Committee, Mr Benjamin Francois Denner was released from the Audit and Risk Committee to chair the Strategy, Technology and Investment Committee on 07 February 2023.

The Audit and Risk Committee provides independent oversight over:

- The effectiveness of SANSA's internal control systems and functions, including the audit function,
- The management of SANSA's risks, and
- The adequacy, reliability, and accuracy of the financial information.

Table 19: ARC Attendance

Member	Date of Meeting						
	12/04/22	17/05/22	14/07/22	18/10/22	13/12/22	13/01/23	09/02/23
A Naidoo	✓	✓	✓	•	•	•	•
I Kealotswe-Matlou	✓	✓	✓	✓	✓	✓	✓
I Pule		✓	✓	•	•	•	•
M Mfeka	✓	✓	✓	•	•	•	•
L Msibi	✓	✓	✓	✓	✓	✓	✓
C Segage	•	•	•	✓	✓	✓	✓
L Ndziba	•	•	•	✓	✓	✓	✓
N Rambau	•	•	•	✓	✓	✓	✓
F Denner	•	•	•	✓	✓	✓	•
LT Nevondwe	•	•	•	✓	✓	✓	✓

✓ *Present* × *Apology* • *Not a member*

HUMAN RESOURCES, SOCIAL AND ETHICS COMMITTEE

The Human Resources, Social and Ethics Committee consisted of seven (7) non-executive members and the Executive Director: Enterprise Services as an exofficio member as of 31 March 2023. Advocate Lindwelwa Ndziba served as Chairperson of the Committee, while Mr Rajesh Ramchunder Ramgolam passed on, 27 January 2023 and the Committee was left with six (6) members during the period under review.

The Committee assists the Board with oversight of matters relating to human resources, remuneration, code of conduct and social and ethics. The Committee is responsible for, among others:

- Ensuring that the Human Resources strategy supports the Agency's vision, mission, and associated activities,
- Overseeing human resource-related issues, including employee benefits, and succession planning, organisational design, and talent management.

Table 20: HRSEC attendance

Member	Date of Meeting							
	12/04/22	13/04/22	16/05/22	12/07/22	30/09/22	11/10/22	07/02/23	15/02/23
I Kealotswe-Matlou	✓	✓	✓	✓	✓	✓	✓	✓
N Majaja	✓	✓	✓	✓	✓	×	✓	×
M Paul	✓	✓	✓	✓	•	•	•	•
W van Biljon	✓	✓	✓	✓	•	•	•	•
A Mlisa	✓	✓	✓	✓	✓	✓	×	✓
V Ntshoko	✓	✓	✓	✓	•	•	•	•
S Mazibuko	•	•	•	•	✓	✓	✓	✓
L Ndziba	•	•	•	•	✓	✓	✓	✓
R Ramgolam	•	•	•	•	✓	✓	•	•
J Ndaba	•	•	•	•	✓	✓	✓	✓
LT Nevondwe	•	•	•	•	✓	✓	✓	✓
N Rambau	•	•	•	•	✓	✓	✓	✓
T Ramaru	•	•	•	•	✓	✓	×	✓
L McKinnell	✓	✓	✓	✓	✓	✓	✓	✓

✓ *Present* × *Apology* • *Not a member*

STRATEGY, TECHNOLOGY AND INVESTMENT COMMITTEE

As at 31 March 2023, the Strategy, Technology and Investment Committee consisted of ten (10) non-executive members, the Acting Chief Executive Officer (CEO) and Chief Financial Officer (CFO) as executive members. During the year under review, the Committee was left with eight (8) members following the death of Mr Rajesh Ramchunder Ramgolam on 27 January 2023 and resignation of Advocate Kealotswe-Matlou on 28 February 2023.

The Committee assists the Board in discharging its responsibilities to, among others:

- Facilitate and oversee the strategic planning process,
- Ensure that the Strategic Plan sets out performance priorities, and
- Ensure relevant resourcing of SANSA's strategic initiatives. .

Table 21: STIC attendance

Member	Date of Meeting						
	14/04/22	11/05/22	13/07/22	Special Meeting 03/10/22	17/10/22	13/01/23	08/02/23
A Muronga	✓	✓	✓	×	✓	✓	✓
W Van Biljon	✓	✓	✓	•	•	•	•
I Kealotswe-Matlou	✓	✓	✓	✓	✓	✓	✓
L Msibi	✓	✓	✓	✓	✓	✓	✓
M Paul	✓	✓	✓	✓	✓	✓	✓
A Mlisa	✓	✓	✓	✓	✓	×	×
L Engelbrecht	✓	✓	✓	•	•	•	•
B Jena	•	•	•	✓	✓	✓	✓
R Ramgolam	•	•	•	✓	✓	×	
M Ngoetjana	•	•	•	×	✓	✓	✓
F Denner	•	•	•	✓	✓	✓	✓
J Ndaba	•	•	•	✓	✓	✓	✓
C Segage	•	•	•	×	✓	✓	✓
T Ramaru	•	•	•	✓	×	✓	×
L McKinnell	•	•	•	•	•	•	✓

✓ *Present* × *Apology* • *Not a member*

REMUNERATION OF BOARD MEMBERS

Board Member remuneration is aligned with National Treasury guidelines on Remuneration of Board Members, as set out in the Annual Financial Statements. The Board is categorised at level A2, and Board members are paid to prepare for and attend meetings. Board members are furthermore reimbursed for travel costs (airfares, car hire and accommodation) and incidental expenses such as parking, train fares and the use of personal vehicles (reimbursed per kilometre as per the SANSA travel policy). Board members who represent other government departments or institutions (or who are in the employ of government) are not remunerated unless proof of permission to do remunerative work outside their normal official duties is submitted.

20. The Executive **Committee**

Mr Humbulani Mudau
(Chief Executive Officer)

Mr Brighton Jena
(Chief Financial Officer)

Ms Bridget Laka
(Board Secretary)

Ms Sibongile Mazibuko
(ED: Enterprise Services)

Dr Lee-Anne McKinnell
(MD: Space Science)

Mr Raoul Hodges
(MD: Space Operations)

Ms Asanda Sangoni
(Acting MD: Earth Observations)

Mr Tebogo Mokgalagadi
(Acting MD: Space Engineering)

21. Risk **Management**

RISK MANAGEMENT STRATEGY

Risk management is concerned with the coordination of activities to direct and control an organisation with regards to risk. The Board has adopted an Enterprise Risk Management (ERM) Policy that is aligned to Public Sector Risk Management Framework and Section 51 of the PFMA. Other frameworks of reference include ISO 31000:2018, COSO ERM Framework and King IV Report on Corporate Governance for South Africa, 2016.

The Risk management process focuses on two complementary processes, i.e., Risk-Informed-Decision Making and Continuous Risk Management, which seek to ensure that decision makers at every level within SANSA focus on their responsibility of creating value and sustainability whilst being cognisant of the long-term risks, strategic and operational outcomes.

Risk Management within SANSA covers the following areas: strategic risk management, programme and/ or operational risk management, fraud risk management (including irregular expenditure, fruitless and wasteful expenditure and non-compliance), business continuity management, and combined assurance.

RISK ASSESSMENTS

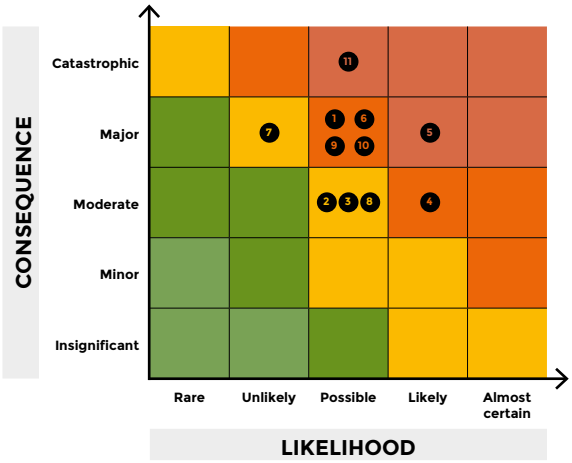
During the year under review, SANSA overhauled the risk management processes and methodologies with a view to ensure the implementation of an effective control framework and risk treatment strategies and solution which, if implemented successfully, will have the highest impact across the organisation, thus achieving both strategic and operational outcomes. Further, efforts were directed at educating employees across SANSA in relation to risk management processes and methodologies to ensure an increased level of risk ownership and programme and business unit level.

A strategic risk assessment was conducted as part of the annual planning process, which reinforced the need for a strategic foresight, providing risk and opportunity intelligence to different governance structures within SANSA so that informed strategic decisions are taken and continually reviewed. The quarterly Risk Profile report focuses on ensuring a regular review of the risks, including emerging risks, effective control environment and successful implementation of risk treatment plans. At a programme level, business unit(s) unit level, risk reviews, including emerging risks, are undertaken more regularly to ensure risk informed decision making, amongst others.

The scope of the strategic risks encompasses both internal sources of risks and opportunities, i.e., bottom-up and top-down risks, as well as external sources of risks and opportunities. All activities within SANSA are subject to a risk assessment, including all projects.

For the 2022/23 financial year, there were eleven strategic risks as approved by the Board and presented on the strategic risk dashboard below:

Table 22: SANSA Strategic Risk Dashboard

Strategic Outcome	Strategic Risk(s)	Residual Risk Profile
Increased space relevant knowledge that supports the developmental agenda	1. Significant decline in the generation and dissemination of new knowledge	
Stimulated and growing, inclusive space sector	2. Disintegrated approach to industry development by the various role-players, SANSA, DSI, DCDT, the **dtic** in collaboration with Industry	
Increased human capacity for the implementation of key space initiatives	3. Reduced ability to create awareness amongst the youth to maintain and/or grow the pipeline	
Increased human capacity for the implementation of key space initiatives	4. Inability by SANSA and the Space Industry to attract new and innovative skills generated through a "pipeline".	
SANSA positioned as a key enabler for the implementation of government's space-related policies, Increased participation of the National Space Programme in the regional and global space market	5. Reduction in the use of South African space-based products and services	
Enabling infrastructure developed and upgraded to support the space sector value chain	6. Limited competitiveness and ability to access new markets	
Cross-cutting	7. Catastrophic damage, failure, and/or loss of technical infrastructure	
Cross-cutting	8. Cyber Security Threats	
Cross-cutting	9. Financial sustainability of SANSA	
Cross-cutting	10. Failure to recover after business disrupting event(s)	
Cross-cutting	11. Failure to transition to the New Business Model	

COMBINED ASSURANCE MODEL

SANSA developed a Combined Assurance Model which allows for more effective, aligned, and cost-effective assurance efforts and seeks to provide a holistic organisation-wide view of assurance activities, responsibilities, and effectiveness thereof. Further, the use of a standardised assurance matrix was useful in allowing a definition of the type of activity, its extent of assurance and the reliability of that assurance task. The Combined Assurance Matrix allows for inputs from control self-assessment by management and other work carried out by other assurance providers, i.e., second and third lines of assurance.

The figure below depicts the assurance providers as per the Combined Assurance Model and Matrix.

SANSA has further implemented a Business Continuity Management System to ensure a forward-looking view of the potential scenarios that may impact operability of key functions. This entailed development of Business Impact Analysis across key SANSA functions, Business continuity strategies and solutions, site-based Business Continuity Plans, and an exercise programme. Business continuity exercises were conducted during Quarter 3 and Quarter 4 focusing on the ERP system, key technical infrastructure as well as backup and restore for key data libraries. A continual improvement plan is in place to ensure overall business resilience.

ROLE OF AUDIT AND RISK COMMITTEE

The Audit and Risk Committee plays a critical role in advising management on the overall system of risk management and mitigation of risks. This Committee has over the year under review reinforced its strategic advisory and oversight role to the different SANSA governance structures, including management and the Board. A review of the risk profile report, combined assurance matrix, business continuity exercises report is undertaken on a quarterly basis, and this has further strengthened Risk governance within SANSA.

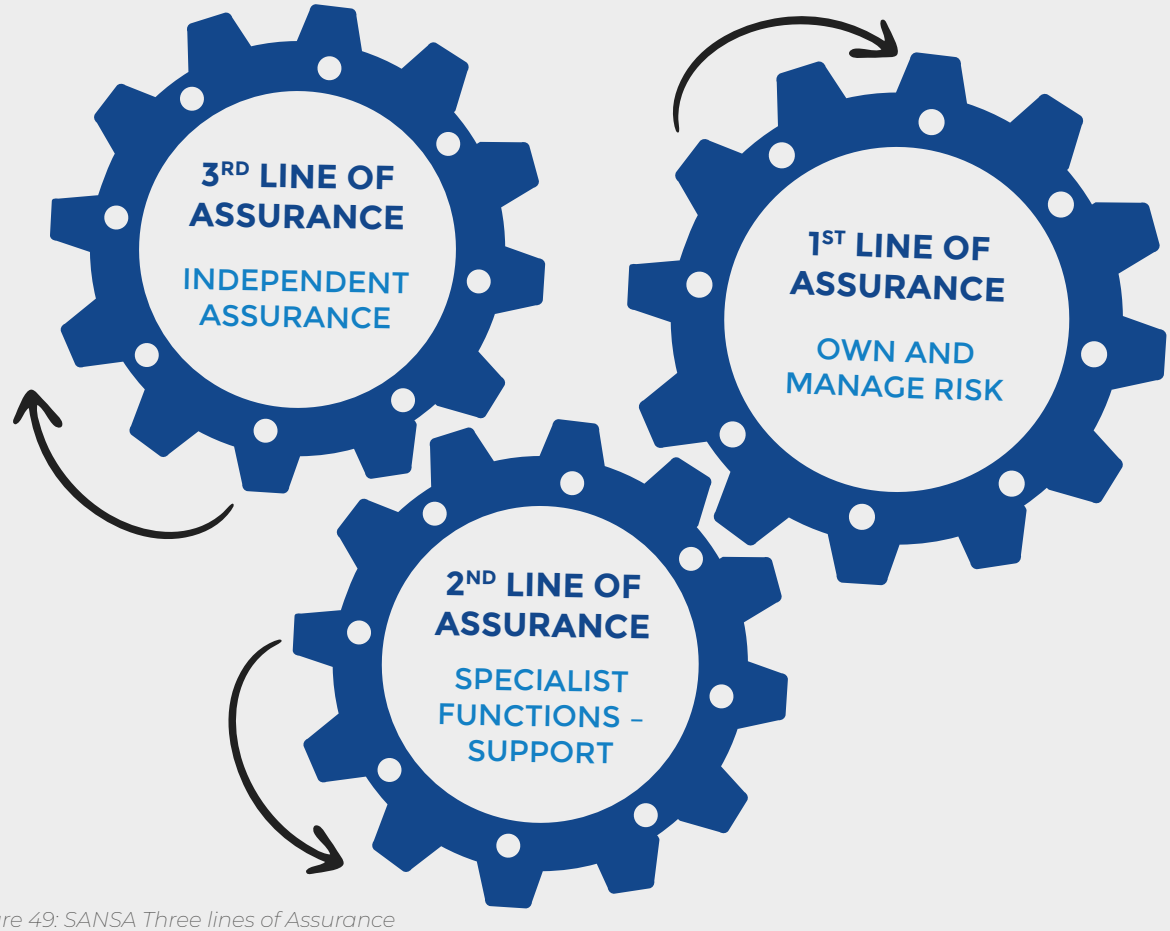


Figure 49: SANSA Three lines of Assurance

22. Internal **Controls**

INTERNAL AUDIT

OBJECTIVES

The Internal Audit unit of SANSA provides an independent objective assurance and consulting service designed to add value and improve the organisation's operations. It assists the entity to achieve its objectives by bringing a systematic, disciplined approach to evaluating and improving the effectiveness of risk management, internal controls, compliance, and governance processes.

KEY ACTIVITIES / SUMMARY OF WORK DONE

The Internal Audit unit assesses and makes appropriate recommendations for improving risk and governance processes to accomplish the following objectives:

- Reliability and integrity of financial and operating information,
- Effectiveness and efficiency of operations,
- Safeguarding of assets, and
- Compliance with laws and regulations.

Accordingly, Internal Audit developed a risk-based Audit Plan which was approved by the Audit and Risk Committee. The Internal Audit unit completed 100% of the Internal Audit Plan. The following work was undertaken during the year under review:

- Review of the operational and financial controls,
- Quarterly review of Performance Information,
- Review of Information Technology controls,
- Supply Chain Management processes,
- Human Resource Management, and
- Governance and Risk Management.

The results of the audits conducted demonstrated that SANSA's internal controls and governance process were in place and functioned as intended over the period under review.

23. Compliance with **Laws and Regulations**

Governance priorities for SANSA are centred on promoting a culture of sound internal controls, policies, and procedures that reach far beyond mere legal compliance. The development and implementation of effective risk management and compliance systems to drive the achievement of the entity's strategic outcomes and a continued focus on compliance with all applicable laws remained key during the financial year.

24. Fraud and **Corruption**

SANSA has established the following processes in relation to Whistle blowing and Fraud cases:

- Platforms (internal and external), including internal communication, for reporting Whistle Blowing and Fraud cases,
- Conducting of investigations into suspected/ reported cases of Whistle Blowing and Fraud, and
- Reporting on ongoing and finalised investigations, including recommendations.

SANSA makes use of the Hotline managed and operated by the Public Service Commission and constant communication is maintained to ensure investigations are carried out expeditiously. As at the end of the financial year, there were no pending investigations.

25. Minimising **Conflict of Interest**

SUPPLY CHAIN MANAGEMENT (SCM) PROCESSES TO MINIMISE CONFLICT OF INTEREST

There are three SCM Committees which SANSA employees serve on, namely: Bid Specification Committee, Bid Evaluation Committee, and a standing Bid Adjudication Committee comprising Executives. Employees serving on these committees are required to declare the extent of their conflict of interest in writing, prior to the commencement of the committee meeting. Depending on the nature of the conflict of interest, members can either continue with participation in the discussion or recuse themselves from participating in the discussion and activities of the committee.

26. Code of **Conduct**

SANSA subscribes to the principles of sound ethical conduct in all its internal and external stakeholder engagements. This is aimed at maintaining high levels of professionalism, transparency, and accountability across the Agency to guide ethical decision – making. Furthermore, all SANSA employees are required to adhere to the Code of Conduct and declare their interest on an annual basis.

27. Health, Safety and **Environmental Issues**

ENVIRONMENTAL STEWARDSHIP

SANSA is committed to minimising its impact on the environment and maximising its responsible use of natural resources. SANSA ensures that operational activities enhance the natural environments capacity to meet the resource needs for future generations by monitoring resource consumption and encouraging preservation.

The SANSA SO programme solely relies on groundwater for human consumption and has drilled four (4) boreholes onsite which have been registered with the Department of Water and Sanitation for Water Use Permit. About 200 litres per hour are being pumped from the boreholes to ensure water resource is sustained.

CRADLE TO GRAVE WASTE MANAGEMENT APPROACH

As we continue to promote compliance to the National Environmental Management: Waste Act 59 of 2008, Space Operations has taken a hands-on approach in the waste management framework. Ongoing waste segregation awareness through safety talks is prioritised to achieve the waste management strategy objectives. For the year under review, the following waste streams were quantified:

- General waste - 4000Kg - R 3006
- Used Oil – 880 litres - R1500 (due by SANSA)
- E- Waste (Fluorescent Tubes)- 67.5kg – R 2050

NATIONAL WATER MONTH COMMEMORATION

SANSA is committed to best environmental management practices and conducts itself in line with ISO 14001:2015 accreditation requirements. As a commitment to best environmental management practices and awareness, SANSA commemorated National Water Month in collaboration with the Department of Water and Sanitation on 24 March 2023. The purpose of the event was to empower employees on water management strategies, impacts of hyacinth on Hartbeespoort Dam as well as the effects of “Day Zero” in water scarcity.

28. Board **Secretary**

The responsibilities of a Board Secretary arise from section 88 of the Companies Act 71 of 2008. A company's secretary is accountable to the company's board. A company secretary's duties include, but are not restricted to:

- Providing the directors of the company collectively and individually with guidance as to their duties, responsibilities, and powers,
- Making the directors aware of any law relevant to or affecting the company,
- Reporting to the company's board any failure on the part of the company or a director to comply with the Memorandum of Incorporation or rules of the company or this Act,
- Ensuring that minutes of all shareholders meetings, board meetings and the meetings of any committees of the directors, or of the company's audit committee, are properly recorded in accordance with this Act,
- Certifying in the company's annual financial statements whether the company has filed required returns and notices in terms of this Act, and whether all such returns and notices appear to be true, correct and up to date,
- Ensuring that a copy of the company's annual financial statements is sent, in accordance with this Act, to every person who is entitled to it, and
- Carrying out the functions of a person designated in terms of section 33(3).

29. Social **Responsibility**

BROAD- BASED BLACK ECONOMIC EMPOWERMENT

SANSA is committed to economic transformation that brings about meaningful Broad-Based Black Economic Empowerment (B-BBEE). The SANSA Senior Management together with SCM function have developed a set of proposed targets in line with the revised Codes of Good Practice to improve SANSA's performance compared with the B-BBEE codes. SANSA attained Level 7 B-BBEE status in 2022/23 financial year which was an improvement on the Level 8 rating achieved in 2021/22.

LABOUR AND EMPLOYMENT

In keeping with the approved Employment Equity Plan, SANSA has been in diligent pursuit of ensuring adequate representation of targeted EE profiles including gender, representation by women, youth, and people with disability. To this end, there has been a notable improvement in the representation of previously disadvantaged individuals with the employee complement having comprised of the following: African 64%, Coloured 8%, Indians 6% and White 22%. Representation by people living with disability also increased to 2.3% during the reporting period.

SKILLS DEVELOPMENT AND TRAINING

Skills development and training is critical for organisational success and growth and SANSA remains committed to the rollout of interventions aimed at equipping its employees and beneficiaries of its programmes with skills and knowledge. Expenditure on training interventions during 2022/23 amounted to R3 610 698 and 213 employees were trained. Human capital development outreach programmes aimed at supporting youth at schools and other institutions of learning benefitted more than 40 000 youth from various provinces of South Africa particularly those in underprivileged communities.

DISTRICT DEVELOPMENT MODEL

SANSA offers Earth Observation Training Workshops to capacitate municipal authorities in the integration of Earth Observation data and products during the implementation DDM planning approach and decision making. The training workshops are aimed at providing participants with practical lessons on the use of Earth Observation and geospatial technologies to fast-track service delivery at the district level. The practical lessons cover aspects such as the integration of geospatial data with socio-economic data; information planning, reporting and monitoring. Furthermore, participants are trained on the use of GIS software to capture, manipulate, and analyze datasets; as well as understanding different geospatial data capturing techniques, tools and software for use in the status of development and service delivery in their district. Three training workshops were conducted in Ngaka Modiri Molema (NMM) District Municipality (North West), Waterberg (Limpopo) and Ehlanzeni (Mpumalanga). A total of 81 municipal and provincial department authorities including GIS interns in the three district municipalities were trained.

30. Audit and Risk Committee Report

Ms Charlotte Segage

We are pleased to present our report for the financial year ended 31 March 2023.

AUDIT AND RISK COMMITTEE RESPONSIBILITY

The Audit and Risk Committee (ARC) hereby reports that as an independent statutory committee of the SANSA Board, it has complied with its responsibilities arising from Section 51 (1)(a)(ii) of the Public Finance Management Act and Treasury Regulation 27.1. The ARC further reports that it has adopted appropriate formal terms of reference as its ARC Charter. It has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein during the period under review.

The purpose of the SANSA ARC is to assist the Board in fulfilling its oversight responsibility on the system of internal control, the governance of risk, internal and external audit functions and SANSA's processes for monitoring statutory and regulatory compliance.

The ARC has performed the following duties inter alia over the reporting period as guided by its Charter:

- Conducted a review of the effectiveness of SANSA's internal control systems.
- Ensured that key financial and risk matters in relation to execution of SANSA's mandate were adequately covered as part of the scope for internal and external audits.
- Exercised adequate oversight over the entity's compliance with applicable legal and regulatory transcripts; including but not limited to provisions of the SANSA Act, National Treasury Regulations as well as the PFMA.
- Exercised oversight over activities of the Internal Audit, Finance and Enterprise Risk Management Units including development and / or review of requisite key strategies, annual work plans, governance reports and effective coordination of management responses and implementation of action plans to address audit recommendations.

ARC MEMBERS AND ATTENDANCE

The ARC consists of the members as stated on page 89 of this report. In accordance with its approved Terms of Reference, the Committee convened at least four meetings during the year under review. The meetings and schedule of attendance is shown on page 89 of this report.

The Chief Executive Officer, Chief Financial Officer, Executives, and Management of SANSA as well as representatives of the external and internal auditors attended the ARC meetings by invitation. The ARC has also periodically met separately with external auditors and internal auditors. The internal and external auditors have unrestricted access to the ARC.

The Chairperson of the ARC reports to the Board, after each Committee meeting, on key issues which have been raised and discussed by the Committee.

EXTERNAL AUDITORS

In execution of its statutory duties during the past financial year, the ARC:

- Supported the appointment of A2AKopano Incorporated in terms of section 4 (3) of the Public Audit Act, to conduct the 2022/23 external

audit, which was duly approved by the Board and for which Auditor General South Africa (AGSA) concurrence was received.

- Determined the fees to be paid to external auditors as disclosed in note 24 of the Annual Financial Statements.
- Determined the terms of engagement with external auditors.
- Approved the Audit Strategy.

Based on the processes followed and assurances received by this Committee, nothing has come to our attention regarding the external auditors' objectivity and independence. It has been encouraging to note cordial relations and transparency in relation to the exchange of information and communication between the ARC, SANSA Board, EXCO and the External Auditors in the execution of the 2022/23 audit processes.

We are pleased to report that A2AKopano has been appointed as the new external audit firm for the organisation in consultation with the AGSA for the next 5 years.

FINANCE FUNCTION

The entity appointed Mr Brighton Jena as its Chief Financial Officer on 01 September 2022 to fill the position that had been vacant from June 2021. The Committee is satisfied with the expertise and adequacy of resources within the finance function. In making these assessments, the ARC obtained feedback from management as well as external and internal auditors in relation to notable improvements in the quality of Annual Financial Statements and generally sound systems of internal control within the finance and supply chain management functions.

RISK MANAGEMENT

Oversight over risk management across the entity is the responsibility of the ARC. The SANSA system of risk management entails the following areas amongst others: (i) Strategic Risk Management; (ii) Operational Risk Management; (iii) Combined Assurance (iv) Business Continuity Management; (v) Measures for the prevention, investigation and reporting of irregular expenditure, fruitless and wasteful expenditure; and (vi) Fraud Management and Whistle Blowing investigations. A register of reported cases and status updates was kept by management and disclosed through quarterly reporting to the ARC and Board.

The ARC has received assurances that SANSA has risk management processes focused on identifying, assessing, managing, and monitoring significant risks across all operations. The Committee reviewed and recommended the Strategic Risk Register to the Board for approval; quarterly oversight was provided in relation to the implementation of the action plans, as well as key strategic areas / projects.

The ARC provided oversight over the implementation of a Business Continuity Management System (BCMS). This entailed the development and adoption of the Business Impact Analysis, business continuity related risk assessment, business continuity strategies and solutions, and the Business Continuity Plans across SANSA. The Business Continuity Plans were exercised during the financial year and thus providing assurance in relation to business resilience.

The above processes have been in place for the year under review and up to the date of approval of the 2022/23 Annual Financial Statements. The ARC also recommended to the Board the approval of the Strategic Risk Register, the Combined Assurance Model and provided oversight on the implementation of the action plans thereof.

It is our view that SANSA has an effective, efficient, and transparent system of risk management.

INTERNAL AUDIT

The ARC is responsible for ensuring that the SANSA Internal Audit function is independent and has the necessary resources, standing and authority within SANSA to enable it to discharge its duties. Its duties are focused on the evaluation and improvement of the effectiveness of risk management, control, and governance processes. The Internal Audit function reports with its responsibility for reviewing and providing assurance on the adequacy of the internal control environment across all the SANSA's operations. The purpose, authority and responsibility of the Internal Audit function are formally defined in its Charter, which is reviewed on an annual basis and approved by the ARC.

Internal Audit developed a risk- based audit plan which was approved by the ARC. A wide variety of audit reports was received from the internal auditors and the ARC is of the opinion that the internal audit

function is effective in the fulfilment of its mandate. The SANSA Internal Audit Unit has adopted a co-sourced model whereby the organisation makes use of an internal audit service provider as well as an in-house audit to meet the responsibilities of the unit. Rain Chartered Accountants was appointed on 01 September 2022 to provide capacity and resources during the execution of audits. We are satisfied with the activities of the internal audit function, including its annual work programme and quality assurance.

Internal Audit provides recommendations to management with regards to internal controls, risk management and governance processes. A follow-up on agreed management actions is performed quarterly. Progress on implementation of corrective action is further monitored by the Executive Committee and the ARC. The unit reports quarterly to the ARC on progress against the approved audit plan.

The Internal Auditors confirmed their independence at the commencement of the financial period. The Internal Audit Manager reported functionally to the ARC and had unrestricted access to the ARC Chairperson. The Internal Audit function underwent an external quality assurance review in 2020 and obtained a general conformance as per the International Standards.

The Committee is satisfied with the quality of the reports tabled by internal auditors on a quarterly basis during the period under review.

THE EFFECTIVENESS OF INTERNAL CONTROL

The ARC has reviewed:

- The effectiveness of the entity's internal financial control systems, including receiving assurance from management, internal audit, and external audit.
- Significant issues raised by the internal and external audit process, including the manner in which they were / are being resolved.

Overall SANSA's system of internal control and risk management is considered to be effective and transparent as there were no material deficiencies brought to the ARC's attention.

GOING CONCERN

The ARC concurs with the Executive Management that the adoption of the going concern assumption in the preparation of the 2022/23 Annual Financial Statements is appropriate.

ANNUAL FINANCIAL STATEMENTS, INFORMATION OF PREDETERMINED OBJECTIVES AND COMPLIANCE WITH LAWS AND REGULATIONS

The ARC has reviewed:

- The Audited Annual Financial Statements, to be included in the Annual Report, with the external auditors.
- The external auditor's letter to management and latter's response to it.
- Information on predetermined objectives to be included in the Annual Report.
- Considered the applicability of the going concern assumption (as noted above).
- The Agency's compliance with legal and regulatory provisions.

The ARC has reviewed the audited SANSA Annual Financial Statements for the year ended 31 March 2023 and is satisfied that these are in compliance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No.1 of 1999) (PFMA).

AUDITOR'S REPORT

The ARC concurs with the Report of the External Auditors. We would like to commend Management for maintaining a clean audit outcome.

ANNUAL REPORT

Based on the processes and assurances obtained, we recommend the Annual Report to the Board for approval.

Ms Charlotte Segage
Chairperson of the Audit and Risk Committee

31. B-BBEE Compliance
Performance Information

Has the Public Entity applied any relevant Code of Good Practice (B-BBEE Certificate Levels 1 – 8) with regards to the following:

Table 23: SANSA B-BBEE Compliance

Criteria Appointment Date	Response Yes / No	Discussion (SANSA responses / measures taken to comply)
Determining qualification criteria for the issuing of licences, concessions, or other authorisations in respect of economic activity in terms of any law?	No	This requirement is not aligned to the SANSA legislative mandate
Developing and implementing a preferential procurement policy?	Yes	The entity's SCM Policy has been aligned to requirements of the Preferential Procurement Policy Framework Act (PPPFA)
Determining qualification criteria for the sale of state-owned enterprises?	No	This requirement is not aligned to the SANSA legislative mandate
Developing criteria for entering into partnerships with the private sector?	No	SANSA utilises the criteria provided in Treasury Regulation 16 which has been aligned to the SCM Policy

Part D
Human Resource Management

32. Overview of SANSA
Human Resource Matters

INTRODUCTION

SANSA required organisational change in culture, values, business model, structure, methods, and ways of working and creating an employee value proposition statement. Change management initiatives, culture improvement initiatives and the development of new values were the focus for the year under review.

The Board put the implementation of the New Business Model on hold, and Management was requested to revert to the organisational structure outlined in the Revised 2020/2025 Strategic Plan pending all relevant approvals. The organisation is developing strategies to manage and implement these new changes. Change Management Consultants, Change Management Champions and the Employee Wellness Programme service provider are providing support through the ongoing organisational changes.

HUMAN RESOURCE PRIORITIES FOR THE 2022/23 FINANCIAL YEAR

CHANGE MANAGEMENT PROCESS

The implementation of the Change Management initiatives continued for the year under review. The new 5-Year Strategic Plan requires re-evaluating the culture, values, and the new way of working at SANSA. The culture assessment survey concluded in 2017 indicated that the current SANSA culture was noxious as it was not adequately aligned with SANSA's strategy. It was recommended that SANSA move from a "Mission-driven" to a "Values-driven" approach with a supportive culture underpinned by relevant and aligned values. Employees were given an opportunity to take part in developing an appropriate culture and an Employee Value Proposition (EVP) for SANSA. These are underpinned by the new values developed and approved by EXCO and the Board.

Following the approval of the new values, an integrated Values Implementation Plan (VIP) was developed and approved by EXCO. The plan incorporates culture change/improvement initiatives and an implementation plan to embed the new values. It is envisaged that these will continue in the new financial year.

WORKFORCE PLANNING FRAMEWORK

The Skills Audit project has been delayed due to the poor quality of service from the supplier. Sourcing a new Service Provider to continue implementing the Skills Audit Project is underway. The outcome of the skills audit is intended to guide the development of the 5-year workforce plan. Talent Management Framework is to be reviewed and approved, which will inform the development and implementation of the Succession Plan for the Agency.

STRATEGIES TO RECRUIT, RETAIN AND DEVELOP A SKILLED AND CAPABLE WORKFORCE

SANSA is committed to developing and implementing appropriate talent management interventions to ensure that the organisation has the right people - with the right skills in the right places at the right time. The organisation is reviewing its recruitment strategies by developing career ladders/progression plans, reviewing the talent management framework, to retain our skilled workforce and benefit from the investments made in their development and benefits that come with recruiting from within.

SKILLS DEVELOPMENT AND TRAINING

Skills development and training are critical for organisational success and growth, and SANSA remains committed to the continued rollout of interventions to equip its employees with skills and knowledge. Training interventions during the financial year of 2022/23 included the following:

NUMBER OF PEOPLE TRAINED PER PROGRAMME, RACE AND GENDER FOR FY 2022/23

Table 24: Total number of employees trained per Programme, race, and gender

GENDER	Female				Female Total	Male				Male Total	Grand Total
PROGRAMME	African	Coloured	Indian	White		African	Coloured	Indian	White		
Space Operations	18	1	0	2	21	16	1	4	8	29	**50**
Space Science	14	8	2	14	38	16	4	5	18	43	**81**
Head Office	22	2	2	4	30	19	2	0	2	23	**53**
Earth Observation	13	0	0	0	13	11	0	1	1	13	**26**
Grand Total	**67**	**11**	**4**	**20**	**102**	**62**	**7**	**10**	**29**	**108**	**210**

Table 25: Training attendance per intervention by gender and race for financial year 2022/23

	RACE				
GENDER	African	Coloured	Indian	White	Grand Total
Female	67	11	4	20	**102**
Male	62	7	10	29	**108**
Grand Total	**129**	**18**	**14**	**49**	**210**

INTERNSHIPS AND IN-SERVICE TRAINEES

SANSA had 34 African interns (12 Males and 22 Females) and in-service trainees placed across various SANSA business units during 2022/23. Four of the interns have been absorbed into SANSA's employee pool.

EMPLOYEE PERFORMANCE MANAGEMENT FRAMEWORK

The SAGE performance management system development has been finalised. Some business units have been trained to use the online performance management system. Due to resource and time challenges from the SAGE service provider, training for all employees could not be done by the financial year end. The intention is to continue training employees that have not yet been trained in the online SAGE performance management system when the new SAGE service provider is appointed.

The entire SANSA management and the HR team attended training on Performance Management during the 2022/23 financial year. This training focused on the importance of managing performance, the consequences of not managing performance, and how to go about managing performance. The 2022/23 final reviews and 2023/24 performance contracts were initiated and envisaged to be concluded by 30 April 2023 and 31 May 2023, respectively, across the organisation.

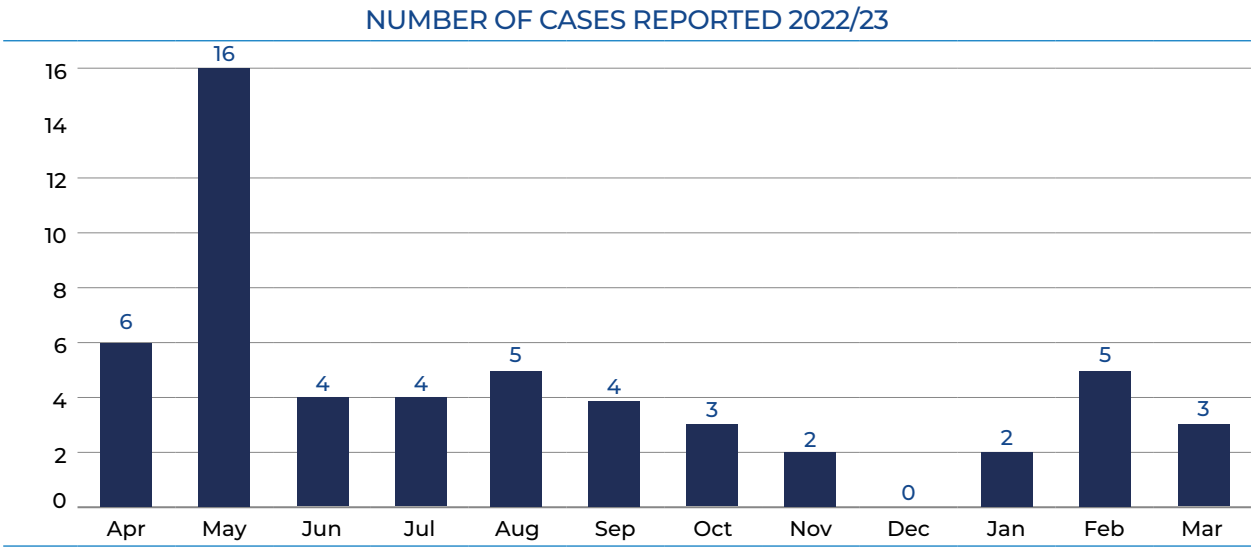


Figure 56: Employee wellness cases reported for the financial year ended 31 March 2023

EMPLOYEE WELLNESS PROGRAMMES

Employees are encouraged to utilise the Employee Wellness Programme services as and when they feel they require additional specialised support. The BestMed Tempo Pilates classes and health talks are still ongoing. The focus for this reporting period was dealing with stress, anxiety, mental health, men's health, fatigue and the importance of sleep and nutrition. Each SANSA site had its annual wellness days as one of the wellness initiatives; the Hermanus site had its wellness day on 10 February 2023, which was a huge success. Some statistics of the day: thirty-seven (37) - Medical screenings were done and twenty (20) – Vaccinations.

HUMAN RESOURCE POLICY DEVELOPMENT

HR policy review and development projects continued during the year of reporting. In 2021 HR started a review process of all its policies, resulting in some policies being cancelled and others collapsing in one policy document. This work continued in the 2022/23 financial year and subsequently, HR will remain with 21 policies. A draft Hybrid Working policy has been developed and is being reviewed by the approving structures. The policy review project is envisaged to continue in the new financial year.

KEY HIGHLIGHTS FOR THE YEAR

The development of the automated performance management system will ensure alignment in the organisational and individual performance. The new SANSA Employee Value Proposition (EVP) was defined during the reporting period as follows:

"*At SANSA, we create opportunities to learn and grow, providing world-class service to our stakeholders and clients through energetic, enthusiastic, and passionate individuals. Every employee has to promote a healthy work-life balance and equitable remuneration levels and competitive benefits throughout the organisation by contributing in our various workspaces what we do best for the long-term good of the society*".

Results from SANSA's organisational culture and values workshops have shown that the most appropriate culture for SANSA is a Flexible culture with elements of Interdependence. The preferred culture is a culture that supports Learning, Enjoyment, Purpose, Caring and Order.

OVERVIEW OF KEY CHALLENGES

SANSA's core skill set is specific to the Agency due to the nature of the business. Science, Engineering and Technical skilled individuals are in short supply locally and internationally. This has been a challenge to source, especially females. The organisation requires skills considered scarce and technical and the pool is limited. These skills also tend to earn high salaries, and they become unaffordable. Not having a flexible working arrangement policy has also been indicated to be a challenge in the attraction and retention of these skills, as they work either full-time from home or in a hybrid working environment and are not prepared to move to a position in the office full-time. There were challenges in attracting suitably qualified and appointable candidates for the required Employment Equity (EE) profiles. These impacted the EE targets' achievements; hence, monitoring progress and developing corrective measures is vital. SANSA's 2023/2024 EE targets were reviewed to ensure relevancy and that plans are in place to achieve the set targets.

HUMAN RESOURCE FUTURE PLANS

Due to the delays experienced with the skills audit and the related outcomes, implementation of the following initiatives will continue during the 2023/24 period:

- Skills Audit Project
- Development of a Workforce Plan
- Change Management Programme
- A review of the Talent Management Framework
- A review of HR policies, processes, and procedures
- Continuous employee learning and development
- Launch of the new values and embedment of the preferred culture
- Development of the succession plan

33. Human Resource
Oversight Statistics

PERSONNEL COST BY PROGRAMME

Table 26: Personnel Cost by Programme

Programme	Total Expenditure for the Entity (R'000)	Personnel Expenditure (R'000)	Personnel Expenditure as a % of Total Expenditure (R'000)	No. of employees	Average personnel cost per employee (R'000)
Programme 1: Administration	98 576	58 199	59.0%	66	882
Programme 2: Earth Observation	65 262	23 710	36.3%	28	847
Programme 3: Space Science	71 131	36 851	51.8%	67	551
Programme 4: Space Operations	100 377	33 749	33.6%	48	703
Programme 5: Space Engineering	6 442	6 228	96.7%	4	1 557
TOTAL	**341 788**	**158 737**	**46.4%**	**213**	**4 539**

PERFORMANCE REWARDS

Table 27: Performance Rewards

Programme	Performance Rewards (R'000)	Total Personnel Expenditure (R'000)	% of Performance Rewards to Total Personnel Expenditure (%)
Programme 1: Administration	2 411	58 199	4.1%
Programme 2: Earth Observation	1 835	23 710	7.7%
Programme 3: Space Science	2 742	36 851	7.4%
Programme 4: Space Operations	2 801	33 749	8.3%
Programme 5: Space Engineering	617	6 228	9.9%
TOTAL	**10 406**	**158 737**	**6.6%**

TRAINING COSTS

Table 28: Training Costs

Programme	Total Personnel Expenditure (R'000)	Total Training Expenditure (R'000)	Training Expenditure as a % of Personnel Total Expenditure	No. of Employees Trained	Average Training Cost per Employee (R'000)
Programme 1: Administration	58 199	1 524	2.6%	66	23
Programme 2: Earth Observation	23 710	55	0.2%	28	2
Programme 3: Space Science	36 851	1 231	3.3%	67	18
Programme 4: Space Operations	33 749	800	2.4%	48	17
Programme 5: Space Engineering	6 228	0	0.0%	4	-
TOTAL	**158 737**	**3 611**	**2.3%**	**213**	**60**

EMPLOYMENT AND VACANCIES PER PROGRAMME

Table 29: Employment and Vacancies per Programme

Programme	2021/ 22 No. of Employees	2022/23 Approved Posts	2022/23 No. of Employees	2022/23 Vacancies	% of vacancies
Programme 1: Administration	52	75	66	9	12%
Programme 2: Earth Observation	41	49	28	21	43%
Programme 3: Space Science	46	69	67	2	3%
Programme 4: Space Operations	110	55	48	7	13%
Programme 5: Space Engineering	58	19	4	15	79%
TOTAL	**307**	**267**	**213**	**54**	**20%**

EMPLOYMENT AND VACANCIES PER EMPLOYEE LEVEL

Table 30: Employment and Vacancies per Employee Level

Level	2022/23 Approved Posts	2022/23 No. of Employees	2022/23 Vacancies	% of vacancies
Top Management	1	0	1	100%
Senior Management	7	6	1	14%
Professional Qualified	88	66	22	25%
Skilled	132	112	20	15%
Semi-skilled	33	23	10	30%
Unskilled	6	6	0	0%
TOTAL	**267**	**213**	**54**	**20%**

Most vacancies are due to project-based positions created with the proviso that funding would come through. In terms of those related to the SIH, MTJ and PanEOS projects, some funding was recently allocated to SANSA leading to the commencement of recruitment processes for key positions. The entity is also faced with challenges relating to the recruitment of suitable candidates for Software/ Systems Developers/ Programmers/ Engineers positions, as candidates are either earning high salaries and/or worked either full-time from home or in a hybrid working environment and are not prepared to move to full-time office positions. The location of Hermanus site and high cost of accommodation are also not attractive to some candidates as many are not willing to relocate. The interns and in-service trainees employed each year are trained and developed for a period so that they can be absorbed by SANSA.

EMPLOYMENT CHANGES

Table 31: Employment Changes

Level	Employment at Beginning of 2022/23 FY	Appointments	Terminations	Employment at end of the 2022/23 FY
Top Management	0	0	0	0
Senior Management	3	3	0	6
Professional Qualified	62	10	6	66
Skilled	110	14	12	112
Semi-skilled	23	2	2	23
Unskilled	5	1	0	6
TOTAL	**203**	**30**	**20**	**213**

REASON FOR EMPLOYEES LEAVING

Table 32: Reason for Employees Leaving

REASON	NUMBER OF EMPLOYEES	% OF TOTAL NO. OF EMPLOYEES LEAVING
Death	1	0.47%
Resignation	7	3%
Dismissal	2	0.9%
Retirement	1	0.5%
Ill health	0	0%
Expiry of contract	9	4%
Other	0	0%
TOTAL	**20**	**9%**

LABOUR RELATIONS: MISCONDUCT AND DISCIPLINARY ACTION

Table 33: Labour Relations: Misconduct and disciplinary action

NATURE OF DISCIPLINARY ACTION	NUMBER OF EMPLOYEES
Verbal Warning	0
Written Warning	1
Final Written Warning	0
Dismissal	2

EMPLOYMENT EQUITY STATUS

Table 34: Employment Equity Status

Occupational Levels	Male				Female				Foreign Nationals		Total
	A	C	I	W	A	C	I	W	Male	Female	
Top management (Including Board Members)	6	0	1	1	6	0	1	0	0	0	15
Senior management SANSA Consolidated)	1	0	0	1	3	0	0	1	0	0	6
Professionally qualified and experienced specialists and mid-management (SANSA)	12	3	6	13	14	0	2	5	2	0	57
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents (SANSA)	33	5	3	8	42	8	2	7	0	0	108
Semi-skilled and discretionary decision making (SANSA)	7	1	0	1	6	1	0	0	0	0	16
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0	0	0
TOTAL PERMANENT	**53**	**9**	**9**	**23**	**65**	**9**	**4**	**13**	**2**	**0**	**187**
Temporary employees	6	0	0	6	11	0	0	3	0	0	26
GRAND TOTAL (Excluding Board Members)	**59**	**9**	**9**	**29**	**76**	**9**	**4**	**16**	**2**	**0**	**213**
Employees with disabilities (Permanent)	1	1	1	0	1	0	0	1	0	0	5
Employees with disabilities (Temporary)	0	0	0	0	0	0	0	0	0	0	0
Total Employees with disabilities	**1**	**1**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**5**

SANSA has an approved 5-year EE plan and recruitment processes are conducted in a manner that ensures alignment with EE targets. All efforts will be made to ensure the vacant positions are filled by the targeted demographics as espoused in the EE plan and Economically Active People.

Part E
PFMA Compliance Report

34. Information on Irregular, Fruitless and Wasteful **Expenditure and Material Losses**

IRREGULAR EXPENDITURE

A) RECONCILIATION OF IRREGULAR EXPENDITURE

Table 35: Reconciliation of irregular expenditure

Description	2022/23 R'000	2021/22 R'000
Opening balance	0	518
Add: Irregular expenditure confirmed	0	1704
Less: Irregular expenditure condoned	0	0
Less: Irregular expenditure not condoned and removed	0	0
Less: Irregular expenditure recoverable	0	0
Less: Irregular expenditure not recovered and written off	0	0
Closing balance	**0**	**2222**

Table 36: Reconciling notes

Description	2022/23 R'000	2021/22[1] R'000
Irregular expenditure that was under assessment in 2021/22		0
Irregular expenditure that relates to 2021/22 and identified in 2022/23		0
Irregular expenditure for the current year	0	1704
Total	**0**	**1704**

B) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE (UNDER ASSESSMENT, DETERMINATION, AND INVESTIGATION)

Table 37: Details of current and previous year irregular expenditure

Description[2]	2022/23 R'000	2021/22 R'000
Irregular expenditure under assessment	0	0
Irregular expenditure under determination	481	1704
Irregular expenditure under investigation	0	0
Total[3]	**481**	**1704**

1 Record amounts in the year in which it was incurred

2 Group similar items

3 Total unconfirmed irregular expenditure (assessment), losses (determination), and criminal conduct (investigation)

C) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE CONDONED

Table 38: Details of current and previous year irregular expenditure condoned

Description	2022/23 R'000	2021/22 R'000
Irregular expenditure condoned	0	0
Total	**0**	**0**

D) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE REMOVED - (NOT CONDONED)

Table 39: Details of current and previous year irregular expenditure removed - (not condoned)

Description	2022/23 R'000	2021/22[1] R'000
Irregular expenditure NOT condoned and removed	0	0
Total	**0**	**0**

E) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE RECOVERED

Table 40: Details of current and previous year irregular expenditure recovered

Description[2]	2022/23 R'000	2021/22 R'000
Irregular expenditure recovered	0	0
Total	**0**	**0**

F) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE WRITTEN OFF (IRRECOVERABLE)

Table 41: Details of current and previous year irregular expenditure written off (irrecoverable)

Description[2]	2022/23 R'000	2021/22 R'000
Irregular expenditure written off	0	0
Total	**0**	**0**

ADDITIONAL DISCLOSURE RELATING TO INTER-INSTITUTIONAL ARRANGEMENTS

G) DETAILS OF NON-COMPLIANCE CASES WHERE AN INSTITUTION IS INVOLVED IN AN INTER-INSTITUTIONAL ARRANGEMENT (WHERE SUCH INSTITUTION IS NOT RESPONSIBLE FOR THE NON-COMPLIANCE)

SANSA had zero (0) non-compliance cases where the entity was involved in an inter-institutional arrangement.

H) DETAILS OF NON-COMPLIANCE CASES WHERE AN INSTITUTION IS INVOLVED IN AN INTER-INSTITUTIONAL ARRANGEMENT (WHERE SUCH INSTITUTION IS RESPONSIBLE FOR THE NON-COMPLIANCE)

SANSA had zero (0) non-compliance cases where the entity was involved in an inter-institutional arrangement.

I) DETAILS OF CURRENT AND PREVIOUS YEAR DISCIPLINARY OR CRIMINAL STEPS TAKEN AS A RESULT OF IRREGULAR EXPENDITURE

SANSA implemented consequence management which resulted in a written warning and retraining of the relevant employees. There was no need for criminal steps as the incident was not fraudulent.

FRUITLESS AND WASTEFUL EXPENDITURE

A) RECONCILIATION OF FRUITLESS AND WASTEFUL EXPENDITURE

SANSA did not have fruitless and wasteful expenditure during the financial year.

B) DETAILS OF CURRENT AND PREVIOUS YEAR FRUITLESS AND WASTEFUL EXPENDITURE (UNDER ASSESSMENT, DETERMINATION, AND INVESTIGATION)

SANSA did not have fruitless and wasteful expenditure (under assessment, determination, and investigation) in the current and previous year.

C) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE RECOVERED

There was no Fruitless and wasteful expenditure recovered in the current and previous year.

D) DETAILS OF CURRENT AND PREVIOUS YEAR IRREGULAR EXPENDITURE NOT RECOVERED AND WRITTEN OFF

There was no Fruitless and wasteful expenditure recovered and written off in the current and previous year.

E) DETAILS OF CURRENT AND PREVIOUS YEAR DISCIPLINARY OR CRIMINAL STEPS TAKEN AS A RESULT OF FRUITLESS AND WASTEFUL EXPENDITURE

SANSA did not take disciplinary or criminal steps as a result of fruitless and wasteful expenditure in the current or previous year as there was none reported.

ADDITIONAL DISCLOSURE RELATING TO MATERIAL LOSSES IN TERMS OF PFMA SECTION 55(2)(B)(I) &(III))

A) DETAILS OF CURRENT AND PREVIOUS YEAR MATERIAL LOSSES THROUGH CRIMINAL CONDUCT

SANSA had no material losses through criminal conduct in the current or previous year.

B) DETAILS OF OTHER MATERIAL LOSSES

SANSA had no other material losses during the financial year

C) OTHER MATERIAL LOSSES RECOVERED

There were no material losses recovered.

D) OTHER MATERIAL LOSSES WRITTEN OFF

There were no material losses written off

35. Information on
Supply Chain Management

INFORMATION ON SUPPLY CHAIN MANAGEMENT

PROCUREMENT BY OTHER MEANS

Table 42: Procurement by other means

Project description	Name of supplier	Type of procurement by other means	Contract number	Currency	Contract value in Original Currency	Exchange Rate	Exchange Rate at 31 March 2023
Institutional Review of SANSA	NRF	Deviation	N/A	ZAR	686 940.00	1.00	R687
Professional Legal Opinion for SANSA Board	MJS	Deviation	POR2303CO00023	ZAR	40 000.00	1.00	R40
Renewal of Microsoft Enterprise Agreement	Microsoft Ireland	Deviation	POR2209CO00230	USD	297 520.71	17.79	R5293
ERDAs software Licenses	Geo-data Design	Deviation	POR2207EO00087	ZAR	401 310.62	1.00	R401
ENVI & ERDAS	ESRI SA	Deviation	POR2208EO00119	ZAR	417 531.19	1.00	R418
Repairs to Spectrometer	Southern Mapping	Deviation	POR2208EO00118	ZAR	350 000.00	1.00	R350
High Resolution Data	Airbus	Deviation	N/A	ZAR	4 900 000.00	1.00	R4900
Direct reception of Landsat 8&9	United States Geological Survey	Deviation	POR2303EO00072	USD	797 990.00	17.79	R14196
Repairs to Hard drive	Imperative Technology	Deviation	POR2206EO00085	ZAR	15 640.00	1.00	R16
Matlab License	Opti-Num Solutions	Deviation	POR2210EO00174	ZAR	15 000.00	1.00	R15
PCI Geomatica Software License	MapAfrika	Deviation	POR2302EO00018	ZAR	2 893 962.12	1.00	R2894
Earth Observation Data & Services Market Analysis Report	Euroconsult	Deviation	POR2303EO00046	ZAR	68 075.78	1.00	R68
Exhibition at NewSpace Africa Conference	Ideal Space Technologies	Deviation	POR2303EO00047	ZAR	55 016.10	1.00	R55
Dell out of warranty support and repair onsite	Dell	Deviation	POR2212EO00202	ZAR	3 202.31	1.00	R3
ArcGIS Licenses	ESRI South Africa	Deviation	POR2303EO00067	ZAR	462 788.15	1.00	R463
80kva capacitor kit replacement	Standby systems	Deviation	POR2206SO00105	ZAR	83 138.10	1.00	R83
Ups repair battery replacement	Standby systems	Deviation	POR2206SO00112	ZAR	137 214.93	1.00	R137

Table 42: Procurement by other means (continued)

Project description	Name of supplier	Type of procurement by other means	Contract number	Currency	Contract value in Original Currency	Exchange Rate	Exchange Rate at 31 March 2023
Repair of MV Cables and Joint Kits	DCI Projects	Deviation	POR2212SO00285	ZAR	107 245.73	1.00	R107
Aros repair on 2 x ups units	Standby systems	Deviation	POR2212SO00290	ZAR	24 817.00	1.00	R25
Generator maintenance and repairs	Diesel Electric	Deviation	POR2301SO00003	ZAR	1 332 703.72	1.00	R1333
Repair oof Euro Diesel accumulator sensor	Diesel Electric	Deviation	POR2301SO00002	ZAR	23 607.27	1.00	R24
Supply and Installation of UPS	Standby systems	Deviation	POR2301SO00010	ZAR	60 893.19	1.00	R61
Conference Exhibition stand	Dubai World Trade Centre	Deviation	POR2302SO00027	AED	169 714.65	0.20	R33
UPS replace 200kva	Standby systems	Deviation	POR2302SO00030	ZAR	448 000.00	1.00	R448
Mathematica Licenses	Blue Stallion	Deviation	POR2204SS00172	ZAR	11 902.50	1.00	R12
Parys Airshow Conference	Creative Space Media	Deviation	POR2303SS00158	ZAR	57 500.00	1.00	R58
IFIS Conference	SACAA	Deviation	POR2205SS00195	ZAR	14 538.32	1.00	R15
Research Equipment – Meteorological Parachute	Inter Met	Deviation	POR2206SS00233	ZAR	7 521.00	1.00	R8
Emergency repairs to boom gate	Ace Gates and Fence	Deviation	POR2207SS00269	ZAR	4 920.00	1.00	R5
Barker Solenoid Power Supply	Yokogawa South Africa	Deviation	POR2207SS00300	ZAR	75 543.55	1.00	R76
RF Modules	Conical Technology	Deviation	POR2208SS0036	ZAR	14 863.75	1.00	R15
DTU Datalogger Replacement	Min Geo	Deviation	POR2208SS00323	EUR	6 108.00	19.29	R118
NTRIP License	Subcarrier system Corp	Deviation	POR2208SS00338	USD	2 270.00	17.79	R40
Mathematica Licenses	Blue Stallion	Deviation	POR2204SS00183	ZAR	11 902.50	1.00	R12
Matlab Licenses	Opti-num Solutions	Deviation	POR2211SS00554	ZAR	35 975.45	1.00	R36
52nd AGA ASSA Conference	AASA	Deviation	POR2210CO00251	ZAR	69 000.00	1.00	R69
Trimble Acutime 360	CST Electronics	Deviation	POR2210SS00435	ZAR	11 319.45	1.00	R11
Repair datalogger	Min Geo	Deviation	POR2210SS00459	EUR	520.00	19.29	R10
Prime Educational Sets	Hands on Technology	Deviation	POR2212SS00517	ZAR	75 840.00	1.00	R76

Table 42: Procurement by other means (continued)

Project description	Name of supplier	Type of procurement by other means	Contract number	Currency	Contract value in Original Currency	Exchange Rate	Exchange Rate at 31 March 2023
UPS Assessments	AC Digital	Deviation	POR2211SS00489	ZAR	14 800.00	1.00	R15
Security Gates repairs	Ace gates and Fence	Deviation	POR2303SS00027	ZAR	4 940.00	1.00	R5
Electrical Repair – Power Restoration	Shimii Electrical services & Construction	Deviation	POR2303SS00056	ZAR	732.55	1.00	R1
Calibration of Equipment	Concilium Technologies	Deviation	POR2303SS00113	ZAR	25 622.00	1.00	R26
Repair of Fluxgate Magnetometer	DTU Space	Deviation	POR2303SS00151	ZAR	2 800.00	1.00	R3
Fluxgate Electronics box	DTU Space	Deviation	POR2303SS00141	EUR	3 700.00	19.29	R71
Repairs of total Feld Magnetometers	Gems System	Deviation	POR2303SS00139	CAD	4 090.00	0.07	R
Extended Warranty OVH	Lowell Digisonde International	Deviation	POR2303SS00138	ZAR	300 000.00	1.00	R300
Small Water Jet Cutter	Wazer	Deviation	POR2303SS00147	USD	12 644.00	17.79	R225
Observations at Keetmanshoop Geomagnetic Station in Namibia	J Jacobs	Deviation	POR2303SS00094	ZAR	48 594.48	1.00	R49

CONTRACT VARIATIONS AND EXPANSIONS

Table 43: Contract variations and expansions

Project description	Name of supplier	Contract modification type (Expansion or Variation)	Contract number	Currency	Original contract value in original currency	Contract Value in R'000	Value of previous contract expansion/s or variation/s (if applicable)	Currency	Value of current contact expansion of variation in original currency	Exchange rate as at 31 March 2023	Value of current contract expansion or variation in R'000
Additional Printer for the PMO office and finalization of the current tender process for CO, EO and SO Offices	Konica Minolta	Expansion	POR2208CO00221	ZAR	1 116 909.89	R1117	N/A	ZAR	88 911.88	1.00	R89
Direct Hire Licenses for the online recruitment and candidate management software Skills Map, which was procured as part of the SAGE 300 people HR software	Jera Consulting	Expansion	POR2208CO00201	ZAR	5 337 708.00	R5338	R44 850.00	ZAR	187 832.95	1.00	R188
Jera to provide training to proceed as the automated PM system is envisaged to be implemented on the 1st April '23	Jera Consulting	Expansion	POR2203CO00074	ZAR	5 337 708.00	R5338	R 187 832.95	ZAR	69 000.00	1.00	R69
VO required for the current supplier to assist with year financial end activities	Jera Consulting	Expansion	POR2302CO00057	ZAR	5 337 708.00	R5338	R69 000.00	ZAR	110 308.00	1.00	R110
The appointment of a new board requires additional licenses to accommodate additional members, exco members, risk managers and the internal audit team	Agility Holdings	Variation	POR2208CO00208	ZAR	781 080.00	R781	N/A	ZAR	180 000.00	1.00	R180
Additional services be added to the existing change management contract to address the new changes brought in by the new business model.	Chrom Consulting	Expansion	POR2104CO00099	ZAR	2 376 015.00	R2376	N/A	ZAR	280 000.00	1.00	R280
SANSA requires more licences, Microsoft Power BI Pro for accessing the online Research and Development Information Platform (RDIP), the initial x3 license will be allocated to Space Science. Microsoft Teams Rooms to enable Microsoft Teams conferencing for the Space Weather Center, Hermanus.	Microsoft Ireland Operations	Expansion	POR2209CO00230	USD	307 972.77	R5479	N/A	USD	1 206.75	17.79	R21
Additional requirements were identified as the Salary Parity project progressed. It only with the study emerged that SANSA's current remuneration table may not be aligned to the market during discussions with the service provider and this will have a major impact on remuneration decisions made as the decisions made will be incorrect if made against incorrect amounts.	Emergence Growth South Africa	Expansion	POR2202CO00017	ZAR	270 266.10	R270	N/A	ZAR	151 125.00	1.00	R151

Table 43: Contract variations and expansions (continued)

Project description	Name of supplier	Contract modification type (Expansion or Variation)	Contract number	Currency	Original contract value in original currency	Contract Value in R'000	Value of previous contract expansion/s or variation/s (if applicable)	Currency	Value of current contact expansion of variation in original currency	Exchange rate as at 31 March 2023	Value of current contact expansion or variation in R'000
Extension of temporary staff on the recruitment panel contracts while the permanent recruitment is underway.	1. MassTech 2. Phaki Personnel 3. Mogale Solutions	Expansion	N/A	ZAR	R2 937 035.73 Paid for as per agreed fees and used on an ad-hoc basis	R2937	N/A	ZAR	750 000.00 (Estimate)	1.00	R750
Extension of the legal services panel contract to 30 June 2023 due to pending legal matters. There are two(2) on-going pending litigation matters. HR has recently concluded on various labour related matters which are likely to be referred to the CCMA, as a result of an appeal outcome that was lodged internally.	1. Kern, Armstrong and Du Plessis attorneys 2. Gildenhuys Malatji attorneys 3. Phungo attorneys and 4. Verveen attorneys	Expansion	N/A	ZAR	Per service (rate per hour as per the original pricing schedule)	N/A	N/A	ZAR	Pe sevice (ate pe hou as pe the oiginal picing schedule)	1.00	N/A
There were unforeseen delays due to the availability of staff members for the strategic session and submission of the B-BBEE worksheet.	1st Verification	Expansion	N/A	ZAR	483 441.25	R483	N/A	ZAR	-	1.00	-
Extension of the project due to delays in starting a new tender process.	Geoterraimage SA	Expansion	POR2206EO00079	ZAR	4 450 500.00	R4451	N/A	ZAR	440 942.00	1.00	R441
To add Landsat 9 satellite mission license	USGS	Variation	POR2303EO00072	USD	615 474.34	R10949	N/A	USD	15 450.00	17.79	R275
Delays in delivery due to shortage of computer Chips resulting in an increase in RoE.	Thamani Technologies	Expansion	POR2303EO00069	ZAR	5 105 475.60	R5105	N/A	ZAR	183 000.00	1.00	R183
SANSA foreseeing that the project will not be finalized on the stated date due to challenges that are currently facing Denel group.	Denel	Expansion	N/A	ZAR	4 110 615.00	R4111	N/A	ZAR	-	1.00	-
Replace SDE contact inside the breaker to be able to fix the breaker as QD2 did not close.	Diesel Electric Services	Expansion	POR2209SO00216	ZAR	584 842.09	R585	N/A	ZAR	10 561.66	1.00	R11
Laundry Services	Boss Laundry & Hygiene Cleaning Services	Expansion	POR2210SO00209	ZAR	30 000.00	R30	N/A	ZAR	4 500.00	1.00	R5

Table 43: Contract variations and expansions (continued)

Project description	Name of supplier	Contract modification type (Expansion or Variation)	Contract number	Currency	Original contract value in original currency	Contract Value in R'000	Value of previous contract expansion/s or variation/s (if applicable)	Currency	Value of current contract expansion of variation in original currency	Exchange rate as at 31 March 2023	Value of current contract expansion or variation in R'000
At the time of quoting, it is not known if a customs examination will take place. This is done at random selection. The additional charges were incurred for the following: Customs exams, Embargo application and release and additional customs entry after exam.	Santa Fe	Variation	POR2206SS00260	ZAR	232 767.00	R233	R13 360.00	ZAR	VO1 – 13 360VO2 – 3 502.24Total 16 862.24	1.00	R17
Due to Covid pandemic there was a massive supply chain issue. The manufacturer of the server cabinets, Belden was not in a position ship the cabinets immediately. SANSA only received confirmation in the week of 16 May 2022 that the cabinets will become available for shipping in the following week.	Jaycor International	Expansion	POR2206SS00231	ZAR	3 334 346.95	R3334	N/A	ZAR	172 358.17	1.00	R172
The vehicle tracking contract requires extension to allow removal of the old tracking units from SANSA vehicles and replacement of new tracking devices by the successful bidder. This process permits a seamless transfer between tracking companies. This allows SANSA vehicles to be under constant tracking throughout the operation. The extension of the contract assists with finalising processes between old and new service providers to conclude.	Cellstop	Expansion	POR22082200334	ZAR	58 346.51	R58	N/A	ZAR	4 752.60	1.00	R5
Student Res revamp construction was delayed and rendered the students unable to make use of the kitchen facilities. Catering services has to extended.	Gilbert's Catering	Expansion	POR2211SS00485	ZAR	56 490.00	R56	N/A	ZAR	15 620.00	1.00	R16
SANSA awarded an RFQ for property attorney services to Schoeman Law in 2019 on a 3 year as and when required basis. SANSA required the services of a property attorney to ensure protection of the Hermanus property in an emergency situation (such as land grab or protest action). An amount of R 290 858.57 is still open on the current order for Schoeman Law. A no cost extension till 31 March 2023 done, while the current legal panel tender is being finalised.	Schoeman Law	Expansion	N/a	ZAR	450 000.00	R450	N/A	ZAR	-	1.00	-

Table 43: Contract variations and expansions (continued)

Project description	Name of supplier	Contract modification type (Expansion or Variation)	Contract number	Currency	Original contract value in original currency	Contract Value in R'000	Value of previous contract expansion/s or variation/s (if applicable)	Currency	Value of current contact expansion of variation in original currency	Exchange rate as at 31 March 2023	Value of current contract expansion or variation in R'000
Adherence to National Key Point specification on roofing for the guard house	Pancare	Expansion	POR2212SS00522	ZAR	728 219.69	R728	N/A	ZAR	428 984.12	1.00	R429
The implementation of a Building Management Solution on the SANSA Hermanus campus is underway. However, the project has encountered some challenges that are requiring additional components. (Additional controllers, price fluctuation for electronics and additional fence construction).	Nextec	Expansion	POR2301SS00010	ZAR	6 627 386.75	R6627	N/A	ZAR	1 185 810.67	1.00	R1186
Adherence to National Key Point specification on roofing for the guard house	Zutari	Expansion	N/A	ZAR	Original amount not fixed	N/A	N/A	ZAR	-	1.00	-
The implementation of a Building Management Solution on the SANSA Hermanus campus is underway. However, the project has encountered some challenges that are requiring additional components (Additional controllers, price).	Schoeman Law	Expansion	N/A	ZAR	6 627 386.75	R6627	N/A	ZAR	1 185 810.67	1.00	R1186

Part F

Annual Financial Information

36. Report of the External Auditor

INDEPENDENT AUDITOR'S REPORT TO PARLIAMENT ON SOUTH AFRICAN NATIONAL SPACE AGENCY

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

OPINION

1. We have audited the financial statements of the South African National Space Agency set out on pages 133 to 189, which comprise the statement of financial position as at 31 March 2023, statement of performance, statement of changes in net assets, cash flow statement and statement of comparison of budget information with actual information for the year then ended, as well as notes to the financial statements, including a summary of significant accounting policies.
2. In our opinion, the financial statements present fairly, in all material respects, the financial position of the South African National Space Agency as at 31 March 2023 and its financial performance and cash flows for the year then ended in accordance with the South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No.1 of 1999) (PFMA).

BASIS FOR OPINION

3. We conducted our audit in accordance with the International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.
4. We are independent of the public entity in accordance with the Code of professional conduct for auditors of the Independent Regulatory Board for Auditors (IRBA) and other independence requirements applicable to performing audits of financial statements in South Africa. We have fulfilled our other ethical responsibilities in accordance with the IRBA code and in accordance with other ethical requirements applicable to performing audits in South Africa. The IRBA code is consistent with the corresponding sections of the International Ethics Standards Board for Accountants' International code of ethics for professional accountants (including International Independence Standards).
5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

EMPHASIS OF MATTERS

6. We draw attention to the matters below. Our opinion is not modified in respect of these matters.

Allowance for impairment – receivables from exchange transactions

7. As disclosed in note 5 to the financial statements, the public entity accumulated to date, material impairment of R8 441 867 (2022: R8 428 067) as a result of the impairment of trade receivables.

Re-statement of comparative figures

8. As disclosed in note 2 to the financial statements, the corresponding figures of for 31 March 2022 were restated as a result of an error in the financial statements of the public entity at, and for the year ended, 31 March 2023.

OTHER MATTER

9. We draw attention to the matter below. Our opinion is not modified in respect of this matter.

Prior year audited financial statement

10. The financial statements of South African National Space Agency for the year ended 31 March 2022, were audited by another auditor who expressed an unqualified opinion on those statements on 29 July 2022.

Irregular expenditure and fruitless and wasteful expenditure

11. On 23 December 2022 National Treasury issued Instruction Note No. 4: PFMA Compliance and Reporting Framework of 2022-23 in terms of section 76(1)(b), (e) and (f), 2(e) and (4)(a) and (c) of the PFMA, which came into effect on 3 January 2023. The PFMA Compliance and Reporting Framework also addresses the disclosure of unauthorised expenditure, irregular expenditure and fruitless and wasteful expenditure. Among the effects of this framework is that irregular and fruitless and wasteful expenditure incurred in previous financial years and not addressed is no longer disclosed in the disclosure notes of the annual financial statements, only the current year and prior year figures are disclosed in note 30 to the financial statements. The movements in respect of irregular expenditure and fruitless and wasteful expenditure are no longer disclosed in the notes to the annual financial statements of South African National Space Agency. The disclosure of these movements (e.g. condoned, recoverable, removed, written off, under assessment, under determination and under investigation) are now required to be included as part of other information in the annual report of the auditees.
12. We do not express an opinion on the disclosure of irregular expenditure and fruitless and wasteful expenditure in the annual report.

RESPONSIBILITIES OF THE ACCOUNTING AUTHORITY FOR THE FINANCIAL STATEMENTS

13. The accounting authority, is responsible for the preparation and fair presentation of the financial statements in accordance with SA Standards of GRAP and the requirements of the PFMA and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
14. In preparing the financial statements, the accounting authority is responsible for assessing the public entity's ability to continue as a going concern; disclosing, as applicable, matters relating to going concern; and using the going concern basis of accounting unless the accounting authority either intends to liquidate the public entity or to cease operations, or has no realistic alternative but to do so.

RESPONSIBILITIES OF THE AUDITOR FOR THE AUDIT OF THE FINANCIAL STATEMENTS

15. Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.
16. A further description of our responsibilities for the audit of the financial statements is included in the annexure to this auditor's report.

REPORT ON THE AUDIT OF THE ANNUAL PERFORMANCE REPORT

17. In accordance with the Public Audit Act 25 of 2004 (PAA) and the general notice issued in terms thereof, we must audit and report on the usefulness and reliability of the reported performance against predetermined objectives for selected programmes presented in the annual performance report. The accounting authority is responsible for the preparation of the annual performance report.
18. We selected the following programmes presented in the annual performance report for the year ended 31 March 2023 for auditing. We selected programmes that measure the public entity's performance on its primary mandated functions and that are of significant national, community or public interest.

Programme	Page numbers	Purpose
Programme 2 – Earth Observation	49–50	The programme provides the development and promotion of Earth observantions products for socio-economic development and improved livelihoods in South Africa and the African continent.
Programme 3 – Space Science	62	The programme key functions include, fundamental and applied space science research, the support of space-facilitated science through science data acquisition, coordination and management of scientific data ground segments, provision of space weather and other geo-space and magnetic technology products and services on a commercial and private basis to the defence, maritime, communications, aviation, and energy sectors. The programme also provides leadership in postgraduate science and engineering student training, as well as science engagement through both learner and educator science support.
Programme 4 – Space Operations	67	Programme is responsible for the acquisition of satellite data for the Earth Observation Programme and the provision of ground segment support. Through this programme, SANSA conducts various space operations, including launch and early orbit support, in-orbit testing, satellite lifecycle support and satellite mission control for both national and international space industry clients and governments. The programme also supplies hosting capabilities with the intention of expanding this capability to teleports.

19. We evaluated the reported performance information for the selected programmes against the criteria developed from the performance management and reporting framework, as defined in the general notice. When an annual performance report is prepared using these criteria, it provides useful and reliable information and insights to users on the public entity's planning and delivery on its mandate and objectives.
20. We performed procedures to test whether:
    - the indicators used for planning and reporting on performance can be linked directly to the public entity's mandate and the achievement of its planned objectives
    - the indicators are well defined and verifiable to ensure that they are easy to understand and apply consistently and that we can confirm the methods and processes to be used for measuring achievements
    - the targets can be linked directly to the achievement of the indicators and are specific, time bound and measurable to ensure that it is easy to understand what should be delivered and by when, the required level of performance as well as how performance will be evaluated
    - the indicators and targets reported on in the annual performance report are the same as what was committed to in the approved initial or revised planning documents
    - the reported performance information is presented in the annual performance report in the prescribed manner
    - there are adequate supporting evidence for the achievements reported and for the reasons provided for any over- or underachievement of targets.

21. We performed the procedures for the purpose of reporting material findings only; and not to express an assurance opinion.
22. We did not identify any material findings on the reported performance information of selected programmes.

OTHER MATTER

23. We draw attention to the matters below.

Achievement of planned targets

24. The annual performance report includes information on reported achievements against planned targets and provides explanations for over- and underachievements. This information should be considered in the context of the material findings on the reported performance information.
25. Reasons for the underachievement of targets are included in the annual performance report on pages 31 to 32.

Material misstatements

26. We identified material misstatement in the annual performance report submitted for auditing. The material misstatement was in the reported performance information of Earth Observation programme, indicator 1.1.1 (National research productivity score for supported R&D). Management subsequently corrected all the misstatements and we did not include any material findings in this report.

REPORT ON COMPLIANCE WITH LEGISLATION

27. In accordance with the PAA and the general notice issued in terms thereof, we must audit and report on compliance with applicable legislation relating to financial matters, financial management and other related matters. The accounting authority is responsible for the public entity's compliance with legislation.
28. We performed procedures to test compliance with selected requirements in key legislation in accordance with the AGSA findings engagement methodology. This engagement is not an assurance engagement. Accordingly, we do not express an assurance opinion or conclusion.
29. Through an established AGSA process, we selected requirements in key legislation for compliance testing that are relevant to the financial and performance management of the public entity, clear to allow consistent measurement and evaluation, while also sufficiently detailed and readily available to report in an understandable manner. The selected legislative requirements are included in the annexure to this auditor's report.
30. We did not identify any material non-compliance with the selected legislative requirements.

OTHER INFORMATION IN THE ANNUAL REPORT

31. The accounting authority is responsible for the other information. The other information does not include the financial statements, the auditor's report and those selected programmes presented in the annual performance report that have been specifically reported on in this auditor's report.
32. Our opinion on the financial statements and our findings on the reported performance information and the report on compliance with legislation do not cover the other information and we do not express an audit opinion or any form of assurance conclusion on it.

33. In connection with our audit, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements and the selected programmes presented in the annual performance report, or our knowledge obtained in the audit, or otherwise appears to be materially misstated.
34. If based on the work we have performed, we conclude that there is a material misstatement in this other information, we are required to report that fact.
35. We have nothing to report in this regard.

INTERNAL CONTROL DEFICIENCIES

36. We considered internal control relevant to our audit of the financial statements, annual performance report and compliance with applicable legislation; however, our objective was not to express any form of assurance on it.
37. We did not identify any significant deficiencies in internal control.

OTHER REPORTS

38. We draw attention to the following engagement. This report did not form part of our opinion on the financial statements or our findings on the reported performance information .

AUDIT RELATED SERVICES

39. An agreed-upon procedures engagement was performed on grants received from the National Research Foundation (NRF), to confirm compliance with the grants conditions. The report covered the period 1 January 2022 to 31 December 2022 and the report was issued to the South African National Space Agency on 30 June 2023.

AUDITOR TENURE

40. In terms of the IRBA rule published in Government Gazette No. 39475 dated 4 December 2015, we report that this is the first year A2A Kopano Incorporated has been the auditor of South African National Space Agency.

A2A Kopano Inc.

A2A Kopano Incorporated
TA Maenzanise
Director
Registered Auditor

29 July 2023

147 Marais Street
Brooklyn Pretoria
0181
IRBA. NO. 901944-0007

ANNEXURE TO THE AUDITOR'S REPORT

The annexure includes the following:

- the auditor's responsibility for the audit
- the selected legislative requirements for compliance testing.

AUDITOR'S RESPONSIBILITY FOR THE AUDIT

PROFESSIONAL JUDGEMENT AND PROFESSIONAL SCEPTICISM

As part of an audit in accordance with the ISAs, we exercise professional judgement and maintain professional scepticism throughout our audit of the financial statements and the procedures performed on reported performance information for selected programmes and on the public entity's compliance with selected requirements in key legislation.

FINANCIAL STATEMENTS

In addition to our responsibility for the audit of the financial statements as described in this auditor's report, we also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the public entity's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- conclude on the appropriateness of the use of the going concern basis of accounting in the preparation of the financial statements. We also conclude, based on the audit evidence obtained, whether a material uncertainty exists relating to events or conditions that may cast significant doubt on the ability of the public entity to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify our opinion on the financial statements. Our conclusions are based on the information available to us at the date of this auditor's report. However, future events or conditions may cause a public entity to cease operating as a going concern
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and determine whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

COMMUNICATION WITH THOSE CHARGED WITH GOVERNANCE

We communicate with the accounting authority regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the accounting authority with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to have a bearing on our independence and, where applicable, actions taken to eliminate threats or safeguards applied.

COMPLIANCE WITH LEGISLATION – SELECTED LEGISLATIVE REQUIREMENTS

The selected legislative requirements are as follows:

Legislation	Sections or regulations
Public Finance Management Act 1 of 1999 (PFMA)	Sections - 51(1)(b)(i), 51(1)(b)(ii), 51(1)(e)(iii), 53(4), 54(2)(c) Sections - 54(2)(d), 55(1)(a), 55(1)(b), 55(1)(c)(i); 57(b)
National Treasury Regulations issued in terms of the PFMA	Regulations - 16A3.2, 16A6.1, 16A6.2(a) & (b) Regulations - 16A6.3 (a) &(b), 16A6.3(c), 16A6.6,16A.7.1 Regulations - 16A.7.3, 16A.7.6, 16A.7.7, 16A8.3; 16A8.4, Regulations - 16A9.1(b)(ii), 16A9.1(d), 16A9.1(e); 16A9.1(f), Regulations - 16A9.2(a)(ii), 8.2.1 and 8.2.2, 30.1.1, 30.1.3(a) Regulations - 30.1.3(b) , 30.1.3(d), 30.2.1, 31.1.2(c) Regulations - 31.2.1; 31.3.3; 33.1.1, 33.1.
Preferential Procurement Policy Framework Act 5 of 2000 (PPPFA)	Section - 2(1)(a) and (b); 2(1)(f)
Preferential Procurement Regulations of 2017 (PPR)	Regulations - 4(1) & 4(2); 5(1) & 5(3); 5(6); 5(7) ; 6(8), 7(8), Regulations - 8(2); 8(5); 9(1); 10(1)&(2) & 11(1)
Preferential Procurement Regulations of 2022 (PPR)	Regulation 4(4)
Construction Industry Development Board Act 38 of 2000	Section - 18(1)
Construction Industry Development Board Regulations	Regulations – 17, 25(7A)
Prevention and Combatting of Corrupt Activities Act 12 of 2004	PRECCA 34(1)
National Treasury Instruction note 4 of 2015/16	Paragraphs – 3.4
National Treasury Instruction 4A of 2016/17	Paragraphs – 6
National Treasury Instruction 07 of 2017/18	Paragraphs – 4.3
National Treasury Instruction 01 of 2021-22	Paragraphs – 4.1
SCM Instruction Note 02 of 2021-22	Paragraphs – 3.2.1, 3.2.4, 3.3.1,
PFMA SCM instruction note 03 of 2021/22	Paragraphs – 4.1, 4.2 (b), 4.3, 4.4, 7.2, 3.2.4 (b)

37. Annual **Financial Statements**

Statement of **Financial Position**

AT 31 MARCH 2023

	Note	2023 R	2022 R
ASSETS			
Current Assets		**390 887 085**	**331 270 520**
Cash and Cash Equivalents	4	359 329 003	310 591 650
Receivables from Exchange Transactions	5	31 059 022	20 141 704
Inventory	6	499 060	537 166
Non-Current Assets		**532 222 862**	**506 003 239**
Property, Plant and Equipment	7	516 534 837	490 320 183
Intangible Assets	8	15 688 025	15 683 056
Total Assets		**923 109 947**	**837 273 759**
LIABILITIES			
Current Liabilities		**249 421 186**	**173 863 387**
Trade and Other Payables	9	42 363 522	36 988 142
Provisions	10	11 886 425	22 599 691
Conditional Grants	11	195 066 326	114 147 177
Operating Lease Liability	13	104 913	128 377
Total Liabilities		**249 421 186**	**173 863 387**
NET ASSETS		**673 688 761**	**663 410 372**
Accumulated Surplus		673 688 761	663 410 372
Total Net Assets		**673 688 761**	**663 410 372**

Statement of
Financial Performance

FOR THE YEAR ENDED 31 MARCH 2023

	Note	2023 R	2022 R
REVENUE			
REVENUE FROM NON-EXCHANGE TRANSACTIONS			
Transfers and Grants	12	208 795 080	249 755 894
REVENUE FROM EXCHANGE TRANSACTIONS			
Interest	14	9 853 845	4 705 800
Rendering of Services	15	131 628 347	75 000 495
Other Income	16	1 565 256	3 232 569
Impairment Reversal of Accounts Receivable	28	-	80 813
Total Revenue		**351 842 528**	**332 775 571**
EXPENDITURE			
Employee Related Costs	17	158 742 673	153 097 209
Board Member Remuneration	18	2 180 607	1 155 911
Depreciation and Amortisation	19	26 749 371	21 616 564
Repairs and Maintenance	7.1	14 013 905	11 766 141
Data Licence fees	20	2 732 142	5 681 555
Student Bursaries and Research Grants	21	21 183 136	30 901 077
Antenna Infrastructure Services	22	10 612 159	8 322 036
Training Expenses	23	3 610 698	2 348 188
General Expenses	24	101 286 109	61 509 156
Net Losses on Foreign Exchange Transactions	25	76 734	598 707
Net Losses on Disposal of Property, Plant and Equipment	26	362 805	1 411 960
Impairment of Accounts Receivable	28	13 800	-
Total Expenditure		**341 564 139**	**298 408 504**
SURPLUS FOR THE YEAR		**10 278 389**	**34 367 067**

Statement of
Financial Position

FOR THE YEAR ENDED 31 MARCH 2023

	Accumulated Surplus R
2022	
Balance at 01 April 2021	629 043 305
Surplus	34 367 067
Balance as at 31 March 2022	**663 410 372**
	-
2023	
Balance at 01 April 2022	663 410 372
Surplus for the year	10 278 389
Balance at 31 March 2023	**673 688 761**

Cash Flow **Statement**

FOR THE YEAR ENDED 31 MARCH 2023

	Note	2023 R	2022 R
CASH FLOWS FROM OPERATING ACTIVITIES			
RECEIPTS			
Transfers and Grants		289 714 229	262 701 525
Rendering of services		120 697 228	79 603 067
Interest	14	9 853 845	4 705 800
Other Receipts	16	1 565 254	3 232 567
Payments			
Employee Related Costs		(171 636 546)	(142 428 417)
Suppliers		(148 124 861)	(110 259 816)
NET CASH FLOWS FROM OPERATING ACTIVITIES	27	**102 069 149**	**97 554 727**
CASH FLOWS FROM INVESTING ACTIVITIES			
Acquisition of Property, Plant and Equipment	7	(51 299 243)	(46 937 194)
Proceeds on Sale of Property, Plant and Equipment		27 743	4 227
Acquisition of Intangible Assets	8	(2 060 295)	(1 875 752)
NET CASH FLOWS FROM INVESTING ACTIVITIES		**(53 331 796)**	**(48 808 719)**
NET INCREASE IN CASH AND CASH EQUIVALENTS		**48 737 353**	**48 746 009**
Cash and Cash Equivalents at the beginning of the year		**310 591 650**	**261 845 641**
Cash and Cash Equivalents at the end of the year	4	**359 329 003**	**310 591 650**

Statement of Comparison of
Budget and Actual Amounts

FOR THE YEAR ENDED 31 MARCH 2023

	Note	Approved Budget 2022/23 R	Final Budget 2022/23 R	Actual Amounts on a Comparable Basis 2022/23 R	Difference 2022/23 R
REVENUE					
Revenue from Non-exchange Transactions		**244 938 371**	**343 794 605**	**208 795 080**	**(134 999 525)**
Operational Transfers		140 755 000	140 755 000	140 755 000	-
Conditional Transfers	3.3.1	89 320 586	183 300 937	54 052 166	(129 248 771)
Research Grants	3.3.2	8 182 785	14 558 668	7 477 422	(7 081 246)
Postgraduate Student Bursary Support	-	6 680 000	5 180 000	6 510 492	1 330 492
Revenue from Exchange Transactions		**76 874 359**	**81 727 605**	**131 628 348**	**49 900 742**
Contract Income: Public	3.3.3	20 598 560	22 692 898	22 349 215	(343 683)
Contract Income: Private	3.3.4	5 979 958	6 004 098	7 029 634	1 025 536
Contract Income: Foreign	3.3.5	50 295 841	53 030 609	102 249 498	49 218 889
Other Income	3.3.6	4 899 808	6 192 756	11 419 101	5 226 345
Prior year Surplus Brought Forward		-	131 715 136	75 125 380	(56 589 756)
Total Revenue		**326 712 538**	**563 430 102**	**426 967 909**	**(136 462 195)**
EXPENDITURE					
Employee Related Costs	3.3.7	181 409 949	174 580 338	158 742 673	15 837 665
Board Member Remuneration		977 271	1 997 316	2 180 607	(183 291)
Depreciation and Amortisation		-	-	26 749 371	(26 749 371)
Repairs and Maintenance	3.3.8	10 315 403	24 428 674	14 013 905	10 414 769
Data Licence fees	3.3.9	16 263 303	9 263 303	2 732 142	6 531 161
Student Bursaries and Research Grants Paid	3.3.10	26 827 813	47 333 356	21 183 136	26 150 220
Antenna Infrastructure Services	3.3.11	-	21 604 216	10 612 159	10 992 057
Training Expenses	3.3.12	2 844 632	4 650 809	3 610 698	1 040 111
General Expenses	3.3.13	55 897 762	126 993 891	101 286 109	25 707 782
Net Losses on Disposal of Property, Plant and Equipment		-	-	362 805	(362 805)
		294 536 133	**410 851 903**	**341 564 139**	**69 287 764**

Statement of Comparison of **Budget and Actual Amounts**

FOR THE YEAR ENDED 31 MARCH 2023 (continued)

	Note	Approved Budget 2022/23 R	Final Budget 2022/23 R	Actual Amounts on a Comparable Basis 2022/23 R	Difference 2022/23 R
PAYMENTS FOR CAPITAL ASSETS					
Plant and Machinery	3.3.14	4 204 727	11 187 140	11 902 785	(715 645)
Software and intangible assets	3.3.15	500 000	2 056 338	2 060 295	(3 957)
Vehicles	3.3.16	-	2 152 231	1 178 156	974 076
Buildings and other fixed structures	3.3.17	-	12 538 805	12 874 775	(335 970)
Assembly Integration and Test Facility (AIT)	3.3.18	21 684 000	80 186 246	-	80 186 246
Research Equipment		-	1 329 212	-	1 329 212
Office Equipment		-	241 076	-	241 076
Exhibits		-	281 650	-	281 650
Furniture and Fittings	3.3.19	-	2 478 174	2 144 890	333 284
Computer Equipment	3.3.20	5 787 678	38 987 885	23 198 638	15 789 247
Satellite Development	3.3.21	-	1 139 442	-	1 139 442
		32 176 405	**152 578 199**	**53 359 539**	**99 218 660**
Total Expenditure		**326 712 538**	**563 430 102**	**394 923 678**	**168 506 424**
Surplus / (Deficit)		**-**	**-**	**32 044 231**	**32 044 229**

	Operating Activities R	Financing Activities R	Investing Activities R	Total R
Actual Amount on Comparable Basis as Presented in the Budget and Actual Comparative Statement	85 403 770	-	(53 359 539)	32 044 233
Basis Differences	16 665 380		27 743	16 693 122
Timing Differences	-	-	-	-
Entity Differences	-	-	-	-
Actual amount in Cash Flow Statement	**102 069 149**	**-**	**(53 331 796)**	**48 737 353**

Accounting Policies

1. BASIS OF PRESENTATION

The Annual Financial Statements have been prepared on going concern basis in accordance with the Standards of Generally Recognised Accounting Practice (GRAP), including interpretations and directives issued by the Accounting Standards Board (ASB) and the Public Finance Management Act (PFMA).

The historic cost convention has been used, except where indicated otherwise.

The figures presented in Annual Financial Statements have been rounded to the nearest Rand value.

These accounting policies are consistent with the previous period. Significant accounting policies, which have been consistently applied, are disclosed below. Details of any changes in accounting policies are explained in the relevant policy.

1.1 SIGNIFICANT JUDGEMENTS AND SOURCES OF ESTIMATION UNCERTAINTY

In the application of the entity's accounting policies, which are described below, management is required to make judgements, estimates and assumptions about the amounts of assets, liabilities, revenue and expenses that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

These estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

The following are the significant judgements that management has made in the process of applying the entity's accounting policies and have the most significant effect on the amounts recognised in the Annual Financial Statements:

1.2 DEPRECIATION AND AMORTISATION

DETERMINATION OF USEFUL LIVES FOR PROPERTY, PLANT AND EQUIPMENT

In determining the useful lives of items of property, plant and equipment, consideration is given to the physical condition and the expected remaining useful life. For assets with useful lives that exceeded the industry norms useful lives are re-assessed annually for physical condition and the estimated remaining useful lives for future use.

1.2.1 FINANCIAL ASSETS AND LIABILITIES

The classification of financial assets and liabilities, into categories, is based on the relevant GRAP standards and the terms of the instruments. Accounting Policy 1.3.1 on Financial Assets Classification and Accounting Policy 1.3.2 on Financial Liabilities Classification describe the factors and criteria considered by the management of the entity in the classification of financial assets and liabilities.

In making the above-mentioned judgement, management considers the definition and recognition criteria for the classification of financial instruments as set out in GRAP.

1.2.2 IMPAIRMENT OF FINANCIAL ASSETS

The Impairment of Financial Assets describes the process followed to determine the value by which financial assets should be impaired. In making the estimation for impairment, management considers the detailed criteria for impairment of financial assets as set out in GRAP, and the judgement used is mainly based on market conditions existing at the end of the reporting period. Management is satisfied that impairment of financial assets recorded during the year is appropriate.

Calculations in respect of impairment of debtors are based on an assessment of the extent to which debtors have defaulted on payments already due, and an assessment of their ability to make payments based on their creditworthiness.

1.2.3 USEFUL LIVES OF PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Property, plant and equipment and intangible assets are depreciated over their useful lives taking into account residual values, where appropriate. The useful lives and residual values are assessed annually and may vary depending on a number of factors. In re-assessing useful lives, factors such as technological innovation and maintenance programmes are taken into account. Residual value assessments consider factors such as future market conditions, the remaining life of the asset and projected disposal values.

1.2.4 IMPAIRMENT OF NON-FINANCIAL ASSETS

Impairment is applied when the carrying amount is higher than the realisable service amount.The realisable service amount is the greater of the fair value less the cost to sell and value in use.These calculations require the use of estimates and assumptions. It is reasonably possible that the assumptions used may change which could impact estimated amounts and could result in material adjustments to the carrying value of assets under these categories

SANSA tests for impairment when events or changes in circumstances suggest that the carrying amount may not be recoverable. If there are indications that impairment may have occurred, estimates of expected future cash flows prepared. Expected future cash flows, which are used to determine the value in use of assets, are inherently uncertain and could change materially over time.

1.2.5 PROVISIONS, CONTINGENT ASSETS AND CONTINGENT LIABILITIES

Judgement is required in recognising and measuring provisions contingent assets and contingent liabilities. Provisions are discounted where the effect of discounting is material using actuarial valuations. The carrying amount of a provision is the best estimate of the amount required to settle a present obligation at the reporting date.

SANSA recognises a provision for bonuses based on the expected performance bonuses to be paid out to employees. Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in Note 33.

1.2.6 LEAVE PAY PROVISION

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non- accumulating absences, when the absence occurs. Employees can accrue up to a maximum of 25 annual leave days.

1.2.7 REVENUE RECOGNITION

Accounting Policy 1.9.1 on Revenue from Exchange Transactions and Accounting Policy 1.9.2 on Revenue from Non-exchange Transactions describe the conditions under which revenue will be recognised by management of the entity.

In making their judgement, management considers the detailed criteria for the recognition of revenue as set out in GRAP 9: Revenue from Exchange Transactions and GRAP 23: Revenue from Non-Exchange transactions, as far as Revenue from Exchange and Non-Exchange Transactions is concerned. In particular, revenue from services rendered is recognised in surplus or deficit in proportion to the stage of completion of the transaction at the reporting date.

1.3 FINANCIAL INSTRUMENTS

1.3.1 FINANCIAL ASSETS - CLASSIFICATION

The entity has the following types of financial assets as reflected on the face of the Statement of Financial Position and in the notes thereto:

TYPE OF FINANCIAL ASSET	CLASSIFICATION
Receivables from Exchange Transactions	Financial Assets at Amortised Cost

1.3.2 FINANCIAL LIABILITIES - CLASSIFICATION

The entity has the following types of financial liabilities as reflected on the face of the Statement of Financial Position or in the notes thereto:

TYPE OF FINANCIAL LIABILITY	CLASSIFICATION
Trade and other payables	Financial Liabilities at Amortised Cost

1.3.3 INITIAL AND SUBSEQUENT MEASUREMENT

All financial assets and liabilities are initially measured at fair value, including directly attributable transaction costs for instruments that are not subsequently measured at fair value.

The amount at which a financial asset or financial liability is measured at is the initial recognition amount minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.

Financial Assets

Subsequent to initial recognition, financial assets are measured at amortised cost.

Financial Liabilities

Subsequent to initial recognition, financial liabilities are measured at amortised cost.

1.3.4 IMPAIRMENT OF FINANCIAL ASSETS

Financial assets are impaired where there is objective evidence of impairment of financial assets (such as the probability of insolvency or significant financial difficulties of the debtor). The impairement on financial assets is determined as the difference between the carrying amount and the present value of the estimated future cash flow.

Financial Assets carried at Amortised Cost

Financial assets are carried at amortised cost encompass accounts receivables and cash and cash equivalents. An estimate is made for doubtful debt based on past default experience of all outstanding amounts at year-end. Bad debts are written off the year in which they are identified as irrecoverable.

An allowance for impairment of accounts receivables is established when there is objective evidence that the entity will not be able to collect all amounts due according to the original terms of receivables. The allowance is made whereby the recoverability of accounts receivable is assessed individually and then collectively after grouping the assets in financial assets with similar credit risk characteristics. The amount of the allowance is the difference between the financial asset's carrying amount and the present value of estimated future cash flows, discounted at the original effective interest rate. Future cash flows in a group of financial assets that are collectively evaluated for impairment are estimated on the basis of historical loss experience for assets with credit risk characteristics similar to those in the group. The entity uses an allowance account to record impairment losses.

1.4 INVENTORY

The entity uses the weighted average costing method to account for inventory. Inventories are valued at the lower of cost price or net realisable value. The net realisable value is the estimated selling price in the ordinary course of business, less the estimated or selling costs.

1.5 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is measured at cost, net of accumulated depreciation and/ or accumulated impairment losses.

Depreciation is recognised in surplus or deficit on a straight line basis over the estimated useful lives of each part of an item of property, plant and equipment. SANSA's accounting policy is to depreciate assets as follows:

ASSET CLASS	YEARS
Freehold Land	
Land	Indefinite
Freehold Buildings	
Buildings	15 - 50
Alterations and Other Fixtures	14 - 15
Leasehold Improvements	
Improvements	Shorter of the contract period or useful live
Other	
Computer Equipment	1 - 5
Exhibits	3 - 15
Motor Vehicles	3 - 7
Office Equipment	3 - 15
Office Furniture	3 - 15
Plant and Machinery	2 - 20
Research and Laboratory Equipment	2 - 10

The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

1.5.1 IMPAIRMENT OF NON-FINANCIAL ASSETS

Cash generated units are determined as the smallest identified group of assets which can generate cash flows independently from other assets or groups of assets. Non- cash generating assets are primarily held for internal service delivery purposes.

If there is any indication that an asset may be impaired, the recoverable service amount is estimated for the individual asset. For cash-generating assets, if it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash generating unit to which the asset belongs is determined. If the recoverable service amount of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable service amount. That reduction is an impairment loss, and recognised in Surplus or Deficit.

If there is any indication that an asset may be no longer be impaired, the recoverable service amount is estimated for the individual asset. For cash-generating assets, if it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash generating unit to which the asset belongs is determined. If the recoverable service amount of an asset is more than its carrying amount, the carrying amount of the asset is increased but does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior periods. That reversal

of an impairment loss is recognised in Surplus or Deficit.of the asset is reduced to its recoverable service amount. That reduction is an impairment loss, and recognised in Surplus or Deficit.

The gain or loss, which is the difference between the proceeds on disposal and the carrying amount, arising from the derecognition of an item of Property, Plant and Equipment is included in Surplus or Deficit when the item is derecognised.

1.6 INTANGIBLE ASSETS

Intangible assets are stated at cost, being the initial cost less any accumulated amortisation and impairment losses. Amortisation is charged to surplus or deficit so as to write off the cost of intangible assets over their estimated useful lives, using the straight-line method as follows:

ASSET CLASS	YEARS
Computer Software	3 - 10
Intellectual Property	1 - 40

The surplus or deficit arising from the derecognition of an item of intangible assets is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

1.7 PROVISIONS

Provisions are reviewed at reporting date and the amount of a provision is the present value of the expenditure expected to be required to settle the obligation. When the effect of discounting is material, provisions are determined by discounting the expected future cash flows that reflect current market assessments of the time value of money at a rate adjusted for the specific risks of a liability. The impact of the periodic unwinding of the discount is recognised in surplus or deficit as a finance cost as it occurs.

1.8 LEASES

1.8.1 OPERATING LEASES

The entity recognises operating lease rentals as an expenditure in surplus or deficit on a straight-line basis over the term of the relevant lease. The difference between the amounts recognised as an expenditure and the contractual payments are recognised as an operating lease asset or liability.

1.9 REVENUE RECOGNITION

1.9.1 REVENUE FROM EXCHANGE TRANSACTIONS

1.9.1.1 Interest income

Interest earned on investments is recognised in surplus or deficit on a time proportionate basis that takes into account the effective yield on the investment.

1.9.1.2 Rendering of Services

Rendering of Services constitute revenue which arises from service delivery to customers measured at using the stage of completion method.

The stage of completion is assessed by reference to work performed as at the reporting date. Contract revenue includes the initial amount agreed in the contract plus any variations in contract work, claims and incentive payments to the extent that it is probable that these will result in revenue and can be measured reliably. As soon as the outcome of a contract can be estimated reliably, contract revenue and expenses are recognised in surplus or deficit in proportion to the stage of completion of the contract.

When the outcome of a contract cannot be estimated reliably, contract revenue is recognised only to the extent of contract costs incurred that are likely to be recoverable. An expected loss on a contract is recognised immediately in surplus or deficit.

1.9.2 REVENUE FROM NON-EXCHANGE TRANSACTIONS

1.9.2.1 Government Grants / Subsidies

Conditional Grants and Receipts

Income received from conditional grants, donations and funding is recognised as revenue to the extent that the entity has complied with all of the criteria, conditions or obligations embodied in the agreement. To the extent that the criteria, conditions or obligations have not been met a liability is recognised.

Unconditional Grants and receipts

Government grants that are receivable as compensation for expenditure or losses already incurred or for the purpose of giving immediate financial support to the entity with no future related costs are recognised in surplus or deficit in the period in which they become receivable.

1.10 FOREIGN CURRENCIES

Transactions in foreign currencies are initially recorded at the prevailing exchange rate on the dates of the transactions.

Monetary assets and liabilities denominated in such foreign currencies are translated to the functional currencies at the rates prevailing at the reporting date. Exchange differences are included in surplus or deficit.

1.11 EMPLOYEE BENEFITS

1.11.1 SHORT-TERM EMPLOYEE BENEFITS

The costs of all short-term employee benefits such as leave pay and bonus are recognised during the period in which the employee renders the related service. The liability for leave pay is based on the total accrued leave days at year end and is included under trade and other payables in the Statement of Financial Position. The entity recognises the expected cost of performance bonuses only when the entity has a present legal or constructive obligation to make such payment and a reliable estimate can be made.

1.12 IRREGULAR EXPENDITURE

Irregular expenditure is expenditure that is contrary to the Public Finance Management Act (Act No 56 of 2003) and is in contravention of any legislation. Irregular expenditure excludes unauthorised expenditure. All expenditure relating to irregular expenditure is recognised as an expense in the Statement of Financial Performance in the year that expenditure was incurred. Expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the Statement of Financial Performance.

1.13 FRUITLESS AND WASTEFUL EXPENDITURE

Fruitless and wasteful expenditure is expenditure that was made in vain and would have been avoided had reasonable care been exercised.All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

1.14 BUDGET INFORMATION

Financial Statements are prepared on accrual basis whilst the budget is prepared on a cash basis of accounting. A reconciliation between the surplus/(deficit) for the period as per the Statement of Financial Performance and budgeted surplus/(deficit) is included in the Statement of Comparison of Budget and Actual Amounts. At the end of September each year the budget may be revised if necessary due to changes in the operations of the entity which require a reallocation of resources. All budget changes are approved by the board of directors prior to the implementation of the revised budget.

1.15 STANDARDS AND INTERPRETATIONS ISSUED, BUT NOT YET EFFECTIVE.

STANDARD NUMBER	STANDARD NAME	EFFECTIVE DATE (IF APPLICABLE)	EXPECTED IMPACT
GRAP 1	Presentation on Financial Statements	01 April 2023	Impact currently being assessed
GRAP 103	Heritage Assets	01 April 2023	Impact currently being assessed
GRAP 104	Financial instruments	01 April 2023	Impact currently being assessed

2. SEGMENT INFORMATION

GENERAL INFORMATION ABOUT SEGMENTS

The entity is organised and reports on a basis of four business units comprising of five functional areas: the administration programme, the earth observation programme, the space science programme, the space operations programme and the space engineering programme. The programmes were organised around the type of services provided and the related space science fields. Management used the same segments for determining and delivering on its strategic objectives.

The Administration Programme provides management, administrative and technical support across all operating units. This facilitates operational efficiency and cost-effective management, aligned with sound governance principles and the seamless integration and collaboration between SANSA programmes.

SANSA's Space Engineering Programme leads systems engineering and project management expertise and drives a small satellite build programme in South Africa in partnership with primary contractors, Research and development, (R&D) institutions and private sector partners. The programme conducts satellite and sub-systems analysis, leads the technical side of space programme project management, provides human capital development in space engineering and facilitates private space industry partnerships.

The Earth Observations Programme is responsible for the collection, processing, archiving and distribution of Earth observation data and data products for societal benefit. SANSA maintains an Earth observation portfolio of sensors, provides an R&D platform in Earth observation technologies, conducts satellite image processing, and correction and provides human capital development in Earth Observation and science advancement.

The Space Science Programme leads multidisciplinary space science. Key functions include fundamental and applied science research, the support of space facilitated science through science data acquisition, the coordination and administration of scientific data ground segments, provision of space weather and other geo-space products and services on a commercial and private basis. The programme also provides leadership in postgraduate science student training, as well as science engagement support.

The Space Operations Programme is responsible for the acquisition of satellite data for the Earth Observation programme and the provision of ground segment support. Through this programme, SANSA conducts various space operations, including launch and early-orbit support, in-orbit testing, satellite life-cycle support and satellite mission control for national and international space industry clients and governments. The programme also supplies hosting capabilities.

2.1 SEGMENTED FINANCIAL PERFORMANCE

2023	Administration R	Earth Observation R	Space Operations R	Space Science R	Space Engineering R	Elimination R	Total R
REVENUE							
Revenue from Non-Exchange Transactions							
Transfers and Subsidies Received	62 064 474	48 002 949	15 026 894	76 387 038	7 313 725		208 795 080
Revenue from Exchange Transactions							
Interest Income	5 901 055	646 471	1 902 329	1 403 990	-		9 853 845
Other Income	19 592	876 468	138 328	530 868	-		1 565 256
Rendering of Services	-	34 884 701	90 091 095	6 652 551	-		131 628 347
Total Revenue	**67 985 121**	**84 410 589**	**107 158 646**	**84 974 447**	**7 313 725**	**-**	**351 842 528**
EXPENDITURE							
Employee Related Costs	58 285 468	23 654 502	33 749 022	36 851 384	6 202 297		158 742 673
Board Member Remuneration	2 180 607	-	-	-	-		2 180 607
Depreciation and Amortisation	1 991 071	3 416 458	14 155 441	7 186 401	-		26 749 371
Repairs and Maintenance	2 113 805	2 112 903	5 798 562	3 988 635	-		14 013 905
Data Licence fees	-	2 732 142	-	-	-		2 732 142
Student Bursaries and Research Grants Paid	-	14 637 299	-	6 545 837	-		21 183 136
Antenna Infrastructure Services	-	-	10 612 159	-	-		10 612 159
Training Expenses	1 524 226	55 422	800 339	1 230 711	-		3 610 698
General Expenses	32 352 835	18 385 127	35 898 305	14 435 602	214 240		101 286 109
Net Losses on Foreign Exchange Transactions	102 376	1 173 530	(1 282 085)	82 913	-		76 734
Net Losses on Disposal of Property, Plant and Equipment	41 484	-	142 668	178 653	-		362 805
Impairment of Accounts Receivable	-	13 800	-	-			13 800
Total Expenditure	**98 591 872**	**66 181 183**	**99 874 411**	**70 500 136**	**6 416 537**	**-**	**341 564 139**
Surplus (Deficit) for the year	**(30 606 751)**	**18 229 406**	**7 284 235**	**14 474 311**	**897 188**		**10 278 389**
ASSETS							
Non current Segment assets	328 705 782	27 997 579	102 446 099	73 073 402	-		532 222 862
Current Segment assets	553 500 859	25 026 575	161 374 486	109 126 361	12 100 071	(470 241 267)	390 887 085
Total Segment assets	**882 206 641**	**53 024 154**	**263 820 585**	**182 199 763**	**12 100 071**	**(470 241 267)**	**923 109 947**
LIABILITIES							
Non-current Segment Liabilities	-	-	-	-	-		-
Current Segment Liabilities	(260 624 259)	(186 250 235)	(125 955 554)	(145 927 669)	(904 737)	470 241 267	(249 421 186)
Total Segment Liabilities	**(260 624 259)**	**(186 250 235)**	**(125 955 554)**	**(145 927 669)**	**(904 737)**	**470 241 267**	**(249 421 186)**
Capital expenditure	**5 349 644**	**5 652 570**	**13 268 274**	**29 089 053**	**-**		**53 359 541**
Non-cash items excluding depreciation							
Accrued expenses	3 915 877	2 743 723	2 152 810	1 730 335	377 619		10 920 364
Deferred revenue	10 937 909	7 700 900	-	302 969	-		18 941 778

2022	Administration R	Earth Observation R	Space Operations R	Space Science R	Space Engineering R	Elimination R	Total R
REVENUE							
Revenue from Non-Exchange Transactions							
Transfers and Subsidies Received	66 339 082	63 668 587	19 598 656	82 809 799	17 339 769	-	249 755 894
Revenue from Exchange Transactions							
Interest Income	3 106 064	56 248	1 054 650	488 838	-	-	4 705 800
Rendering of Services	-	4 478 252	62 647 881	7 874 362	-	-	75 000 495
Other Income	874	7 778	2 771 313	452 605	-	-	3 232 569
Impairment Reversal of Accounts Receivable	-	80 364	449	-	-	-	80 813
Total Revenue	**69 446 020**	**68 291 229**	**86 072 949**	**91 625 604**	**17 339 769**	**-**	**332 775 570**
EXPENDITURE							
Employee and Employee Related Costs	40 843 901	23 963 470	41 125 032	40 138 684	7 026 122	-	153 097 209
Board Member Remuneration	1 155 911	-	-	-	-	-	1 155 911
Depreciation and Amortisation	1 426 734	1 680 401	13 084 925	5 424 503	-	-	21 616 564
Repairs and Maintenance	284 309	2 503 403	6 005 257	2 973 171	-	-	11 766 141
Data Licence fees	-	5 681 555	-	-	-	-	5 681 555
Student Bursaries and Research Grants Paid	-	24 442 996	-	6 458 081	-	-	30 901 077
Antenna Infrastructure Services	-	-	8 322 036	-	-	-	8 322 036
Training Expenses	1 613 456	171 820	290 091	272 820	-	-	2 348 188
General Expenses	23 428 622	7 620 070	21 215 983	9 228 981	15 500	-	61 509 156
Net Losses on Foreign Exchange Transactions	58 495	332 480	207 596	137	-	-	598 707
Net Losses on Disposal of Property, Plant and Equipment	39 606	18 077	1 297 282	56 994	-	-	1 411 960
Total Expenditure	**68 851 034**	**66 414 272**	**91 548 202**	**64 553 371**	**7 041 622**	**-**	**298 408 503**
Surplus/(Deficit) for the year	**594 986**	**1 876 957**	**(5 475 253)**	**27 072 233**	**10 298 147**		**34 367 067**
ASSETS							
Non current Segment assets	325 388 692	25 761 467	103 476 018	51 377 063	-	-	506 003 240
Current Segment assets	454 945 160	4 951 807	153 759 508	99 136 129	11 166 119	(392 688 203)	331 270 520
Total Segment assets	**780 333 851**	**30 713 274**	**257 235 526**	**150 513 192**	**11 166 119**	**(392 688 203)**	**837 273 760**
LIABILITIES							
Non-current Segment Liabilities							
Current Segment Liabilities	(128 144 725)	(182 168 762)	(126 654 731)	(128 715 407)	(867 971)	392 688 203	(173 863 392)
Total Segment Liabilities	**(128 144 725)**	**(182 168 762)**	**(126 654 731)**	**(128 715 407)**	**(867 971)**	**392 688 203**	**(173 863 392)**
Capital expenditure - restated	**925 493**	**5 484 741**	**16 969 289**	**25 568 196**	**-**	**-**	**48 947 718**
Non-cash items excluding depreciation							
Accrued expenses	3 146 568	1 946 198	2 313 663	1 607 508	-	-	9 013 936
Deferred revenue	10 952 549	13 169 101	-	231 368	-	-	24 353 017

RESTATEMENT OF CAPITAL EXPENDITURE IN NOTE 2

Capital expenditure was reflected with a total of R29 358 700 in Note 2 to the 2022 annual financial statements.

Capital expenditure was, however, correctly stated in the relevant elements of the annual financial statements comprising the Cashflow Statement and Statement of Comparison of Budget to Actual Amounts as well as Notes 7 and 8 to the 2022 annual financial statements.

2.2 MEASUREMENT OF SEGMENT SURPLUS OR DEFICIT, ASSETS AND LIABILITIES

The accounting policies of the segments are the same as those described in the summary of the significant accounting policies.

2.3 INFORMATION ABOUT GEOGRAPHICAL AREAS

The majority of the entity's operations are in the Gauteng province, with one facility located in Hermanus in the Western Cape.

REVENUE FROM NON-EXCHANGE TRANSACTIONS	2023 R	2022 R
Gauteng Province		
Administration	62 064 474	66 339 082
Earth Observation	48 002 949	63 668 587
Space Operations	15 026 894	19 598 656
Space Engineering	7 313 725	17 339 769
	132 408 042	**166 946 094**
Western Cape Province		
Space Science	76 387 038	82 809 799
Total Revenue from Non-exchange Transactions	**208 795 080**	**249 755 893**

REVENUE FROM EXCHANGE TRANSACTIONS		
Gauteng Province		
Administration	5 920 647	3 106 938
Earth Observation	36 407 640	4 622 642
Space Operations	92 131 752	66 474 293
	134 460 039	**74 203 873**
Western Cape Province		
Space Science	8 587 409	8 815 805
Total Revenue from Exchange Transactions	**143 047 448**	**83 019 678**

SEGMENT EXPENDITURE		
Gauteng Province		
Administration	98 591 872	68 851 034
Earth Observation	66 181 183	66 414 272
Space Operations	99 874 411	91 548 202
Space Engineering	6 416 537	7 041 622
	271 064 003	**233 855 130**

SEGMENT EXPENDITURE	2023 R	2022 R
Western Cape Province		
Space Science	70 500 136	64 553 371
Total Segment Expenditure	**341 564 139**	**298 408 501**
NON-CURRENT SEGMENT ASSETS		
Gauteng Province		
Administration	328 705 782	325 388 692
Earth Observation	27 997 579	25 761 467
Space Operations	102 446 099	103 476 018
	459 149 460	**454 626 177**
Western Cape Province		
Space Science	73 073 402	51 377 063
Total Non-Current Segment Assets	**532 222 862**	**506 003 240**
CURRENT SEGMENT ASSETS		
Gauteng Province		
Administration	553 500 859	454 945 160
Earth Observation	25 026 575	4 951 807
Space Operations	161 374 486	153 759 508
	739 901 920	**613 656 475**
Western Cape Province		
Space Science	109 126 361	99 136 129
Total Current Segment Assets	**849 028 281**	**712 792 604**

3. STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

The South African National Space Agency presents its approved budget on a cash basis and the financial statements on an accrual basis.

The approved budget covers the fiscal period from 1 April 2022 to 31 March 2023. The Statement of Comparison of Budget and Actual Amounts is prepared using actual amounts as reported on the statement of financial performance on a comparable basis to the original and/or revised budget. The original budget is approved together with the annual performance plan prior to the start of the financial year, whilst the revised budget is an adjustment to the budget six months after the financial year.

3.3 THE VARIANCE BETWEEN THE ACTUAL AND BUDGETED VALUES IS EXPLAINED AS FOLLOWS:

3.3.1 THE UNFAVOURABLE VARIANCE OF R129 MILLION RELATES MOSTLY TO THE FOLLOWING:

Satellite Development Programme

Total funds brought forward for the Satellite Development Programme amounted to R1 139 442.31 and no additional funds were received during the financial year. Interest to the value of R40 543 was capitalised. There is currently no activity on the project.

Satellite Assembly Integration and Testing facilities

The project currently has a balance of R 83 222 259. No additional funds were received in the last quarter but interest of R3,036,014 was capitalised. Implementation of the Assembly, Integration and Testing (AIT) facility upgrades is scheduled to commence during the next financial year. SANSA is in communication with DENEL with regards to the access and lease of the property for the period of the upgrade or SANSA's acquisition of AIT, whichever comes earlier.

Earth Observation Data Centre (EODC)

Digital Earth South Africa (DESA) platform, is an innovative and secure platform, translating SANSA's over 30 years of Earth observation satellite imagery into easily accessible, processed imagery enhancing the user's ability to produce information and insights. The project is currently being implemented in partnership with NRF SARAO and it is part of the Earth Observation Data Centre (EODC) which is at the centre of the EO infrastructure. To date expenses to the amount of R6 554 501 were incurred for the advancement of the projects and interest of R296 395 capitalised against the grant funding.

South African Earth Observation Systems of Systems (SAEOSS) Portal

An amount of R1 190 326 was brought forward from the prior year for the further development of the SAEOSS Portal and operationalisation. The target expenditure for the development involves the procurement of hardware, software and the community interaction and outreach projects. Top-up funding of R7 083 085 for the project continuance, was received during the year. By the end of the year no expenditure was incurred as the SAEON (South African Environmental Observation Network) contract was concluded by the end of March 2023. An amount of R42 354 was capitalised against the grant funding.

Establishment of the Earth Observation Research and Development Innovation Fund

An amount of R1 343 125 was brought forward from prior year. The Water Volume (quantity) project is on its third year of implementation with an amount of R663 467 spent to date. The New Earth Observation Frontiers (NEO Frontier) initiative between SANSA, CSIR and the National Research Foundation (NRF) seeks to stimulate collaboration, cooperation, and innovation in the South African Earth Observation community through a grant funding management system. With the project estimated to end in the 2026 the funds secured for the full project is estimated at R120 000 000. An amount of R13.6 million was received and fully spent in this financial year. Interest amounting to R47 790 was capitalised against the grant funding.

The Earth Observation Public Awareness and Workshop

The balance of R604 805 is rolled forward to the financial year 2022/23 and to date the expenditure amount of R327 821 with interest of R21 520 capitalised against the grant funding.

Implementation of the Intra Africa Space Science, Technology, and Innovation Programme for South Africa

An amount of R1 052 750 was rolled forward to the financial year 2022/23. The continuation and implementation of the technology and innovation programme is on-going. An agreement has been concluded with the University of the Free State with expenditure of R136 926 to date. An interest amount of R37 458 was capitalised against the grant funding.

Training programme for Municipalities

The Municipality training was specifically targeted for the District Development Model Champions, Planning and Development officials, Public Works and Basic Services/Infrastructure/Technical Services, Community Services including disaster management, fire services, and spatial planning officials. There are three (3) provinces earmarked which included, Ngaka Modiri Molema District (North West), Waterberg District (Limpopo) and Ehlanzeni District (Mpumalanga).

An amount of R501 234 was rolled forward to the financial year 2022/23 and expenses to the amount of R259 041 was incurred for the project with interest to the value of R17 775 capitalised against the grant funding.

Space Weather Centre Establishment and Operation

A total of R30 446 740 was brought forward from the 2021/22 DSI funding and the project reached completion stage on 31 March 2023. All project funds received were released and committed for the completion of the building projects and implementation of the Space Weather operations. There is also significant progress made with the development of new Space Weather products and with participation in global space weather visibility conferences and workshops. ISO certification was received in March 2022.

A further R10 826 554 was received from the DSI in March 2023 for the operational expenses of the Space Weather Centre after establishment. Interest of R40 707 was capitalised against the grant funding.

3.3.2 The unfavourable R7 million is as a result of underspending due to the ongoing impact of the COVID-19 pandemic on research activities internationally. This has created a backlog in spending on research grants from 2020 to 2022. Many partners were not able to travel or host in-person workshops and events in 2022 and these have (again) been deferred to 2023, in which it is hoped that the research community will reach more normal activity levels. In addition, at least 2 research grants were affected by the Russia/Ukraine war and both these grants had to be deferred to 2023.

3.3.3 The unfavourable variance of R343 683 due to Directorate of Geospatial (DGI) from Space Operation of which they are awaiting a new contract.

3.3.4 There is a favourable variance of R1 million with the major contributors being compass calibration services at Space Science and the charges by Space Operation for the electricity usage.

3.3.5 The is a favourable variance of R49,2 million on Foreign income due to The variance is mostly due to additional revenue from a new client (ViaSat),Digital Earth Africa Income declaration and ad-hoc projects from existing clients such as KSAT as well as favourable exchange rates.

3.3.6 There is a favourable of R5,2 million mainly due to the interest income earned on positive bank balance.

3.3.7 There is a favourable variance of R15.8 million on employee cost due to vacant positions. Vacancies were mostly noted under Space Engineering where the implementation of various projects were delayed and Space Science where there were challenges in filling the positions due to the remote relocation.

The bonus accrual was below budget by R11,273,449, mostly owing to the reversal of R10,774,988 relating the 2019/20 and 2020/21 bonus provisions.

3.3.8 Repairs and Maintenance has a favourable variance of R10.4 million on repairs and maintenance costs Various Maintenance projects are in the pipeline with funds committed at financial year end to the value of R3.4 million. The budget normally makes provision for unexpected ad hoc breakdowns at the two technical sites and was not fully utilised this financial year.

3.3.9 The data licence fees has a variance of R6.5 million which is mostly due to the decision made to only purchase licensing fees sufficient to meet demand from customers. Demand was lower than expected resulting in lower expenditure.

3.3.10 Student bursaries and Research Grants Paid refers to the Post graduate support by the DSI grants and other grant related expenses funded by the DSI. There is a favourable variance of R26.1 million. This relates to the Post graduate support and other grant related expenses funded by the DSI. These expenses are below budget due slow spending on the grants project implementation. R6 545 873 was spent on student bursaries, relative to a budget of R5 180 000. The EODC project expenditure is R2 million lower than expected due to the delay in the implementation of the storage capacity involving the procurement of computer equipment. The variance of R8 million on the SAEOS portal project is due to the lack of capacity to implement by the partner, SAEON.

3.3.11 Antenna infrastructure services relate to client hosted infrastructure and the facilitation of civil works and the antenna bases for foreign customers .The expenditure is aligned with foreign income and expected to be recognised at the completion stage. There is favourable variance of R11 million.

3.3.12 Training Expenses has a favourable variance of R1 million as a result of slow spending as training courses that were either cancelled and or cheaper than anticipated as training platforms moved to virtual meetings which are less expensive.

3.3.13 General expenditure favourable variance of R25.7 million due to the following:

The favourable variance of R3.6 million on Advertising costs is due to the implementation against

open purchase orders brought forward from the previous financial year for the new branding, advertising, and communication initiatives with further expenditure committed at year end.

Data and internet services is below budget with R16.4 million due to lower usage from customers.

Other general expenses were lower mainly due to underspending on recruitment costs R3.7 million, other research and grant costs R8.2 million and infrastructure upkeep of R4.6 million.

A favourable budget variance of R4.2 million was also noted under rent and lease charges because the budget amount comprised amounts for the duration of multi-year contracts, whilst actual expenditure only relates to the 2022/23 financial year.

There was an unfavourable variance of R1.7 million on meeting cost, Fuel and oil R4.6 million due to loadshedding, Insurance R1.6 million due to increased insurance premium because of the hard insurance market and increase in asset base, license fee R3 million, conference and seminar R1.5 million, Consulting fee R1 million, Consumables R1 million and Staff Recruitment R600k.

3.3.14 Plant and Machinery has a unfavourable variance of R715,645 due to reclassification of assets .

3.3.15 Software and Intangible has an unfavourable variance of R3 957 due to reclassification of some of the asset.

3.3.16 Vehicles has a favourable variance of R974 076 due to the procurement process being in progress to replace old vehicles.

3.3.17 The building has an unfavourable variance of R335 970.

3.3.18 AIT Facility has favourable variance of R80.1 million as upgrading could not commence due to challenges with access to the property and the ability of the property owner to fund the day-to-day operations and security of the property.

3.3.19 Furniture and Fittings has a favourable variance of R333 284 due to delays in procuring, however the funds were commitment at year end.

3.3.20 Computer Equipment has a favourable variance of R15.7 million as a result of delays with imports of some of the computer equipments.

3.3.21 Satellite Development has favourable variance of R1,1 million as a result of the project being on hold since 2018.The DSI decided to resume the project in July 2022,however, no additional funds were received for the project.

4. CASH AND CASH EQUIVALENTS

	2023 R	2022 R
Cash and Cash Equivalents	359 329 003	310 591 650
Total Cash and Cash Equivalents	**359 329 003**	**310 591 650**

4.1 ANALYSIS OF CASH AND CASH EQUIVALENTS BALANCE

Cash in Bank for operational requirements (1)	162 651 664	196 439 440
Cash in Bank held for Conditional Grants (3)	196 673 544	114 146 198
Cash in main account (2)	19 483 153	54 489 093
Cash in ring fence grants account	177 190 391	59 657 104
Total Cash in Bank Accounts	**359 325 208**	**310 585 637**

4.2 CASH ON HAND

Cash on hand	3 795	6 013
Total Cash on Hand	**3 795**	**6 013**
Total Cash and Cash equivalents	**359 329 003**	**310 591 650**

(1) Cash held for operational requirements represents cash to be utilised to settle trade and other payables, provisions and commitments when the obligations are due.

(2) Cash held in the SANSA main account, Ring fenced grants are received through the main account, R19 483 million (2022: R 54 489 million) was still not yet transferred to the ring fenced account at year end.

(3) Cash in the bank held for committed conditional grants detailed in Note 12.

5. RECEIVABLES FROM EXCHANGE TRANSACTIONS

Trade receivables	23 150 317	9 353 313
Other receivables	7 908 705	10 788 390
	31 059 022	**20 141 703**

5.1 TRADE RECEIVABLES

As at 31 March 2023	Gross R	Allowance for Impairment R	Net R
Trade debtors	31 592 184	(8 441 867)	23 150 317
Total	**31 592 184**	**(8 441 867)**	**23 150 317**
As at 31 March 2022			
Trade debtors	17 781 380	(8 428 067)	9 353 313
Total	**17 781 380**	**(8 428 067)**	**9 353 313**

5. RECEIVABLES FROM EXCHANGE TRANSACTIONS (CONT.)	2023 R	2022 R
5.1.1 AGEING OF TRADE RECEIVABLES		
Current:		
0 - 30 days	19 798 241	7 253 731
Past Due:		
31 - 60 Days	107 565	827 268
61 - 90 Days	2 099 017	709 591
91 - 120 days	9 587 361	8 990 790
Total	**31 592 184**	**17 781 380**

5.1.2 RECONCILIATION FOR THE ALLOWANCE OF IMPAIRMENT

Impairment reconciliation		
Opening balance	(8 428 067)	(8 073 057)
Exchange rate differences	-	449
Impairment allowance for the year	(13 800)	-
Impairment losses for the year	-	(436 272)
Reversal of impairment allowance	-	80 813
Closing balance	**(8 441 867)**	**(8 428 067)**

In determining the ability to recover debtors, the allowance for impairment of trade receivables has been made for debtors balances outstanding for longer than their normal payment terms. The impairment allowance was increased as a result of the slow paying debtors which are still active. The impairment allowance mainly comprises the provision of R8 million due from Statistics South Africa.

5.1.3 TRADE RECEIVABLES - FULLY PERFORMING

Trade receivables at the end of the year have been assessed for impairment, the outcome of which indicated that they are recoverable. The carrying amounts of fully performing financial assets included in trade and receivables at year-end are:

Trade customers - current	19 798 241	7 253 731

5.1.4 TRADE RECEIVABLES - PAST DUE AND NOT IMPAIRED

Trade receivables that are outside their normal payment terms are considered to be a range of 30 to 60 days past due, depending on customers terms. The following represents an analysis of the past due financial assets that are past due but not impaired as these customers paid subsequent to year end:

5. RECEIVABLES FROM EXCHANGE TRANSACTIONS (CONT.)

	2023 R	2022 R
Trade customers - past due	11 793 943	10 527 649
Allowance for Impairment	(8 441 867)	(8 428 067)
Trade customers - past due and not impaired	**3 352 076**	**2 099 582**
Receivables from local debtors	13 129 501	12 005 037
Receivables from foreign debtors	18 462 683	5 776 343
Total Trade Debtors	**31 592 184**	**17 781 380**

Past Due

31 - 60 Days	107 565	827 268
61 - 90 Days	2 099 017	709 591
91 - 120 Days	9 587 361	8 990 790
Total	**11 793 943**	**10 527 649**

5.2 OTHER RECEIVABLES

As at 31 March 2023	Gross R	Allowance for Impairment R	Net R
Prepaid expenses (1)	4 558 411	-	4 558 411
Deposits (2)	3 240 564	-	3 240 564
Other Debtors	109 730	-	109 730
Total	**7 908 705**	**-**	**7 908 705**

As at 31 March 2022			
Prepaid expenses (1)	2 765 107	-	2 765 107
Deposits (2)	2 713 723	-	2 713 723
Income accrual	5 305 878		5 305 878
Other Debtors	3 682	-	3 682
Total	**10 788 390**	**-**	**10 788 390**

(1) Prepaid expenses consist of advance payments on projects with such contractual arrangements.

(2) Deposits are in respect of office premises and utilities as per the contractual requirements and are recoverable at the end of the contract term.

5. RECEIVABLES FROM EXCHANGE TRANSACTIONS (CONT.)

5.3 CREDIT QUALITY OF TRADE AND OTHER RECEIVABLES

Trade receivables consist of local customers from the public sector and international customers mainly from the US and Europe that are in the space industry. Trade receivables are non-interest bearing and general collection terms are 30 - 60 day collection terms. The maximum exposure to credit risk at the reporting date is the carrying amount of trade receivables.

Other receivables consist of deposits paid to suppliers. Other receivables are non-interest bearing and their recovery is based on contractual arrangements with specific suppliers, such as delivery of services or the end of a contractual arrangement where an upfront deposit is required. The maximum exposure to credit risk at the reporting date is the carrying amount of other receivables.

Any allowance for impairment on trade and other receivables exists predominantly due to the possibility that these debts will not be recovered. Management assesses these debtors per directorate grouping where the customer shows signs of none recoverability. The debtors are disclosed as an allowance for impairment under trade customers.

5.4 CLASSIFICATION OF FINANCIAL ASSETS

The Financial Assets of the entity are classified as follows:

FINANCIAL ASSETS	CLASSIFICATION	CARRYING AMOUNT	
		2023 R	2022 R
Cash and Cash Equivalents			
Cash and cash equivalents	At amortised cost	359 329 003	310 591 650
Trade receivables		31 059 022	17 376 596
Trade debtors	At amortised cost	23 150 317	9 353 313
Other Receivables	At amortised cost	7 908 705	8 023 283
Other receivables		3 350 294	2 717 405
Deposits	At amortised cost	3 240 564	2 713 723
Other Debtors	At amortised cost	109 730	3 682

6. INVENTORY

	2023 R	2022 R
Fuel	499 060	537 166
Total Inventory	**499 060**	**537 166**

7. PROPERTY, PLANT AND EQUIPMENT

31 MARCH 2023	Land R	Leasehold Improvements R	Buildings R	Plant and Machinery R	Research Equipment R	Vehicles R	Office Equipment R	Furniture and Fittings R	Computer Equipment R	Exhibits R	Laboratory equipment R	Total R
Carrying values at 01 April 2022	**37 687 011**	**321 974**	**32 564 443**	**375 427 221**	**4 769 327**	**3 535 149**	**1 029 522**	**3 327 600**	**29 083 836**	**531 839**	**2 042 261**	**490 320 183**
Cost - Completed assets	37 687 011	1 907 856	13 876 324	139 231 791	25 742 720	7 839 338	5 757 042	7 094 413	53 743 866	1 701 192	4 728 423	299 309 976
Cost - Capital under construction	-	236 880	23 058 112	316 230 259	-	-	-	1 118 015	14 190 917	-	-	354 834 183
Accumulated depreciation	-	(1 822 762)	(4 369 993)	(80 034 829)	(20 973 393)	(4 304 189)	(4 727 520)	(4 884 828)	(38 850 947)	(1 169 353)	(2 686 162)	(163 823 976)
Acquisitions	**-**	**-**	**12 874 775**	**11 608 594**	**133 766**	**1 178 156**	**1 242 504**	**902 386**	**23 198 638**	**160 425**	**-**	**51 299 243**
Acquisitions at cost	-	-	10 040 848	11 608 594	133 766	1 178 156	1 242 504	902 386	19 132 389	160 425	-	44 399 067
Capital under Construction - Additions	-	-	2 833 927	-	-	-	-	-	4 066 249	-	-	6 900 176
Depreciation		**(24 747)**	**(1 267 713)**	**(11 962 850)**	**(1 592 799)**	**(378 932)**	**(375 340)**	**(792 704)**	**(7 188 619)**	**(212 385)**	**(899 629)**	**(24 695 716)**
Transfers	**-**	**-**	**(27 768)**	**-**	**-**	**-**	**-**	**-**	**27 768**	**-**	**-**	**-**
Cost - Completed assets	-	-	21 021 681	-	-	-	-	1 118 015	14 190 917	-	-	36 330 613
Cost - Capital under construction	-	-	(21 049 449)	-	-	-	-	(1 118 015)	(14 163 149)	-	-	(36 330 613)
Accumulated impairment	-	-	-	-	-	-	-	-	-	-	-	-
Accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
Carrying value of Disposals:	**-**	**-**	**-**	**(8 080)**	**(3 473)**	**(147 366)**	**(18 074)**	**(23 292)**	**(188 593)**	**-**	**-**	**(388 878)**
Disposals at cost	-	-	-	(18 853)	(22 689)	(319 480)	(228 453)	(160 630)	(1 933 320)	-	-	(2 683 423)
Accumulated Depreciation	-	-	-	10 773	19 216	172 114	210 379	137 338	1 744 727	-	-	2 294 545
Carrying values at 31 March 2023	**37 687 011**	**297 227**	**44 143 740**	**375 064 885**	**3 306 821**	**4 187 007**	**1 878 613**	**3 413 990**	**44 933 031**	**479 879**	**1 142 632**	**516 534 836**
Cost - Completed assets	37 687 011	1 907 856	44 938 852	150 821 532	25 853 797	8 698 014	6 771 094	8 954 184	85 161 621	1 861 617	4 728 423	377 384 001
Cost - Capital under construction	-	236 880	4 842 594	316 230 259	-	-	-	-	4 066 249	-	-	325 375 982
Accumulated depreciation	-	(1 847 509)	(5 637 706)	(91 986 906)	(22 546 976)	(4 511 007)	(4 892 481)	(5 540 194)	(44 294 839)	(1 381 738)	(3 585 791)	(186 225 147)

7. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

31 MARCH 2022	Land R	Leasehold Improvements R	Buildings R	Plant and Machinery R	Research Equipment R	Vehicles R	Office Equipment R	Furniture and Fittings R	Computer Equipment R	Exhibits R	Laboratory equipment R	Total R
Carrying values at 01 April 2021	**37 687 011**	**349 498**	**11 841 878**	**373 527 011**	**6 425 370**	**3 555 909**	**1 317 086**	**2 182 515**	**26 164 830**	**581 373**	**1 275 899**	**464 908 380**
Cost - Completed assets	37 687 011	1 907 856	13 876 324	131 717 511	25 637 514	7 807 563	5 844 112	6 615 798	51 513 364	1 541 069	3 521 618	287 669 740
Cost - Capital under construction	-	236 880	1 928 806	316 287 227	-	-	-	-	10 347 297	-	-	328 800 210
Accumulated depreciation	-	(1 795 238)	(3 963 252)	(74 477 727)	(19 212 144)	(4 251 654)	(4 527 026)	(4 433 283)	(35 695 831)	(959 696)	(2 245 719)	(151 561 570)
Acquisitions	**-**	**-**	**21 129 309**	**14 430 669**	**134 639**	**297 400**	**35 664**	**1 753 534**	**7 719 183**	**160 123**	**1 276 673**	**46 937 194**
Acquisitions at cost	-	-	-	14 487 637	134 639	297 400	35 664	635 519	3 875 563	160 123	1 276 673	20 903 218
Capital under Construction - Additions	-	-	21 129 309	(56 968)	-	-	-	1 118 015	3 843 620	-	-	26 033 976
Restated depreciation	**-**	**(27 524)**	**(406 741)**	**(11 434 132)**	**(1 789 210)**	**(263 933)**	**(308 198)**	**(566 767)**	**(4 607 525)**	**(209 657)**	**(497 188)**	**(20 110 874)**
Depreciation	-	(27 524)	(406 741)	(11 434 132)	(1 789 210)	(263 933)	(308 198)	(566 767)	(4 607 525)	(209 657)	(497 188)	(20 110 874)
Restatement	-	-	-	-	-	-	-	-	-	-	-	-
Carrying value of Disposals:	**-**	**-**	**-**	**(1 096 327)**	**(1 472)**	**(54 227)**	**(15 030)**	**(41 683)**	**(192 652)**	**-**	**(13 123)**	**(1 414 514)**
Cost - Completed assets	-	-	-	(6 973 357)	(29 433)	(265 625)	(122 734)	(156 904)	(1 645 061)	-	(69 868)	(9 262 982)
Accumulated depreciation	-	-	-	5 877 030	27 961	211 398	107 704	115 222	1 452 409	-	56 745	7 848 468
Carrying values at 31 March 2022	**37 687 011**	**321 974**	**32 564 446**	**375 427 221**	**4 769 327**	**3 535 149**	**1 029 522**	**3 327 600**	**29 083 836**	**531 839**	**2 042 261**	**490 320 186**
Cost - Completed assets	37 687 011	1 907 856	13 876 324	139 231 791	25 742 720	7 839 338	5 757 042	7 094 413	53 743 866	1 701 192	4 728 423	299 309 976
Cost - Capital under construction	-	236 880	23 058 115	316 230 259	-	-	-	1 118 015	14 190 917	-		354 834 186
Accumulated depreciation	-	(1 822 762)	(4 369 993)	(80 034 829)	(20 973 393)	(4 304 189)	(4 727 520)	(4 884 828)	(38 850 947)	(1 169 353)	(2 686 162)	(163 823 976)

7.1 REPAIRS AND MAINTENANCE

	Buildings R	Computer Software R	Plant and Machinery R	Research equipment R	Vehicles R	Office equipment R	Furniture and fittings R	Computer equipment R	Laboratory equipment R	Exhibits R	Total R
2023	4 174 152	4 840 407	2 685 265	321 205	121 845	55 237	7 120	1 319 939	488 735	-	14 013 905
2022	3 503 752	3 375 371	1 772 120	209 326	99 880	60 922	180 593	2 352 504	198 792	12 880	11 766 140

7. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	2023 R	2022 R
7.2 WORK IN PROGRESS		
Work in progress consists of:		
Leasehold Improvements (Earth Observation Offices - Innovation Hub)	236 880	236 880
Furniture and Fittings	-	1 118 015
Computer Equipment	4 066 249	14 190 917
Buildings (Guardhouse and Student Accommodation - Hermanus)	4 842 594	23 058 115
Plant and Machinery (Satellite Development)	316 230 259	316 230 259
	325 375 982	**354 834 186**

IMPAIRMENT ASSESSMENT ON SATELLITE DEVELOPMENT PROJECT

The Satellite development programme commenced in 2012 and experienced a pause in 2018 due to funding constraints. The Department of Science and Innovation decided to resume with construction in July 2022 and is looking at project implementation plan. SANSA has assessed the amount in WIP for impairment and none is necessary.

7.3 LAND		
Recognition of Land as at 31 March	37 687 011	37 687 011

KEY JUDGEMENTS AND ASSUMPTIONS

During the establishment of SANSA in 2010, the Hartebeeshoek facility was acquired from the CSIR through a business transfer agreement. The transfer included the perpetual right of use of the farm at Hartebeeshoek which is legally registered under the National Government. In applying the recently issued standard iGRAP 18 on Recognition and Derecognition of Land, the standard directs that an entity should assess whether there are indicators of control of land such as legal ownership and/or right to direct access to land and to restrict and deny others of access to land. In applying this principle, SANSA had uninterrupted use of the farm and controls the economic activity on the land through the Space Operations programme. The facility is also a National Key point and SANSA has the right to grant or deny access to the premises, therefore a conclusion was reached to recognise the value of the land as an asset.

To determine the cost of the land for recognition in Property, Plant and Equipment, a valuation of the land was performed by Marsh Risk Consulting in March 2020 and the aggregated value of R36 300 000 as at 31 March 2020 was obtained. The valuation assessment was discounted to a value for recognition on 1 April 2019.

DETAILS OF PROPERTY DESCRIPTION AND REGISTERED OWNER

Property Description	Remaining Extent of the Farm Hartebeesthoek No. 502,
Registration Division	JQ, Province of Gauteng
Title Deed Number	T7347/1948
Registered Owner	National Government of the Republic of South Africa
Extent	434.8105Ha

7. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Property Description	Portion 1 the Farm Hartebeesthoek No. 502, Registration
Registration Division	JQ, Province of Gauteng
Title Deed Number	T29540/1962
Registered Owner	Republiek van Suid-Afrika
Extent	485.4252Ha

Property Description	Portion 2 of the Farm Hartebeesthoek No. 502,
Registration Division	JQ, Province of Gauteng
Title Deed Number	T850/1961
Registered Owner	National Government of the Republic of South Africa
Extent	719.4869Ha

Property Description	Portion 3 of the Farm Hartebeesthoek No. 502,
Registration Division	JQ, Province of Gauteng
Title Deed Number	T29441/1962
Registered Owner	National Government of the Republic of South Africa
Extent	1,104.4931Ha

7.4 INSURANCE PAYOUTS RECEIVED

	19 592	**2 417 221**

During the year a total amount of R19 592 (2022 :R2 417 221) was received as insurance pay out for assets that were either damaged or stolen as follows:

Computer Equipment	19 592	2 152
Plant and Machinery	-	2 415 069
Total	**19 592**	**2 417 221**

7.5 CHANGE IN ESTIMATE

PROPERTY PLANT AND EQUIPMENT

During 2023 we conducted an operation efficiency review of all asset classes which resulted in change in the expected usage in all assets class. Due to budgetary constraints and challenges to replace assets with technical complexities it has not been possible to replace all aging infrastructure. In terms of the requirements of GRAP 17 the useful lives of all asset items were reviewed by management at year end. The remaining useful life expectations of some asset items differed from previous estimates. This resulted in a revision of some of the previous estimates which was accounted for as a change in accounting estimate. The effect of this revision is a decrease in the depreciation charges for the current period of R787 763.

7. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	Value derived using the original estimate R	Value derived using amended estimate R	Value impact of change in estimate R
Computer Equipment	712 813	371 061	341 752
Computer Software	320 010	190 052	129 958
Exhibits	91 492	59 232	32 259
Intellectual Property	29 297	18 717	10 579
Laboratory Equipment	160 295	106 177	54 118
Leasehold Improvement Assets	4 880	2 440	2 440
Office Equipment	41 116	18 971	22 144
Office Furniture	74 046	42 388	31 657
Plant and Machinery	133 865	76 582	57 283
Research Equipment	168 594	100 192	68 402
Vehicles	81 439	44 271	37 168
	1 817 846	**1 030 084**	**787 763**

8. INTANGIBLE ASSETS

	2023 R	2022 R
At cost less accumulated amortisation and accumulated impairment losses.	15 688 025	15 683 056

The entity does not have internally generated intangible assets.

8.1 RECONCILIATION OF CARRYING VALUE OF INTANGIBLE ASSETS

31 MARCH 2023	Intellectual Property R	Computer Software R	Total R
Carrying values at 01 April 2022	**78 812**	**15 604 244**	**15 683 056**
Cost - Completed assets	2 822 660	44 980 557	47 803 217
Cost - Work in progress	-	5 240 175	5 240 175
Accumulated impairment	(1 440 000)	-	(1 440 000)
Accumulated amortisation	(1 303 848)	(34 616 488)	(35 920 336)
Acquisitions	**-**	**2 060 295**	**2 060 295**
Cost - Completed assets	-	2 060 295	2 060 295
Cost - Work in progress	-		-
Amortisation	**(19 252)**	**(2 034 404)**	**(2 053 656)**

8. INTANGIBLE ASSETS (CONTINUED)

31 MARCH 2023	Intellectual Property R	Computer Software R	Total R
Transfers	**-**	**-**	**-**
Cost - Completed assets	-	5 240 175	5 240 175
Cost - Capital under construction	-	(5 240 175)	(5 240 175)
Accumulated impairment	-	-	
Accumulated depreciation	-	-	
Disposals	**-**	**(1 671)**	**(1 671)**
Cost - Completed assets	-	(55 466)	(55 466)
Cost - Work in progress	-	-	-
Accumulated amortisation	-	53 795	53 795
Carrying values at 31 March 2023	**59 560**	**15 628 465**	**15 688 025**
Cost - Completed assets	2 822 660	52 225 562	55 048 222
Cost - Work in progress	-	-	-
Accumulated impairment	(1 440 000)	-	(1 440 000)
Accumulated amortisation	(1 323 100)	(36 597 097)	(37 920 197)

31 MARCH 2022			
Carrying values at 01 April 2021	**108 108**	**15 206 556**	**15 314 664**
Cost - Completed assets	2 822 660	43 738 509	46 561 169
Cost - Work in progress	-	4 640 175	4 640 175
Accumulated impairment	(1 440 000)	-	(1 440 000)
Accumulated amortisation	(1 274 552)	(33 172 128)	(34 446 680)
Acquisitions	**-**	**1 875 752**	**1 875 752**
Cost - Completed assets	-	1 275 752	1 275 752
Cost - Work in progress	-	600 000	600 000
Amortisation	**(29 296)**	**(1 476 391)**	**(1 505 687)**
Disposals	**-**	**(1 673)**	**(1 673)**
Cost - Completed assets	-	(33 704)	(33 704)
Accumulated amortisation	-	32 031	32 031

8. INTANGIBLE ASSETS (CONTINUED)

31 MARCH 2022	Intellectual Property R	Computer Software R	Total R
Carrying values at 31 March 2022	**78 812**	**15 604 244**	**15 683 056**
Cost - Completed assets	2 822 660	44 980 557	47 803 217
Cost - Work in progress	-	5 240 175	5 240 175
Accumulated impairment	(1 440 000)	-	(1 440 000)
Accumulated amortisation	(1 303 848)	(34 616 488)	(35 920 336)

8.2 WORK IN PROGRESS - INTANGIBLE ASSETS	2023 R	2022 R
WORK IN PROGRESS ON INTANGIBLE ASSETS CONSISTS OF THE FOLLOWING ASSET CLASSES:		
Computer Software - Earth Observation Data Infrastructure	-	5 240 175

The intangible asset is part of the DESA project which reached the stage of completion and was subsequently capitalised during the current financial year.

No amount for research and development expenses were recognised during the period.

No intangible assets were pledged as security for liabilities.

9. TRADE AND OTHER PAYABLES FROM EXCHANGE TRANSACTIONS

Trade creditors	11 233 305	2 603 603
Other creditors	1 268 074	698 519
Income received in advance (1)	18 941 778	24 353 017
Accrued expenses	2 487 498	2 073 958
Accrued leave (2)	8 193 969	6 968 518
Accrual for 13th cheque savings	238 898	290 527
Total Creditors	**42 363 522**	**36 988 142**

(1) Income received in advance consists of prepayments from customers of R19m (2022: R24m).

(2) Leave accrues to employees on a monthly basis, based on their contract of employment. The accrual is an estimate of the amount due at the reporting date. Employees may not accumulate more than 25 leave days.

9.1 CLASSIFICATION OF FINANCIAL LIABILITIES

The Financial Liabilities of the entity is classified as follows:

FINANCIAL LIABILITIES	CLASSIFICATION		
Trade and other payables			
Trade creditors	At amortised cost	11 233 305	2 603 603
Other creditors	At amortised cost	1 268 074	698 519
Accrued expenses	At amortised cost	10 920 366	9 333 003

10. PROVISIONS

	2023 R	2022 R
Performance bonus provision	11 886 425	22 599 691
Total Provisions	**11 886 425**	**22 599 691**

10.1 RECONCILIATION OF MOVEMENT IN PROVISIONS

Balance at beginning of year	22 599 691	10 774 988
Reversal of prior year provision	(11 936 081)	-
Contributions to provision	11 628 554	11 824 703
Performance bonus pay out for 2021/22	(10 405 739)	-
Balance at end of year	**11 886 425**	**22 599 691**

The bonus provision represents the estimated liability in respect of performance bonuses payable to employees. Performance bonuses are not guaranteed and are based on the assessed performance of the entity as well as employees performance for the financial year ending 31 March 2023.

11. CONDITIONAL GRANTS

Transfer payment from executive authority	110 503 838	107 568 739
Transfer payment from other departments/entities	84 562 488	6 578 438
Total Conditional Grants	**195 066 326**	**114 147 177**

The unutilised conditional grants are made up of amounts not yet spent on projects as follows:

Satellite development programme (Note 12.1.1)	1 179 985	1 139 442
Assembly, integration and test facilities upgrade (Note 12.1.2)	83 222 259	58 502 246
Earth Observation Data Centre (Note 12.1.3)	2 071 922	8 330 027
South African Earth Observation System of Systems (SAEOSS) Portal (Note 12.1.4)	8 315 765	1 190 326
Post graduate student bursary support programme (Note 12.2)	4 451 686	4 959 283
Research and human capital development grants (Note 12.3)	9 302 521	6 077 204
Earth Observation Research and Innovation Fund (RDI) (Note 12.5)	727 448	1 343 125
Earth Observation Public Awareness (Note 12.6)	298 504	604 805
Implementation of the Intra Africa Space Science Technology and Innovation Programme (IASSTI) (Note 12.7)	953 282	1 052 750
Space Weather Operational Centre (Note 12.8)	9 282 986	30 446 740
Municipal Training (Note 12.9)	259 968	501 228
Matjiesfontein (Note 12.10)	75 000 000	-
	195 066 326	**114 147 177**

Refer to Note 12 for a full reconciliation of movement in conditional grants.

12. TRANSFERS AND GRANTS

	2023 R	2022 R
Operational Transfers	**140 755 000**	**181 283 000**
Baseline allocation	140 755 000	181 283 000
Conditional Transfers	**68 040 080**	**68 472 894**
Conditions met - transferred to revenue (Notes 12.1; 12.2; 12.3; 12.4:12.5;12.6;12.7;12.8;12;9)	68 040 080	68 472 894
Total Transfers and Grants	**208 795 080**	**249 755 894**

12.1 RECONCILIATION OF MOVEMENT IN CONDITIONAL GRANTS - ACCUMULATED SATELLITE PROGRAMME

Balance unspent at beginning of year	69 162 042	48 128 015
Current year receipts	28 767 085	24 134 865
Conditions met - transferred to revenue	(6 554 501)	(2 632 165)
Management fee - transferred to revenue	-	(1 734 942)
Interest Capitalised	3 415 305	1 266 270
Conditions still to be met - remain in liabilities	**94 789 931**	**69 162 042**

The satellite programme funding agreement includes five projects funded by the Department of Science and Innovation (DSI). The various funds received over the years were consolidated onto the satellite funding agreement in 2016/17 which contains the specific deliverable for projects outlined below:

12.1.1 SATELLITE DEVELOPMENT PROGRAMME - EOSAT 1

Balance unspent at beginning of year	1 139 442	1 114 277
Interest Capitalised	40 543	25 165
Conditions still to be met - remain in liabilities	**1 179 985**	**1 139 442**

The satellite development project is a multi year project funded through transfers from the DSI. Denel Dynamics was appointed as the main contractor for the development of the satellite. The project was placed on hold in the 2018/19 financial year pending the sourcing of additional funding to complete the project.

12.1.2 ASSEMBLY, INTEGRATION AND TEST FACILITIES

Balance unspent at beginning of year	58 502 246	36 627 448
Current year receipts	21 684 000	20 910 000
Interest Capitalised	3 036 013	964 798
Conditions still to be met - remain in liabilities	**83 222 259**	**58 502 246**

12. TRANSFERS AND GRANTS (CONTINUED)

	2023 R	2022 R
12.1.3 EARTH OBSERVATION DATA CENTRE		
Balance unspent at beginning of year	8 330 027	8 696 210
Current year receipts	-	1 500 000
Conditions met - transferred to revenue	(6 554 501)	(2 073 823)
Interest Capitalised	296 395	207 640
Conditions still to be met - remain in liabilities	**2 071 921**	**8 330 027**
12.1.4 SOUTH AFRICAN EARTH OBSERVATION SYSTEM OF SYSTEMS (SAEOSS) PORTAL		
Balance unspent at beginning of year	1 190 326	1 690 079
Transfer from AFRIGEOSS	-	21 865
Current year receipts	7 083 085	-
Conditions met - transferred to revenue	-	(558 342)
Interest Capitalised	42 354	36 725
Conditions still to be met - remain in liabilities	**8 315 765**	**1 190 326**
12.2 POST GRADUATE STUDENT BURSARY SUPPORT PROGRAMME		
Balance unspent at beginning of year	4 959 283	4 330 630
Current year receipts	5 811 000	6 500 000
Current year refunds	-	2 000
Interest Capitalised	191 895	75 520
Conditions met - transferred to revenue	(6 510 492)	(5 823 867)
Management fee - transferred to revenue		(125 000)
Conditions still to be met - remain in liabilities	**4 451 686**	**4 959 283**
12.3 RESEARCH GRANTS		
Balance unspent at beginning of year	6 077 204	1 308 506
Current year receipts	10 702 739	8 769 504
Refunds to Funders	-	(175 000)
Conditions met - transferred to revenue	(7 477 422)	(3 825 806)
Conditions still to be met - remain in liabilities	**9 302 521**	**6 077 204**

The grants were received from the following institutions, National Research Foundation (NRF), SAASTA, the European Commission and Rhodes University. Grants were awarded to particular researchers who successfully applied at these institutions. Grants received are for multiple purposes and include running expenses, travel funds as well as salaries. Some of the grants were purely mobility grants. Grants awarded can range from single year grants to be multi year grants depending on the conditions of the grant.

12. TRANSFERS AND GRANTS (CONTINUED)

	2023 R	2022 R
12.4 SOUTH AFRICAN EARTH OBSERVATION STRATEGY IMPLEMENTATION		
Balance unspent at beginning of year	-	1 512 350
Interest Capitalised	-	9 015
Conditions met - transferred to revenue		(1 499 500)
Transfer funds to SAEOS		(21 865)
Conditions still to be met - remain in liabilities	**-**	**-**
12.5 EARTH OBSERVATION RESEARCH DEVELOPMENT AND INNOVATION FUND (RDI)		
Balance unspent at beginning of year	1 343 125	14 267 636
Current year receipts DSI	11 000 000	8 000 000
Current year receipts CSIR	2 608 696	-
Interest Capitalised	47 790	271 045
Conditions met - transferred to revenue	(14 272 163)	(21 195 556)
Conditions still to be met - remain in liabilities	**727 448**	**1 343 125**
12.6 EARTH OBSERVATION PUBLIC AWARENESS		
Balance unspent at beginning of year	604 805	287 241
Current year receipts	-	500 000
Interest Capitalised	21 520	11 588
Conditions met - transferred to revenue	(327 821)	(194 024)
Conditions still to be met - remain in liabilities	**298 504**	**604 805**
12.7 IMPLEMENTATION OF THE INTRA AFRICA SPACE SCIENCE TECHNOLOGY AND INNOVATION PROGRAMME (IASSTI)		
Balance unspent at beginning of year	1 052 750	1 118 767
Interest Capitalised	37 458	25 267
Conditions met - transferred to revenue	(136 926)	(91 284)
Conditions still to be met - remain in liabilities	**953 282**	**1 052 750**
12.8 SPACE WEATHER OPERATIONAL CENTRE		
Balance unspent at beginning of year	30 446 740	30 248 407
Current year receipts	10 826 554	30 890 001
Interest Capitalised	511 408	659 080
Conditions met - transferred to revenue	(32 501 716)	(31 350 748)
Conditions still to be met - remain in liabilities	**9 282 986**	**30 446 740**

12. TRANSFERS AND GRANTS (CONTINUED)

	2023 R	2022 R
12.9 MUNICIPAL TRAINING		
Balance unspent at beginning of year	501 228	-
Current year receipts	-	499 500
Interest Capitalised	17 781	1 728
Conditions met - transferred to revenue	(259 041)	-
Conditions still to be met - remain in liabilities	**259 968**	**501 228**
12.10 MATJIESFONTEIN		
Balance unspent at beginning of year	-	-
Current year receipts	75 000 000	-
Interest Capitalised	-	-
Conditions met - transferred to revenue	-	-
Conditions still to be met - remain in liabilities	**75 000 000**	**-**

13. OPERATING LEASE LIABILITY

The following liabilities have been recognised in respect of non-cancellable operating leases:

Balance at beginning of year	128 377	167 718
Operating lease liability movement	(23 464)	(39 341)
Total Operating lease liability	**104 913**	**128 377**

The prior year end lease with The Innovation Hub Management Company SOC Ltd for offices Space ended on 30 September 2022. A new operating lease was signed for a further period of 24 months ending 30 September 2024.

13.1 AMOUNTS PAYABLE UNDER OPERATING LEASES

At the reporting date the entity had outstanding commitments under non-cancellable operating leases, which fall due as follows:

Up to 1 year	**3 111 466**	**2 704 422**
Buildings	2 784 200	2 550 682
Office equipment	327 266	153 740
2 to 5 years	5 777 963	106 363
Buildings	5 728 100	56 500
Office equipment	49 863	49 863
Total Operating Lease Arrangements	**8 889 429**	**2 810 785**

The entity has operating lease agreements for the following classes of assets, which are only significant collectively:

- Buildings - for the rental of office space.
- Office Equipment - for the rental of copier machines

The lease agreement for the building is for a period of 2 years with escalation fee of 8% annually, the amounts are paid on a monthly basis.

14. INTEREST INCOME

	2023 R	2022 R
Interest earned on operational funding in bank accounts	9 853 845	4 705 800
Total interest earned from bank accounts	14 061 441	7 023 586
Interest earned on committed grant funding capitalised	(4 207 596)	(2 317 786)
	9 853 845	**4 705 800**

The interest bearing on the ring-fenced grant was capitalised in the current year as per the agreement with funders.

15. RENDERING OF SERVICES

Services to local public entities	22 349 215	16 710 065
Services to local private entities	7 029 634	6 451 181
Services to foreign clients	102 249 498	51 839 249
	131 628 347	**75 000 495**

16. OTHER INCOME

Sundry Income	103 917	150 453
Rent Received	538 156	393 241
Insurance pay-out	19 592	2 417 221
Expense Recovery	903 591	271 654
Total Other Income	**1 565 256**	**3 232 569**

17. EMPLOYEE RELATED COSTS

Basic Salary	137 889 328	126 044 622
Contractors & Temp	10 872 052	10 303 221
Remote location allowance	4 291 512	4 044 467
Data & Cell Allowance	819 247	1 421 303
Performance bonuses current year adjustment	(307 527)	11 956 956
Overtime	1 508 124	1 010 434
Other Employee related costs	3 669 937	(1 683 794)
Total Employee Related Costs	**158 742 673**	**153 097 209**

REMUNERATION OF KEY MANAGEMENT PERSONNEL OF SANSA DURING THE YEAR:

REMUNERATION OF THE CHIEF EXECUTIVE OFFICER: DR V. MUNSAMI (RESIGNED FEBRUARY 2022)

Annual Remuneration	-	2 319 296
Performance Bonus	215 497	-
Cell phone allowance	-	13 530
Leave Pay	-	242 685
Total	**215 497**	**2 575 511**

17. EMPLOYEE RELATED COSTS (CONTINUED)	2023 R	2022 R
REMUNERATION OF THE INTERIM CHIEF FINANCIAL OFFICER: MR. D. BONGOZA (APPOINTED OCTOBER 2020 - DECEMBER 2021)		
Annual Remuneration	-	652 023
Cell phone allowance	-	11 070
Leave Pay	-	58 297
Total	**-**	**721 390**
REMUNERATION OF THE ACTING CHIEF FINANCIAL OFFICER: MS. L. ENGELBRECHT (APPOINTED SEPTEMBER 2021-AUGUST 2022)		
Acting Allowance	85 515	127 244
Total	**85 515**	**127 244**
REMUNERATION OF THE CHIEF FINANCIAL OFFICER: MR. B. JENA (APPOINTED SEPTEMBER 2022)		
Annual Remuneration	1 400 000	-
Performance Bonus	-	-
Car and Travel Allowance	-	-
Cell phone allowance	6 581	-
	1 406 581	**-**
REMUNERATION OF THE EXECUTIVE DIRECTOR SPACE PROGRAMME: MR. A. KHATRI (RESIGNED FEBRUARY 2022)		
Annual Remuneration	-	1 640 556
Performance Bonus	161 075	-
Cell phone allowance	-	13 530
Leave pay	-	134 768
Total	**161 075**	**1 788 853**
REMUNERATION OF THE ACTING EXECUTIVE DIRECTOR SPACE PROGRAMME: MR. H. BURGER (APPOINTED MARCH 2022 - FEBRUARY 2023)		
Acting Allowance	170 154	14 690
Total	**170 154**	**14 690**
REMUNERATION OF THE MANAGING DIRECTOR SPACE OPERATIONS: MR. R. HODGES		
Annual Remuneration	1 785 871	1 689 909
Performance Bonus	160 441	-
Car and Travel Allowance	77 732	74 314
Cell phone allowance	14 760	14 760
Total	**2 038 804**	**1 778 983**

17. EMPLOYEE RELATED COSTS (CONTINUED)	2023 R	2022 R
REMUNERATION OF THE COMMERCIAL SERVICES EXECUTIVE: MS. A. MLISA (APPOINTED MARCH 2022)		
Annual Remuneration	1 704 916	1 619 104
Performance Bonus	153 115	-
Cell phone allowance	14 760	14 760
Total	**1 872 791**	**1 633 864**
REMUNERATION OF THE ACTING CHIEF EXECUTIVE OFFICER : MS. A. MLISA (APPOINTED MARCH 2022 - FEBRUARY 2023)		
Acting Allowance	234 440	20 240
Total	**234 440**	**20 240**
REMUNERATION OF THE MANAGING DIRECTOR SPACE SCIENCE: DR. L. MCKINNELL (UNTIL 30 NOVEMBER 2022)		
Annual Remuneration	1 132 508	1 613 259
Performance Bonus	157 774	-
Cell phone allowance	13 530	11 070
Awards	-	2 500
Total	**1 303 811**	**1 626 829**
REMUNERATION OF THE RESEARCH, DEVELOPMENT & INNOVATION EXECUTIVE: DR. L. MCKINNELL (APPOINTED DECEMBER 2022)		
Annual Remuneration	666 667	-
Performance Bonus	-	-
Cell phone allowance	4 920	-
Total	**671 587**	**-**
REMUNERATION OF THE EXECUTIVE DIRECTOR ENTERPRISE SERVICES: MS. A. SLAVIN (RESIGNED MAY 2021)		
Annual Remuneration	-	292 060
Cell phone allowance	-	2 460
Leave pay	-	168 470
Total	**-**	**462 991**
REMUNERATION OF THE ACTING EXECUTIVE DIRECTOR ENTERPRISE SERVICES: MS. V. NTSHOKO (APPOINTED DECEMBER 2021- JUNE 2022)		
Acting Allowance	46 406	58 760
	46 406	**58 760**

17. EMPLOYEE RELATED COSTS (CONTINUED)	2023 R	2022 R
REMUNERATION OF THE ACTING STRATEGY & GOVERNANCE EXECUTIVE: MS. V. NTSHOKO (APPOINTED AUGUST 2022 - JANUARY 2023)		
Acting Allowance	92 811	-
	92 811	**-**
REMUNERATION OF THE EXECUTIVE DIRECTOR: ENTERPRISE SERVICES: MS. S. MAZIBUKO (APPOINTED JULY 2022)		
Annual Remuneration	1 800 000	-
Cell phone allowance	11 070	-
	1 811 070	**-**
REMUNERATION OF THE ACTING CHIEF EXECUTIVE OFFICER: MS. S. MAZIBUKO (APPOINTED FEBRUARY 2023 - MARCH 2023)		
Acting allowance	25 247	-
	25 247	**-**
REMUNERATION OF THE ACTING MANAGING DIRECTOR EARTH OBSERVATION: MR. M. MUKWEVHO (APPOINTED MARCH 2022 - RESIGNED AUGUST 2022)		
Acting Allowance	67 736	12 865
	67 736	**12 865**
REMUNERATION OF THE ACTING CHIEF INFORMATION OFFICER: MR. T RAMASANGOANA (APPOINTED MARCH 2022 - FEBRUARY 2023)		
Acting Allowance	170 154	14 690
	170 154	**14 690**
REMUNERATION OF THE ACTING COMMERCIAL SERVICES EXECUTIVE: MR. T. STRYDOM (APPOINTED JULY 2022 - FEBRUARY 2023)		
Acting Allowance	103 041	-
	103 041	**-**
REMUNERATION OF THE ACTING EXECUTIVE DIRECTOR SPACE PROGRAMME: MR. T. MOKGALAGADI (APPOINTED MARCH 2023)		
Acting Allowance	15 469	-
	15 469	**-**

17. EMPLOYEE RELATED COSTS (CONTINUED)

	2023 R	2022 R
REMUNERATION OF THE ACTING MANAGING DIRECTOR EARTH OBSERVATION: DR. S. BERNARD (APPOINTED SEPTEMBER 2022 - MARCH 2023)		
Acting Allowance	94 830	-
	94 830	**-**
REMUNERATION OF THE ACTING EXECUTIVE STRATEGY AND GOVERNANCE: MR. M. KABAI (APPOINTED FEBRUARY 2023		
Acting Allowance	15 469	-
	15 469	**-**

18. BOARD MEMBER REMUNERATION

	MEETING FEES		REIMBURSIVE CLAIMS		
2023	Paid Out R	Accrued R	Paid Out R	Accrued R	Total R
INDEPENDENT NON-EXECUTIVE CHAIRMAN OF THE BOARD					
Ms. X Kakana	89 678	-	-	-	89 678
Mr. P Ndlovu (Appointed September 2022)	297 949	-	4 322	-	302 271
INDEPENDENT NON-EXECUTIVE MEMBERS					
Ms. M Mfeka (2)	-	-	3 790	-	3 790
Mr. W J van Biljon	71 136	-	-	-	71 136
Ms. I M Pule	91 655	230	-	-	91 885
Ms. N. Majaja (1)	-	2 962	9 138	-	12 100
Adv. I Kealotswe-Matlou	225 650	-	1 391	-	227 041
Ms. L Msibi	165 815	-	7 292	-	173 107
Prof. A Muronga	171 951	-	-	-	171 951
Ms. M Paul (1)	-	-	6 388	-	6 388
Ms. C Segage	129 332	-	-	-	129 332
Mr. T Ramaru	-	-	-	-	-
Mr.R Ramgolam	117 278	-	1 401	-	118 679
Mr. N Rambau	147 632	-	15 844	-	163 476
Mr. M Ngoetjana	98 527	-	1 123	-	99 650
Mr. F Denner	97 949	-	820	-	98 769
Adv. L Ndziba	164 821	-	3 339	-	168 160
Ms. J Ndaba	120 719	-	-	-	120 719
Adv. L Nevondwe	126 500	-	5 975		132 475
Total Board members Remuneration	**2 116 592**	**3 192**	**60 823**	**-**	**2 180 607**

18. BOARD MEMBER REMUNERATION (CONTINUED)

2022	MEETING FEES		REIMBURSIVE CLAIMS		
	Paid Out R	Accrued R	Paid Out R	Accrued R	Total R
INDEPENDENT NON-EXECUTIVE CHAIRMAN OF THE BOARD					
Ms. X Kakana	126 925	-	1 482	77 355	205 762
INDEPENDENT NON-EXECUTIVE MEMBERS					
Mr. E Jansen (Resigned November 2021)	63 089	-	-	2 392	65 481
Ms. M Mfeka (2)	-	59 658	-	27 909	87 567
Mr. J Prinsloo (Resigned February 2022)	105 764	-	-	19 508	125 272
Mr. W J van Biljon	84 185	-	-	32 499	116 684
Ms. I M Pule	120 452	1 377	-	20 106	141 935
Ms. N. Majaja (1)	-	-	-	25 161	25 161
Adv. I Kealotswe-Matlou	80 972	-	-	27 909	108 881
Ms. L Msibi	80 972	3 672	-	47 175	131 819
Prof. A Muronga	89 234	459	-	32 499	122 192
Ms. M Paul (1)	-	-	-	25 161	25 161
Total Board members Remuneration	**751 589**	**65 166**	**1 482**	**337 674**	**1 155 911**

(1) Appointed as representative of the state.

19. DEPRECIATION AND AMORTISATION

	2023 R	2022 R
Depreciation: Property, Plant and Equipment	24 695 715	20 110 876
Amortisation: Intangible Assets	2 053 656	1 505 687
Total Depreciation and Amortisation	**26 749 371**	**21 616 564**

20. DATA LICENCE FEES

Data licence fees	2 732 142	5 681 555
Total Data Licence Fees	**2 732 142**	**5 681 555**

Data licence fees are paid for access to various satellites for downloading earth observation satellite imagery.

21. STUDENT BURSARIES AND RESEARCH GRANTS PAID

	2023 R	2022 R
Bursaries to students	6 124 061	6 061 144
Research and development	15 059 075	24 839 933
Total Grants and subsidies paid	**21 183 136**	**30 901 077**

22. ANTENNA INFRASTRUCTURE SERVICES

Antenna Infrastructure Services	10 612 159	8 322 036
Total Antenna Infrastructure Services	**10 612 159**	**8 322 036**

Antenna infrastructure services relate to client hosted infrastructure and the facilitation of civil works and antenna bases for customers, Project costs are recovered from contract revenue.

23. TRAINING EXPENSES

Staff Training	2 705 150	1 337 371
Staff Bursaries	899 865	382 279
Board Member Training	5 683	628 538
Total Training Expenses	**3 610 698**	**2 348 188**

Staff Training and Bursaries is expenditure incurred on various short courses and funding for various recognised qualification at tertiary institutions

24. GENERAL EXPENSES

	2023 R	2022 R
Electricity	11 075 118	9 812 794
Travel and accommodation	13 539 178	3 769 635
Other General Expenses	12 296 909	12 241 446
Rent and lease charges	5 850 657	4 703 677
License fees	10 876 577	5 201 290
Data and internet services	5 274 508	5 010 665
Insurance	3 526 077	2 816 693
Advertising & Marketing	5 450 960	1 354 729
External Audit fees	1 489 479	1 556 482
Security	2 498 931	1 901 230
Consulting fees	15 655 786	7 064 621
Telephone Cost	314 422	277 564
Fuel and Oil	6 199 367	1 057 171
Conferences and Seminars	3 728 073	2 303 974
Printing and Stationery	231 217	335 807
Transport Costs	562 341	106 688
Consumables	739 667	314 710
Bank Charges	210 094	177 382
Entertainment	56 734	30 840
Legal Costs	1 182 795	805 898
Internal Audit fees	527 219	665 860
	101 286 109	**61 509 156**

25. NET GAINS AND LOSSES ON FOREIGN EXCHANGE TRANSACTIONS

Gains in foreign exchange transactions	**1 935 569**	**747 479**
Gains in net Foreign Exchange - realised	1 898 792	747 479
Gains/Loss in net Foreign Exchange - unrealised	36 777	-
Losses in foreign exchange transactions	**(2 012 303)**	**(1 346 187)**
(Losses) in net Foreign Exchange - realised	(2 012 303)	(1 336 257)
(Losses) in net Foreign Exchange - unrealised	-	(9 930)
Net Gains/Losses on foreign exchange transactions	**(76 734)**	**(598 707)**

26. NET LOSSES ON DISPOSAL OF PROPERTY, PLANT & EQUIPMENT

	2023 R	2022 R
Proceeds on disposal of property plant & equipment and intangible assets	27 744	4 227
Net Book value on disposal of property, plant and equipment	(388 878)	(1 414 514)
Net Book value on disposal of intangible assets	(1 671)	(1 673)
Net (Losses) on Disposal of Property, Plant and Equipment & Intangible assets	**(362 805)**	**(1 411 960)**

27. NET CASH FLOWS FROM OPERATING ACTIVITIES

Surplus for the Year	10 278 389	34 367 067
ADJUSTMENT FOR:		
Depreciation and Amortisation	26 749 371	21 616 564
Non-Cash Losses on Disposal of Property, Plant and Equipment	362 805	1 411 960
Net (Gains)/Losses on foreign exchange transactions	76 734	598 707
Impairment losses for the year	13 800	(80 813)
Other non- cash items		
(Decrease)Increase in provisions relating to employee costs	(10 713 266)	11 824 703
Operating surplus before working capital changes	**26 767 834**	**69 738 188**
Increase in Inventory	38 106	(130 674)
Decrease / (Increase) in Receivables from exchange transactions	(13 810 804)	1 036 317
Decrease/ (Increase) in other receivables	2 879 685	3 566 256
Increase in grant liabilities	80 919 146	12 945 629
Increase in Trade and other payables	5 298 646	10 438 352
(Decrease)/ Increase in Operating Lease Liability	(23 464)	(39 341)
Cash flow from operating activities	**102 069 149**	**97 554 727**

28. IMPAIRMENT AND WRITE OFF OF ACCOUNTS RECEIVABLE

28.1 RECEIVABLES FROM EXCHANGE TRANSACTIONS

Impairment losses for the year (prior year restated)	**13 800**	**(80 813)**
Impairment losses for the year previously reported	13 800	(80 813)
Impairment loss	-	-
(Reversal)/ Recognition of impairment allowance	-	-
	13 800	**(80 813)**
Total Expenditure for Bad Debts	**13 800**	**(80 813)**

29. IRREGULAR EXPENDITURE AND FRUITLESS AND WASTEFUL EXPENDITURE

	2023 R	2022 R
Irregular Expenditure	-	1 703 681
Fruitless and wasteful expenditure	-	-
Closing Balance	**-**	**1 703 681**

An irregular transaction was recorded in the prior year where a supplier omitted to indicate declaration of interest on the SBD4 form. SANSA did not suffer financial loss no fruitless and wasteful expenditure was noted on this transaction as all goods and services were delivered as and when required.

Subsequent to year end, the Agency commenced an investigation into possible irregular expenditure in relation to a payment of R481 365.85 made to a supplier on 31 March 2023.

30. COMMITMENTS FOR EXPENDITURE

CAPITAL COMMITMENTS		
- Approved and Contracted for:-	**16 225 737**	**52 455 075**
Property, Plant and Equipment	13 438 032	52 455 075
Intangible assets	2 787 705	-
- Approved but Not Yet Contracted for:-	**3 939 000**	**-**
Property, Plant and Equipment	3 939 000	-
Intangible assets	-	-
Total Capital and Expenditure Commitments	**20 164 737**	**52 455 075**
This expenditure will be financed from:		
Contract Revenue and Transfers	20 164 737	52 455 075
	20 164 737	***52 455 075***

31. EMPLOYER RETIREMENT BENEFIT INFORMATION

The only obligation of the entity with respect to the retirement benefit plans is to pay over the specified contributions to the pension fund.

The total expense recognised in the Statement of Financial Performance represents contributions payable to the plan by the entity at rates specified in the rules of the plan. These contributions have been expensed under employee related costs.

32. RELATED PARTY TRANSACTIONS

South African National Space Agency (SANSA) has been established by the Department of Science and Innovation (DSI) in terms of the South African National Space Agency Act No.36 of 2008. SANSA is listed as a schedule 3A Public entity in terms of the Public Finance Management Act, and is ultimately controlled by the National Executive.

32.1 RELATED PERSONS: EXECUTIVE AUTHORITY

The Minister of the Department of Science and Innovation is the Executive Authority of SANSA.

32.2 RELATED PERSONS: ACCOUNTING AUTHORITY

The Accounting Authority is constituted by a Board of Directors appointed by the Minister of Science and Innovation.

The Board composition is as follows:

Name	Designation the Public Entity Boardstructure)	Effective Dates of Appointment and Resignation
Ms. X Kakana	Board Chairperson	01 September 2018 - 06 July 2022
Prof. A Muronga	Board Member	01 September 2022 - to date
	Acting Board Chairperson	26 July 2022- 31 August 2022
	Chairperson of Strategy and Investment Committee	24 February 2022- 31 August 2022
Mr. P Ndlovu	Board Chairperson	01 September 2022 - to date
Mr. F Denner	Chairperson of Strategy and Investment Committee	07 February 2023 - to date
	Board Member	01 September 2022 - to date
Ms. N Majaja	Board Member	01 September 2018 - to date
	Chairperson of Human Resource, Social and Ethics Committee	01 September 2018 - 31 August 2022
Adv. L Ndziba	Chairperson of Human Resource, Social and Ethics Committee	16 September 2022 - to date
	Board Member	01 September 2022 - to date
Ms. I Pule	Chairperson Audit and Risk Committee	01 September 2018 - 31 August 2022
Mr. J Prinsloo	Chairperson of Strategy and Investment Committee	01 September 2018 - 14 February 2022
Ms. C Segage	Chairperson Audit and Risk Committee	01 September 2022 - to date
Adv. I Kealotswe-Matlou	Board Member	01 September 2018 - 27 February 2023
Ms. M Mfeka	Board Member	01 September 2018 - 31 August 2022
Ms. L Msibi	Board Member	01 September 2018 - to date
Mr. A Naidoo	Board Member	01 September 2018 - 31 August 2022
Ms. J Ndaba	Board Member	01 September 2022 - to date
Adv. L Nevondwe	Board Member	26 July 2022 - to date

32. RELATED PARTY TRANSACTIONS (CONTINUED)

Name	Designation the Public Entity Boardstructure)	Effective Dates of Appointment and Resignation
Mr. M Ngoetjana	Board Member	01 September 2022 - to date
Ms. M Paul	Board Member	01 September 2018 - to date
Mr. T Ramaru	Board Member	01 September 2022 - to date
Mr. N Rambau	Board Member	01 September 2022 - to date
Mr. R Ramgolam	Chairperson of Strategy and Investment Committee	01 September 2022 - 27 January 2023
Mr. W Van Biljon	Board Member	01 September 2018 - 31 August 2022
Ms. A Mlisa	Executive Member (Acting CEO)	March 2022 - February 2023
Ms. S Mazibuko	Executive Member (Acting CEO)	February 2023 -March 2023

Refer to Note 18 for Board Fees paid.

32.3 RELATED PERSONS: KEY MANAGEMENT

The members of key management personnel of SANSA during the year were:

- Acting Chief Executive Officer - Ms. A Mlisa (Ex-officio member of the Board) Appointed March 2022 - February 2023)
- Commercial Services Executive - Ms. A Mlisa (Appointed March 2022)
- Acting Chief Financial Officer - Ms. L Engelbrecht (Appointed June 2021 - August 2022)
- Chief Financial Officer - Mr. B Jena (Appointed September 2022)
- Acting Portfolio Management Executive - Mr. H Burger (Appointed March 2022 - February 2023)
- Executive Director Enterprise Services - Ms S Mazibuko (Appointed July 2022)
- Acting Chief Executive Officer- Ms S Mazibuko (Appointed 23 February 2023 - 31 March 2023)
- Acting Executive Director Enterprise Services - Ms V Ntshoko (Appointed December 2021- June 2022)
- Managing Director Space Science - Dr L McKinnell (until November 2022)
- Research, Development and Innovation Executive - Dr L McKinnell (from December 2022)
- Managing Director Space Operations - Mr. R Hodges
- Acting Managing Director Earth Observation - Mr. M Mukwevho (Appointed March 2022 - Resigned August 2022)
- Acting Managing Director Earth Observation - Dr. S Bernard (Appointed September 2022 - March 2023)
- Acting Chief Information Officer - Mr. T Ramasangoana (Appointed March 2022 - February 2023)
- Acting Commercial Services Executive - Mr. T Strydom (Appointed July 2022 - February 2023)
- Acting Executive Strategy and Governance - Ms V. Ntshoko (Appointed August 2022 - January 2023)
- Acting Executive Strategy and Governance - Mr Michael Kabai (Appointed February 2023)
- Acting Executive Director Space Engineering - Mr. T Mokgalagadi (Appointed March 2023)

Refer to Note 17 for details on remuneration of Key management.

32. RELATED PARTY TRANSACTIONS (CONTINUED)

32.4 RELATED ENTITIES: ENTITIES WITHIN NATIONAL GOVERNMENT

SANSA is a schedule 3A National Public Entity and it is therefore related to all other entities within National Government.

32.5 RELATED PARTY TRANSACTIONS

SANSA receives transfers from the Department of Science and Innovation for its administrative functions. In addition, SANSA received ring fenced transfers from the DSI for various projects. Refer to Notes 12 for details of transfers from the DSI and Note 11 for details of payables and/or commitments from the DSI.

During the year under review SANSA received grants from the National Research Foundation (NRF) to fund different research projects, the details of the grants the liabilities and revenues relating to the grant are disclosed in note 12.

Transactions with related parties within national government were in terms of normal supplier and/or client/recipient relationships on terms and conditions no more or less favourable than those which it is reasonable to expect the entity to have adopted if dealing with that individual entity or person in the same circumstances; and terms and conditions within the normal operating parameters established by that reporting entity's legal mandate.

RELATED PARTY TRANSACTIONS: REVENUE AND RECEIVABLES	2023		2022	
	Revenue R	**Receivables R**	**Revenue R**	**Receivables R**
Department of Science and Innovation	201 317 658	-	245 930 088	-
National Research Foundation	10 702 739	-	8 769 504	-
	212 020 397	**-**	**254 699 592**	**-**

RELATED PARTY RELATIONSHIPS: PURCHASES AND PAYABLES	2023		2022	
	Purchases R	**Payables R**	**Purchases R**	**Payables R**
Department of Science and Innovation	-	185 763 805	-	108 069 967
National Research Foundation	-	22 911 217	-	6 077 204
	-	**208 675 021**	**-**	**114 147 171**

33. CONTINGENT ASSETS AND CONTINGENT LIABILITIES

CONTINGENT LIABILITY

An employee demanded R6 476 415.52 and subsequently filed a court application in relation to a disputed employment matter. The matter is currently opposed and outcomes cannot be determined at this stage.

CONTINGENT ASSET

The agency is currently involved in litigation in relation to R469 300.22 in board fees claimed by and paid to a director that is employed by a state owned entity. This is a disputed matter and outcomes cannot be determined at this stage.

34. FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES

All financial instruments arise directly from operations.

The entity does not enter into any derivative transactions. The main risk arising from the entity's financial instruments are cash flow interest rate risk, liquidity risk and credit risk.

The entity reviews and implements policies managing each of these risks. There are no significant concentrations of risk. Compliance with policies and procedures is audited by internal and external auditors on a continuous basis.

34.1 INTEREST RATE RISK

No material risk exists due to there being no material finance costs in the current finance year. The only real risk that exists is the risk of variations in cash flow due to changes in the interest rate, which will affect interest income

The entity's income and operating cash flows are substantially independent of changes in the market interest rates.

31 MARCH 2023	Floating Interest Rate R	Non-interest Bearing R	Total R
Assets			
Receivables from Exchange Transactions	-	31 059 022	31 059 022
Cash and cash equivalents	359 325 208	3 795	359 329 003
Liabilities			
Trade and other payables	-	(42 363 522)	(42 363 522)
Net Financial assets/(Liabilities)	**359 325 208**	**(11 300 705)**	**348 024 503**

34. FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONTIUNUED)

31 MARCH 2022	Floating Interest Rate R	Non-interest Bearing R	Total R
Assets			
Receivables from Exchange Transactions	-	20 141 703	20 141 703
Cash and cash equivalents	310 585 639	6 013	310 591 652
Liabilities			
Trade and other payables	-	(36 988 142)	(36 988 142)
Net Financial assets/(Liabilities)	**310 585 639**	**(16 840 426)**	**293 745 213**

The sensitivity analysis below was determined based on the exposure to interest rates at the reporting date. For variable rate long-term instruments, the analysis is prepared assuming the amount of the instrument outstanding at the reporting date was outstanding for the whole year. A 100 basis point increase or decrease was used, which represents management's assessment of the reasonably possible change in interest rates.

EFFECT OF A CHANGE IN INTEREST RATE ON INTEREST BEARING FINANCIAL ASSETS AND LIABILITIES

FINANCIAL ASSETS	CLASSIFICATION	2023 R	2022 R
External investments:			
Call Deposits	Financial assets at amortised cost	-	-
Bank balances	Financial assets at amortised cost	359 325 208	310 585 637
Cash Floats	Financial assets at amortised cost	3 795	6 013
		359 329 003	**310 591 652**
Interest received		**9 853 845**	**4 705 800**
Interest rate		**2,74%**	**1,52%**

EFFECT OF A CHANGE IN INTEREST RATE ON INTEREST EARNED FROM EXTERNAL INVESTMENTS:

FINANCIAL ASSETS	CLASSIFICATION	2023 R	2022 R
Effect of change in interest rate	(%)	1,00%	1,00%
Effect of change in interest rate	(Rand value)	3 593 290	3 105 917
Effect of change in interest rate	(%)	(1,00%)	(1,00%)
Effect of change in interest rate	(Rand value)	(3 593 290)	(3 105 917)

34. FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONTINUED)

34.2 LIQUIDITY RISK

The entity prevents liquidity risk by maintaining adequate banking facilities and by receiving contributions annually in the form of transfers and subsidies

The following are the contractual maturities of financial liabilities, including interest payments and excluding the impact of netting agreements for the entity:

2023	Carrying amount R	Contractual cash flows: 1 month or less R
Trade and other payables	23 421 744	11 047 058
	23 421 744	**11 047 058**
2022		
Trade and other payables	12 635 125	13 416 325
	12 635 125	**13 416 325**

34.3 MARKET RISK

There is a foreign exchange risk due to the existence of international debtors. These debtors however have strict 30 day payment terms which ensures that the movement in exchange rates are limited to a shorter time period.

THE ENTITY'S EXPOSURE TO FOREIGN CURRENCY RISK WAS AS FOLLOWS:	31 March 2023 ZAR	GBP	EURO	USD
Receivables from Exchange Transactions	13 129 501	-	4 300 827	9 581 133
Trade payables	(23 421 744)	-	-	-
Gross exposure	**(10 292 243)**	**-**	**4 300 827**	**9 581 133**

	31 March 2022 ZAR	GBP	EURO	USD
Receivables from Exchange Transactions	2 922 028	-	19 617	990 795
Trade payables	2 238	(112)	-	-
Gross exposure	**2 924 266**	**(112)**	**19 617**	**990 795**

34. FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES (CONTINUED)	2023 R	2022 R

THE FOLLOWING SIGNIFICANT EXCHANGE RATES APPLIED DURING THE YEAR:

YEAR-END SPOT RATE		
Euro	19,29	17,40
GBP	21,94	20,17
USD	17,79	14,73

SENSITIVITY ANALYSIS

A 10% strengthening of the rand against the following currencies at 31 March 2023 would have decreased profit or loss by the amounts shown above. This analysis assumes that all other variables remain constant.

Euro	8 296 295	34 134
GBP	-	(226)
USD	17 044 835	1 459 440
Total	**25 341 130**	**1 493 348**

34.4 CREDIT RISK

The entity does not have any significant credit risk exposure to any single counterparty.

The amounts below best represents the entity's maximum exposure to credit risk.

FINANCIAL ASSETS

Bank balances	359 329 003	310 591 650
Receivables from Exchange Transactions	26 500 611	17 376 597
	385 829 614	**327 968 247**

35. PENDING LITIGATION

LAND CLAIM

The land claim remains pending since approximately 2008 in respect of the property upon which SANSA Space Operations is located. South African National Space Agency (SANSA) is not the owner of the land, however the Department of Science and Innovation has supported the application made by SANSA to the Department of Public Works to formalise the land use rights toward the property. In respect of the land claim proceedings, SANSA has also facilitated the filing of the notice to intervene as an interested party in November 2014 with the Randburg Land Claims Court. A scientific expert report was submitted in support of the notice to intervene and also used in support of the submission to Department of Public Works as part of the application for formalised land use rights. The case is still pending.

36. EVENTS AFTER THE REPORTING DATE

Except as disclosed, no events or transactions have occurred since 31 March 2023 or are pending, that would have a material effect on the financial statements at that date or for the year then ended.

37. GOING CONCERN

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

Part G
Knowledge Dissemination

38. Overview of **Journal Publications**

SANSA is reporting another year of excellence with its scientific outputs for 2022/23. SANSA researchers have produced a total of 30 peer reviewed publications in high impact journals covering the broad fields of space science and earth observation. The top 10, identified through by journal impact factor and author position, are reflected in the table below. Key highlights from the publications are also provided. SANSA is proud of the international recognition that its researchers are receiving.

During 2022/23, the SANSA Research Chair in Space Weather, Dr Martin Snow received a B2 rating from the NRF, indicating sustainable considerable international recognition for the high quality and impact of recent research outputs.

SANSA exceeded its target in 2022/23 for research productivity with an overall productivity score of 1660.74. This score is made up of research publications scored according to authorship and impact factor, graduated students, conference proceedings and technical reports, successful rating applications, and research funding received.

Table 35: Top 10 journal publications ranked by impact factor.

	Journal	Impact Factor	SANSA Authors	Highlights	Highlights
1	The Radial Variation of the Solar Wind Turbulence Spectra near the Kinetic Break Scale from Parker Solar Probe Measurement	*The Astrophysical Journal*	5.521	Lotz, S; Nel, A.E.	This study determines solar turbulence quantities using Parker Solar Probe data between 0.1 and 0.7 au. Understanding the radial dependence of these turbulence quantities gives a valuable benchmark against which results of various solar turbulence transport models can be tested, as well as a valuable input for solar energetic particle and cosmic-ray transport models.
2	Seasonal Comparison of the Wildfire Emissions in Southern African Region during the Strong ENSO Events of 2010/11 and 2015/16 Using Trend Analysis and Anomaly Detection	*Remote Sensing*	5.349	Shikwambana, L.	*This study investigates the wildfire biomass-burning emission levels during strong El Niño–southern oscillation (ENSO) events of 2010–2011 (characterized by a strong La Niña event) and 2015–2016 (characterized by a strong El Niño event) over the southern African region. Overall, the results show higher emission levels of SO2, CO, and BC during the JJA season compared to the SON season. The SQMK results show an increasing trend of SO2, CO, and BC over time, indicating an increase in the amount of biomass burning. Overall, the results in this study highlights the significant effect of strong ENSO events on wildfire emissions, thus retrospectively showing the potential effect of future events, especially in the context of climate change.*

Table 35: Top 10 journal publications ranked by impact factor. (continued)

	Title	Journal	Impact Factor	SANSA Authors	Highlights
3	Meteorological Influence of Mineral Dust Distribution over South-Western Africa Deserts Using Reanalysis and Satellite Data	*Frontiers in Environmental Science: Atmosphere & Climate*	5.410	Shikwambana, L.; Kganyago, M.,	This study investigated the meteorological influence of mineral dust in the south-western African region using satellite and reanalysis datasets by studying 1) the seasonal transport and distribution of mineral dust in the region; 2) the relationship between precipitation, wind and desert dust, and 3) the long-term trends of dust column density, precipitation rate and surface wind speed. The results show that the Namib desert is the main source of dust in the region, with the density and distribution varying by seasons. The study found that the greatest dust distribution occurs in the June-July-August (JJA) season. Overall, this study provides significant basis for assessing and monitoring of the desertification processes and their effect on regional climate variability and change in Southwest Africa, where data is ground-based, data is scarce and related efforts are rare.
4	Validating the LDi and LCi indices in the Southern Hemisphere.	*Space Weather*	4.29	Nahayo, E., Lotz, S., Tshisaphungo, M.,	South African magnetic observatory data together with geomagnetic induced currents data (provided by ESKOM) were used to validate the use of the geomagnetic indices Local Disturbance index (LDi) and Local Current index (LCi), developed by the university of Alcala (Spain), in the Southern Hemisphere.
5	Ionospheric response to the M- and X-class solar flares of 28 October 2021 over the African sector.	*Space Weather*	4.29	Habarulema, J.B.; Tshisaphungo, M.; Katamzi-Joseph, Z. T.; Matamba, T. M.; Nndanganeni, R.	Solar flares affect Earth's atmosphere on short timescales and can lead to degradation in radio communications (radio blackout). On the 28 October 2021, thirteen solar flares occurred. Habarulema et al, (2022) using ionosonde data over Hermanus and Grahamstown in South Africa, show that the lower frequencies in the E and F1 layers of the ionosphere were the most affected by the M-class solar flares, and that the effect on high frequency communication through the E and F1 layers lasted about two hours
6	The effects of solar radio bursts on frequency bands utilised by the aviation industry in Sub-Saharan Africa	*Journal of Space Weather and Space Climate*	4.184	McKee, S.R.; Cilliers, P.J.; Lotz, S.;	Solar radio burst interference thresholds were derived. These are specific to aviation instrumentation and are applicable to sub-Saharan Africa. This work presented a simulation of the potentially hazardous effect of solar radio bursts on the radio altimeter instrument, motivated by its crucial role in flight safety. The first of its kind in space weather literature.

Table 35: Top 10 journal publications ranked by impact factor. (continued)

	Journal	Impact Factor	SANSA Authors	Highlights	Highlights
7	Analysis of wildfires and associated emissions during the recent strong ENSO phases in Southern Africa using multi-source remotely derived products.	*Geocarto International*	3.450	Shikwambana, L.,	This study uses the available data from multi-source remote sensing platforms to (1) analyse the spatial distribution of wildfires and associated emissions during strong El Nino (2015/2016) and La Nina (2010/2011) phases in southern Africa, and (2) examine the effects of the severe El Nino and La Nina years on the relationship between the emission parameters, vegetation parameters and climatic parameters. Generally, the results suggest more emissions from the wildfire in the El Nino phase than that of the La Nina. Furthermore, the Pearson's correlation clearly showed the influence and the relationship between the climate and emission parameters.
8	First results on characteristics of nighttime MSTIDs observed over South Africa: Influence of thermospheric wind and sporadic E.	*Journal of Geophysical Research: Space Physics*	3.11	Katamzi-Joseph, Z. T.; Habarulema, J. B.,	This was the first nighttime statistical study investigating properties of dark band structures representing medium scale travelling ionospheric disturbances (MSTIDs) based on the air-glow observations from the all-sky imager over Sutherland, South Africa. The propagation direction of the observed TIDs was studied using the co-located FPI while the South African ionosonde data provided the basis for concluding that the source of the majority of the observed MSTIDs was Perkins instability.
9	Global simulations of multifrequency signal absorption for direct observation of middle atmosphere temperature and composition.	*Journal of Geophysical Research: Space Physics*	3.11	Kosch, M.	This paper presents the first numerical study on a new concept for the direct measurement of D-region absorption using multiple frequencies in the high-frequency band. A machine learning model is developed to estimate D and E-region neutral constituents including N2, O, O2, as well as temperature and electron density.
10	Global Distribution of Clouds over Six Years: A Review Using Multiple Sensors and Reanalysis Data	*Atmosphere*	3.11	Shikwambana, L.,	The study looks at the cloud distribution and cloud properties obtained from observations of the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO), the Atmospheric Infrared Sounder (AIRS), and the Modern-Era Retrospective analysis for Research and Applications, Version 2 (MERRA-2). The highest clouds for both daytime and night-time were found in the Inter Tropical Convergence Zone (ITCZ) region. The coldest cloud top temperatures (CTT) were mostly observed over land in the ITCZ and the polar regions, while the warmest CTTs were mostly observed in the mid-latitudes and over the oceans.

SANSA PUBLICATIONS 2022/23

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2. Burger, R.A., and **McKee, S.R.**, Evaluation and analysis of Voyager 1 48-s resolution magnetic field data. *Advances in Space Research*, 71(11), https://doi.org/10.1016/j.asr.2023.01.033 , 2023.

3. Chum, J., Sindelarova, T., Koucka Knızova, P., Podolska, K., Rusz, J., Base, J., Nakata, H., Hosokawa, K., Danielides, M., Schmidt, C., Knez, L., Liu, J-Y., Molina, M.G., Fagre, M., **Katamzi-Joseph, Z.**, Ohya, H., Omori, T., Lastovicka, J., Obrazova Buresova, D., Kouba, D., Urbar, J., and Truhlık, V., Atmospheric and ionospheric waves induced by the Hunga eruption on 15 January 2022; Doppler sounding and infrasound. *Geophysical Journal International,* 233 (2), pp. 1429–1443, https://doi.org/10.1093/gji/ggac517, 2023.

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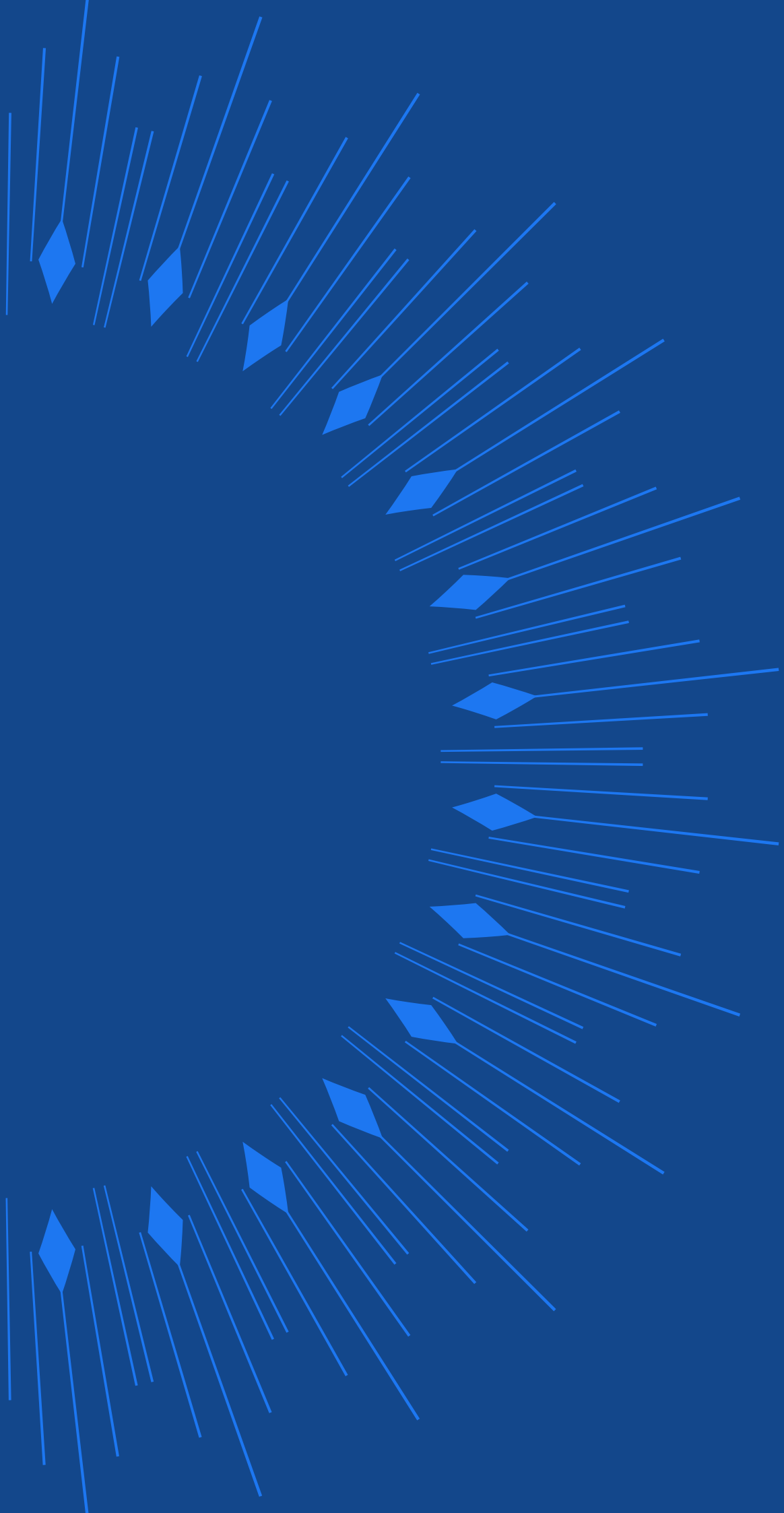

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RP:144/2023
ISBN:978-0-621-51127-7