SOUTH AFRICAN NATIONAL SPACE AGENCY

2020-2025 STRATEGIC PLAN MID-TERM PROGRESS REPORT

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

SANSA
SOUTH AFRICAN NATIONAL SPACE AGENCY

ABBREVIATIONS AND ACRONYMS

Abbreviation	Definition
AIT	Assembly, Integration and Testing
APP	Annual Performance Plan
B-BBEE	Broad-Based Black Economic Empowerment
BRICS	Brazil, Russia, India, China, and South Africa
CEO	Chief Executive Officer
COVID-19	Coronavirus Disease 2019
DDM	District Delivery Model
DEA	Digital Earth Africa
DESA	Digital Earth South Africa
DSI	Department of Science and Innovation
ERRP	South African Economic Reconstruction and Recovery Plan (2020)
ET-SWx	Expert team on Space Weather
FY	Financial Year
GNSS	Global Navigation Satellite System
HESTIIL	Higher Education, Science, Technology and Innovation Institutional Landscape
ICAO	International Civil Aviation Organisation
ISO	International Organization for Standardization
MTSF	Medium Term Strategic Framework
MTJ	Matjiesfontein
NASA	National Aeronautics and Space Administration
NSI	National System of Innovation
NDP	National Development Plan
NSP	National Space Policy
R&D	Research and Development
SADAC	Southern African Development Community
SAEOS	South African Earth Observation Systems
SANSA	South African Space Agency
SDGs	Sustainable development goals
SIH	Space Infrastructure Hub
SIP	Strategic Integrated Project
STI	Science, Technology and Innovation
SP	Strategic Plan
SAWIDRA	Satellite and Weather Information for Disaster Resilience in Africa
the dtic	Department of Trade, Industry and Competition
TIDs	Technical Indicator Descriptors
WMO	World Meteorological Organisation

ACCOUNTING AUTHORITY STATEMENT

I am pleased to present this strategic plan mid-term report reflecting progress made by the South African National Space Agency (SANSA) in the first two and a half financial years of implementing the entity's Strategic Plan (SP) for the 2020/25 performance cycle on behalf of the SANSA Board.

SANSA as an entity of government established in 2011 has a responsibility to the citizens of South Africa in contributing towards addressing the triple challenges of poverty, unemployment and inequality and promoting the development of South Africa. According to the South African National Space Agency Act (Act 36 of 2008) the entity was established to:

"...provide for the promotion and use of space and co-operation in space-related activities,
foster research in space science, advance scientific engineering through human capital and
support the creation of an environment conducive to industrial development in space technologies within the framework of national government policy..."

In the eleven years of its existence SANSA has made a significant contribution to the country's space successes albeit the scope of its contribution has been somewhat constrained due to resourcing challenges that impacted the ability of the Agency to optimally implement its mandate and key planning instruments such as the National Space Policy, National Space Strategy, the Ten-Year Innovation Plan, and the South African Earth Observation Systems Strategy.

The entity has nonetheless focused on its pursuit of key strategic outcomes aligned to the following Department of Science and Innovation (DSI) strategic outcomes for 2020/25 which are aimed at ensuring a transformed, inclusive, responsive, and coherent National System of Innovation (NSI); increased knowledge generation and innovation output; development of adequate human capabilities and skills for the economy; knowledge utilisation for inclusive economic development and stimulating Research and Development (R&D) led industrial development; and innovation in support of a capable and developmental State.

The planning for the 2020/25 five-year cycle allowed opportunity for the organisation to take stock of its past achievements and challenges in the context of the country's negative financial climate and related perpetual budget reductions which have limited the scope of activities implemented by the entity. This emanated in a revision of the 2020/25 Strategic Plan in the 2021/22 financial year to strengthen alignment with government's outcomes – based approach to planning and enable effective implementation of the entity's New Business Model that seeks to ensure enhancement of SANSA's growth and long-term sustainability through a commercial driven value chain approach.

SANSA is committed to the realisation of a *legacy of impact* in terms of developing a space sector that addresses South Africa's socio-economic environmental challenges. To this end the Agency has been central to the development of the Southern African Development Community (SADC) Space Programme towards the realisation of the African Space Programme and in accordance with the Agency's value proposition and growth potential in relation to the integration of its initiatives into broader space programmes.

Similar to many other public and private sector institutions the world over, SANSA was faced with an unprecedented challenge in the 2020/21 financial year due to the onset of the Corona Virus –2019 (COVID-19) pandemic. The pandemic launched South Africa and the world at large into a state of crisis, negatively impacting professional, social, and economic aspects of the lives of many citizens. It was during these trying times that SANSA had to demonstrate its resilience and agility in relation to the "*business unusual*" mantra that became the order of the day in many organisations – leading to the achievement of 82% of set Annual Performance Plan (APP) targets for the 2020/21 financial year. Persistent efforts by the Agency to capitalise on opportunities to develop the space sector, generate space knowledge, products and services and build adequate space capacity led to the achievement of 94% of the set 2021/22 APP targets by SANSA, once again demonstrating commitment towards growing the local space industry and the realisation of organisational strategic outcomes.

Significant highlights worth noting during the reporting period include the sod turning of a new Space Weather Centre at the Hermanus facility in the 2020/21 financial year to provide a 24/7 operational service covering impacts in communications, navigation, and radiation exposure. Construction of this state-of-the-art facility was successfully initiated at the beginning of the 2021/22 financial year paving the way for its launch by November 2022 to anchor space science products that meet both global and national requirements.

In line with our Africa-centred vision aimed at ensuring the provision of reliable Earth Observation data seeking to address Africa's greatest socio-economic and sustainability challenges, SANSA was selected by Geoscience Australia to host the Digital Earth Africa (DEA) Program Management Office. The initiative includes a digital data cube platform to provide essential space products and services to the African continent, as a scale that is a first of its kind in the continent if not the world.

SANSA has been engaged in discussions with National Aeronautics and Space Administration (NASA) to design and build a new Deep Space Network ground station in Matjiesfontein (MTJ) in the Western Cape to meet the growing demand for space exploration of the Moon, Mars and beyond. 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. Investments of this nature are long-term investments, as these programmes typically have a lifespan of 30 to 40 years. The initiative is supported by the Shareholder and Cabinet.

Another strategic project for SANSA related to the mid-term reporting period is the development of a Space Infrastructure Hub (SIH). The SIH is a proposed large-scale investment programme in infrastructure and capability that aims to enhance the role of SANSA, support new and expanded applications and, most critically, enable and support the growth of a South African space sector. The SIH was recognised as one of the top five most promising projects, falling within the Digital Infrastructure category and subsequently gazetted as a Strategic Integrated Project (SIP) 22.

The Agency with support from the DSI seeks to invest in the upgrade and development of new Assembly, Integration and Testing (AIT) facilities to support space missions for the country and the local space economy. The Agency has faced ongoing challenges, however, in the recent financial years relating to the Houwteq facility that is central to the implementation of this project. Considerations of transferring the Houwteq facility to SANSA are underway and the Board and management of SANSA remain optimistic and committed to ensuring the execution of this critical initiative.

I wish to convey appreciation to Dr Blade Nzimande, Minister of Higher Education, Science, and Innovation, the DSI Director General, Dr Phil Mjwara, and the leadership team for their unwavering support to SANSA over the past two and a half years and we look forward to positive 2020/25 end-of term outcomes.

It is recorded that the tenure of the former SANSA Board under the leadership of Ms Xoliswa Kakana ended on 31 August 2022. I would like to take this opportunity to extend sincere gratitude to Ms Kakana for her former leadership, and to my fellow SANSA Board members who upon their appointment on 01 September 2022 boldly accepted the huge responsibility of overseeing continued execution of the 2020/25 Strategic Plan to ensure achievement of the Agency's mandate.

The achievements over the past financial years would not have been possible without tireless efforts by the SANSA Executive team, managers, and employees and as the incoming Board we look forward to the realisation of the Agency's growth and sustainability ambitions in the coming years.

The SANSA Board endorses this mid-term progress report against the 2020/25 Strategic Plan and pledges its commitment toward ensuring the achievement of the set organisational outcomes and impact by the end of the 2024/25 financial period as the entity continues to pursue

"A *legacy of impact*".

Patrick Ndlovu
Chairperson of the SANSA Board

ACCOUNTING OFFICER STATEMENT

SANSAnites and Supporters of SANSA!

I am honoured to present this Mid-Term Progress Report reflecting on the milestones achieved by the organisation over the past two and a half financial years in relation to delivery on its mandate and the policy priorities as set out in the 2020/25 Strategic Plan.

SANSA was launched by the Department of Science and Innovation (DSI), with the following mandatory functions as outlined in the South African National Space Agency (SANSA) Act (Act No. 36 of 2008):

- Implement any space programme in line with the policy determined in terms of the Space Affairs Act;
- Advise the Minister of Science and Innovation on the development of national space science and technology strategies and programmes;
- Implement any national space science and technology strategy; and
- Acquire, assimilate, and disseminate space satellite imagery for any organ of state.

The implementation of the SANSA 2020/25 Strategic Plan commenced in the 2020/2021 financial year thus marking the beginning of a new era for the entity in relation to the rolling out of a strategy aimed at positioning the Agency to effectively deliver on objectives of the SANSA Act, the National Space Policy, the National Space Strategy, and the South African Earth Observation Systems Strategy.

During the development of the 2020/25 Strategic Plan, SANSA sought to achieve the following strategic goals aimed at ensuring a comprehensive response to the national priorities:

- Goal 1: The development of a suite of space application products and services that directly respond to user needs;
- Goal 2: The building of core space infrastructure, both ground and space based, that will enable the delivery of essential space services;
- Goal 3: The generation of space relevant knowledge that supports the developmental agenda;
- Goal 4: The development of requisite human capacity that is needed for the implementation of key space initiatives; and
- Goal 5: The positioning of SANSA as a key enabler of government's policy imperatives.

There are several key challenges that have persistently plagued SANSA, which were central to the crafting of the 2020/25 strategy, and these include SANSA's inability to fulfil its full mandate in the areas of global navigation satellite services and satellite telecommunications as these were not given priority in the entity's formation phase. SANSA has also faced difficulty in relation to the provision of adequate support to the broader South African space sector to ensure optimal growth and development of the industry. The entity's operational expenses far exceed the allocated parliamentary grant necessitating that SANSA had to devise means to generate additional revenue to sustain

operations during the foundational phase and subsequently the organisation remains focused on initiatives to enhance the generation of its own revenue.

Another key challenge related to the need for the South African space sector to secure a greater portion of the global market share in keeping the global space sector growth trends. SANSA therefore needs to provide space infrastructure in order to increase our share of the global market.

SANSA has revised its 2020/25 Strategic Plan in the 2021/22 financial period to ensure alignment with the DSI strategy and government's outcome-based approach towards the realisation of the 2019-2024 Medium-Term-Strategic-Framework (MTSF) priorities. Organisational outcomes as aligned to the DSI Strategic Plan 2020-2025 outcomes are as follows:

- Outcome 1: Increased space relevant knowledge that supports the developmental agenda;
- Outcome 2: Stimulated and growing, inclusive space sector;
- Outcome 3: Increased human capacity for the implementation of key space initiatives;
- Outcome 4: SANSA positioned as a key enabler for the implementation of government's space-related policies;
- Outcome 5: Enabling infrastructure developed and upgraded to support the space sector value chain; and
- Outcome 6: Increased participation of the National Space Programme in the regional and global space market.

The Agency has further undertaken a process of developing and implementing a new business model aimed at focusing on a more integrated, value chain driven and commercially beneficial approach to promote organisational growth and sustainability, whilst enhancing the knowledge, innovation, and industrial communities in space science and technology for global impact. Significant ground had been covered as of 30 September 2022 in relation to functional alignment and strategic alignment for improved organisational efficiency.

Despite the difficult climate related to the onset of the COVID-19 pandemic in the 2020/21 financial year, the achievement of the following performance results against annual organisational performance plans was a commendable feat for SANSA and serves as testament of the resilience and commitment of SANSAnites. An overall achievement of 82% in the 2020/21FY; followed by a 94% achievement for the 2021/22FY and a year-to-date performance of 69% as at the end of the second quarter of the 2022/23 FY. The entity has also seen improvements in its governance and internal control environment in recent years leading to a shift from unqualified external audit opinions with findings that were attained in the 2019/20 and 2020/21 financial periods to an impressive unqualified external audit opinion with no findings for 2021/22.

We are proud of the consistency displayed by SANSA since the first year of implementing the 2020/25 Strategic Plan in terms of achieving more than 80% of the set annual performance targets on an annual basis. This serves as motivation for strengthening the contribution made by the organisation in driving adequate use of space to resolve the socio-economic challenges facing South Africa and the African Continent in accordance with the Africa-centric organisational Vision.

Strategic partnerships with our stakeholders, both national and International, continue to be at the centre of our success in this regard. Through local and global partnerships, SANSA will aim to nurture the growing local space industry, transform the South African space science and technology environment in research and academia, human capital development, as well as growth in the innovation and technological output of products and services.

Sincere appreciation goes to Minister Dr Blade Nzimande, Director General Dr Phil Mjwara and DSI team, the former Board Chairperson Ms Xoliswa Kakana and her fellow Board members, the Board Chairperson Mr Patrick Ndlovu and his fellow Board members, SANSA Executives, the SANSA team at large, and all our external stakeholders for their contribution to the achievement of the Mid-Term achievements.

This strategic review not only provides an overview of the progress made towards achievement of the set 2020/25 outcome indicator targets as outlined in the revised organisational Strategic Plan for this five-year period but also a reflection of the critical steps still to be taken to draw SANSA closer to its vision of developing

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

I am honoured to be part of the SANSA Team and look forward to the exciting journey ahead.

Ms Andiswa Mlisa
Acting Chief Executive Officer

TABLE OF CONTENTS

ACCOUNTING AUTHORITY STATEMENT 3

ACCOUNTING OFFICER STATEMENT 6

TABLE OF CONTENTS 9

PART A: OUR MANDATE 10

1. CONSTITUTIONAL MANDATE 10

2. LEGISLATIVE AND POLICY MANDATES 10

2.1. LEGISLATIVE MANDATES 10

2.1.1. Enabling Legislation 10

2.1.2. Other Key Legislation 11

2.2. POLICY MANDATES 12

2.2.1. Developmental Priorities 13

3. INSTITUTIONAL POLICIES AND STRATEGIES GOVERNING THE FIVE-YEAR PLANNING PERIOD 14

3.1. National Space Strategy 14

3.2. South African Earth Observation Systems Strategy 14

3.3. Emerging Policy Shifts in Science, Technology, and Innovation 15

3.4. Linking Space to Government Policies and Developmental Priorities 16

PART B: OUR STRATEGIC FOCUS 19

4. VISION 19

5. MISSION 19

6. VALUES 19

PART C: MEASURING OUR PERFORMANCE 21

7. IMPACT STATEMENT 21

8. INTEGRATED IMPACT REPORT 22

9. MID-TERM KEY PERFORMANCE HIGHLIGHTS 26

10. PROGRESS ON THE ACHIEVEMENT OF OUTCOMES: STRATEGIC PLAN 2020-2025 27

10.1. Achievement against Strategic Plan: Strategic objectives, indicators and targets 27

10.2. Achievement against Revised Strategic Plan: Outcomes, indicators and targets 31

11. EXPLANATION OF ACHIEVED PEFORMANCE OVER THE MID-TERM PERIOD 36

12. CONTRIBUTION TO MTSF 2019-2024, DSI 2020-2025, STRATEGIC OUTCOMES, AND TO SANSA'S INTENDED IMPACT 39

13. ALIGNMENT OF SANSA'S KEY DELIVERABLES TO SOUTH AFRICA'S ECONOMIC RECONSTRUCTION AND RECOVERY PLAN 45

OFFICIAL SIGN-OFF 47

PART A: OUR MANDATE

1. CONSTITUTIONAL MANDATE

SANSA derives its mandate from the Constitution and the SANSA Act (No. 36 of 2008) as its regulatory instruments.

The Agency's collaborations related to space research, resource mobilisation, and capacity building, amongst other key priorities, are guided by the constitutional requirement for all spheres of government to work together in addressing poverty, unemployment and inequality and promoting the development of South Africa.

In this light, key relevant sections from the Constitution include the following:

1) Section 22: "*Every citizen has the right to choose their trade, occupation, or profession freely. The practice of a trade, occupation or profession may be regulated by law*"; and
2) Section 41: Principles of cooperative government and intergovernmental relations: which requires all spheres of government to amongst other requirements (h) cooperate with one another in mutual trust and good faith by: "*(i) fostering friendly relations; (ii) assisting and supporting one another; (iii) informing one another of, and consulting one another on, matters of common interest; and (iv) coordinating their actions and legislation with one another*".

2. LEGISLATIVE AND POLICY MANDATES

2.1. LEGISLATIVE MANDATES

SANSA is a Schedule 3A Public Entity that formally came into existence on 3 December 2010 in terms of the Public Finance Management Act (No.1 of 1999, as amended by Act 29 of 1999).

2.1.1. ENABLING LEGISLATION

The legislative mandate is premised on two primary Acts, namely:

1) **The Space Affairs Act (No. 84 of 1993)**
   The Space Affairs Act is an instrument of the Department of Trade, Industry and Competition **(the dtic)** and caters for the regulatory and policy context for the South African Space Programme. It is intended for:

   a) Meeting all the international commitments and responsibilities of the Republic in respect of the peaceful utilisation of outer space, to be recognised as a responsible and trustworthy user of outer space; and
   b) Controlling and restricting the development, transfer, acquisition, and disposal of dual-purpose technologies, in terms of international conventions, treaties and agreements entered or ratified by the Government of the Republic of South Africa.

The Space Affairs Act is currently being updated in line with current policy drivers for a National Space Programme, particularly industrial development, as opposed to the policy driver of non-proliferation of dual-use technology in the early 1990s.

2) **The South African National Space Agency (SANSA) Act (No. 36 of 2008):**

The SANSA Act is a regulatory instrument that provides the Minister of Science and Innovation the powers to establish SANSA as an implementing agency for the National Space Programme.

In terms of the Act, the establishment mandate of SANSA is to:

"...provide for the promotion and use of space and cooperation in space-related activities, foster research in space science, advance scientific engineering through human capital and support the creation of an environment conducive to industrial development in space technologies within the framework of national government policy..."

The primary objectives of SANSA are to:
a) Promote the peaceful use of outer space.
b) Support the creation of an environment conducive to industrial development in space technology.
c) Foster research in space science, communications, navigation, and space physics.
d) Advance scientific, engineering, and technological competencies and capabilities through human capital development outreach programmes and infrastructure development.
e) Foster international cooperation in space-related activities.

In pursuit of the achievement of these objectives, SANSA is expected to carry out the following functions:
a) Implement any space programme in line with the policy determined in terms of the Space Affairs Act.
b) Advise the Minister on the development of national space science and technology strategies and programmes.
c) Implement any national space science and technology strategy.
d) Acquire, assimilate, and disseminate space satellite imagery for any organ of State.

2.1.2. OTHER KEY LEGISLATION

In addition to the above establishment legislation, SANSA's work is governed by a broad legislative framework, including the following key legislation:

NAME OF ACT, AS AMENDED	KEY IMPLICATIONS
Public Finance Management Act (No.1 of 1999, as amended by Act 29 of 1999)	Provides the basis for the management of public funds by public entities listed in terms of the PFMA: ▪ SANSA as a Schedule 3A listed National Public Entity is obligated to adhere to principles of the Act in relation to financial management and supply chain management legislative reporting requirements.
Science and Technology Laws	Amends the establishment legislation of several the DSI public entities, including the SANSA Act (No.36 of 2008). It intends to harmonise and streamline the processes related to the

NAME OF ACT, AS AMENDED	KEY IMPLICATIONS
Amendment Act (No. 9 of 2020)	governance arrangements of accounting authorities of the public entities.
National Key Point Act (No. 102 of 1980)	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.
Critical Infrastructure Protection Act (No. 8 of 2019)	Once the Act comes into effect, SANSA would need to apply for classification of its facilities under this Act and no longer under the National Key Point Act.
South African Space Industry Regulatory Bill	To be promulgated by **the dtic** with a view to limit liability to the State in terms of UN treaties and conventions through imposing new licencing requirements upon the local industry. SANSA will be required to register with the Regulatory body and have appropriate insurance, which is not currently the case.
Broad governance and administration legislation, amongst others:	▪ Promotion of Access to Information Act (No. 2 of 2000) ▪ Skills Development Act (No. 97 of 1998) ▪ Broad-Based Black Economic Empowerment Act (No. 53 of 2003) ▪ Intergovernmental Relations Framework Act (No. 13 of 2005) ▪ Preferential Procurement Policy Framework Act (No. 5 of 2000) ▪ Occupational Health and Safety Amendment Act (No. 181 of 1993)

Table 1: Key legislation, including pending amendments, governing SANSA's work

2.2. POLICY MANDATES

Aligned to the legislative instruments above, the National Space Policy (NSP) provides an overarching guideline to all national space actors on the key principles for implementation of a South African Space Programme. The NSP is an instrument of **the dtic** and is aligned to the Space Affairs Act.

The NSP is the anchor tenet and reference point by which all other policy and strategy instruments are crafted, and its primary objectives are to:

1) 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.
2) 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.
3) Facilitate the provision of appropriate and adequate space capabilities to support South Africa's domestic and foreign policy objectives.
4) Foster a robust science and technology base in research institutions and the higher education sector.
5) 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.
6) 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.

7) Promote improved cooperation with other nations in the mutually beneficial peaceful uses of outer space.
8) Promote greater awareness and appreciation, at all levels of South African society, of the relevance and benefits of space science and technology.

2.2.1. DEVELOPMENTAL PRIORITIES

The strategic architecture of SANSA as a public entity in South Africa is informed by the following developmental priorities.

POLICY	KEY IMPLICATIONS
National Development Plan, Vision 2030	The National Development Plan (NDP)is aimed at eliminating poverty and reducing inequality by 2030. The Plan outlines a set of objectives and actions detailing how government intends to respond to the manifold challenges facing South Africa.
UN Sustainable Development Goals (SDGs)	South Africa has committed to the global Agenda 2030, commonly referred to as the SDGs, which comprises of 17 sustainable SDGs and 169 key indicators. The SDGs set a common sustainable development agenda for pursuit by all signatory nations, including South Africa.
African Union Agenda 2063	Aligned to the UN SDGs, the African Union Agenda 2063 reflects the seven aspirations for a prosperous, well-governed, peaceful, united, and influential global player and partner.
Medium Term Strategic Framework (MTSF) 2019-2024	Sets out seven priorities in terms of which the sixth administration has chosen to focus on for the MTSF period, 2019 and 2024. SANSA contributes most directly to: ▪ Priority 1: A capable, ethical, and developmental State. ▪ Priority 2: Economic transformation and job creation. ▪ Priority 3: Education, skills, and health. ▪ Priority 7: A better Africa and World. *The SANSA strategic outcomes against which the mid-term progress has been measured are aligned to the MTSF priorities.*
District Development Model (DDM)	Aims at improving the coherence and impact of government service delivery and development by using the existing legal framework for coordinating and aligning development priorities and objectives between local, provincial, and national spheres of government. *SANSA's contribution to the DDM is reflected as an annexure to the revised 2020/25 Strategic Plan.*
South African Economic Reconstruction and Recovery Plan (2020) (ERRP)	In response to the deepening economic crisis brought on by the COVID-19 pandemic and the various levels of lockdown since March 2020, the President, Mr Cyril Ramaphosa, communicated South Africa's ERRP, which has three phases: 1) Engage and Preserve - which includes a comprehensive health response to save lives and curb the spread of the pandemic. 2) Recovery and Reform - which includes interventions to restore the economy while controlling the health risks. 3) Reconstruct and Transform - which entails building a sustainable, resilient, and inclusive economy. *SANSA's contribution to the nine priorities of the ERRP is discussed in Table 6 of the section below.*

Table 2: Developmental policy mandates

3. INSTITUTIONAL POLICIES AND STRATEGIES GOVERNING THE FIVE-YEAR PLANNING PERIOD

The National Space Strategy and the South African Earth Observation Systems (SAEOS) Strategy provide directives that directly inform the operationalisation of the South African Space Programme, inclusive of the role that SANSA should play. The National Space Strategy provides a blueprint for the innovative utilisation of space science and technology to enhance economic growth and sustainable development.

3.1. NATIONAL SPACE STRATEGY

The National Space Strategy seeks "*for South Africa to be among the leading nations in the innovative utilisation of space science and technology to enhance economic growth and sustainable development and thus improve the quality of life for all*". The primacy in pursuing this vision is embedded in three primary goals, namely:

1) To capture a global market share for small to medium-sized space systems in support of the establishment of a knowledge economy through fostering and promoting innovation and industrial competitiveness.
2) To empower better decision-making through the integration of space-based systems with ground-based systems for providing the correct information products at the right time.
3) To use space science and technology to develop applications for the provision of geospatial, telecommunication, timing, and positioning products and services.

3.2. SOUTH AFRICAN EARTH OBSERVATION SYSTEMS STRATEGY

Given the critical importance of Earth observation applications for informing decision-making and evidence-based policy making in government spheres, the objective of the SAEOS Strategy is to coordinate the collection, assimilation, and dissemination of Earth observation data and information.

This is deemed to be achieved through:

1) Identifying and correcting shortcomings in the sampling, data processing, systems modelling, and information dissemination processes.
2) Ensuring that the information needs of users are met, in the form that they require, when they need it, and at an affordable cost.
3) Exploiting the opportunities for synergy and cost saving between previously separate systems by, among other things promoting the development of open, interoperable information and communications technologies for Earth observation.
4) Developing or promoting standards for Earth observation information interchange.
5) Ensuring that crucial datasets are securely archived.
6) Creating value enhanced datasets by linking together previously standalone, incompatible, and mutually inaccessible observations, and by linking observations with models.
7) Accessing relevant data from observation systems in neighbouring countries and from global observation systems, and in return supplying data needed for the solution or regional or global problems.

3.3. EMERGING POLICY SHIFTS IN SCIENCE, TECHNOLOGY, AND INNOVATION

The 2019 White Paper on Science, Technology and Innovation introduces several policy shifts, *inter alia*:

1) Increasing the focus on inclusivity, transformation, and linkages in the NSI.
2) Enhancing the innovation culture in society and government.
3) Improving policy coherence and budget coordination across government.
4) Developing a more enabling environment for innovation.
5) Developing local innovation systems.
6) Supporting social and grassroots innovation.
7) Expanding the research system.
8) Developing human capabilities.
9) Accelerating the implementation of the pan-African STI agenda.
10) Increasing investment in the NSI.

POLICY	KEY IMPLICATIONS
Science, Technology and Innovation (STI) Decadal Plan (Draft, July 2022)	The STI Decadal Plan has been developed to serve as the implementation plan for the 2019 White Paper. There are nine priorities against which to align once the Decadal Plan is finalised. SANSA awaits finalisation of the plan as it is expected to bring about significant change to the policy environment. 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 nine priorities of the Decadal Plan. The strategic outcomes in the revised 2020/25 Strategic Plan provide evidence of space science and technology deliverables on the identified themes in the Decadal Plan, as follows: ▪ Modernise sectors, including support for SMEs and co-operatives. ▪ Exploit new sources of growth – for competitiveness and job creation. ▪ Support social progress – economic inclusivity and sustainable livelihoods. ▪ Utilise technological advancement to contribute to an STI-enabled capable State – for improved service delivery and decision-making. ▪ Increase support for responsible environmental custodianship and respond effectively to climate change.
Higher Education, Science, Technology and Innovation Institutional Landscape (HESTIIL) Review Report (2020)	A determination to explore the extent to which the HESTIIL can optimally assist in the achievement of the NDP priorities and to respond to the country's socio-economic needs is to be made. SANSA is to take the lead from DSI in aligning with the strategic levers of change, namely: ▪ A values base that is consistent with NDP vision. ▪ Institutional governance that will ensure collaboration and coordination. ▪ A smart resourcing plan that will optimise and sustain the funding base for HESTIIL. ▪ Enhancement of necessary capabilities for innovation and management.

POLICY	KEY IMPLICATIONS
	▪ A measured and progressive implementation of institutional changes and RDI societal grand challenges or missions to deliver system coherence and synergy.
Game Changer: Strategic Integrated Project (SIP22): Space Infrastructure Hub (SIH)	The SIH is a proposed large-scale investment programme in infrastructure and capability that aims to enhance the role of SANSA, support new and expanded applications and, most critically, enable and support the growth of a South African space sector. A total of R4.47 billion was indicated through the Sustainable Infrastructure Development Symposium (SIDS), where the SIH was recognised as one of the top five most promising projects, falling within the Digital Infrastructure category. Subsequently, it was gazetted as a Strategic Integrated Project (SIP) 22 due to its recognition as a significant opportunity to build on indigenous space capability to service the needs of the country.

Table 3: Emerging policy imperatives, with a future impact on SANSA

3.4. LINKING SPACE TO GOVERNMENT POLICIES AND DEVELOPMENTAL PRIORITIES

The highest priority of any government is to ensure (i) sustained economic growth and (ii) improvement in the quality of life of its citizens. It is, therefore, imperative that investments in space science and technology are geared towards addressing these fundamental priorities. In fact, the notion of an NSP is premised on the potential benefits that can accrue to the country from directed investments in developing the local space sector.

The key priorities of government that need to be addressed by an NSP were collated and clustered into three key priority areas, namely:

1) Environmental resource management.
2) Health, safety, and security; and
3) Innovation and economic growth.

Each of these clusters further comprise of a list of associated user needs as summarised in Table 4 below. The use of the predefined data and information reside in different and multiple government departments, where these specific datasets could have multiple uses.

ENVIRONMENTAL RESOURCE MANAGEMENT	HEALTH, SAFETY AND SECURITY	INNOVATION AND ECONOMIC GROWTH
▪ Environmental and geospatial monitoring. ▪ Ocean, coastal and marine management. ▪ Land management. ▪ Rural development and urban planning. ▪ Topographic mapping. ▪ Hydrological monitoring. ▪ Climate change adaptation &mitigation. ▪ Meteorological monitoring.	▪ Disaster monitoring and relief. ▪ Hazards forecasting and early warning. ▪ Cross-border risk ▪ Disease surveillance and health risk. ▪ Asset monitoring. ▪ Regulatory enforcement. ▪ Defence, peacekeeping, and treaty monitoring.	▪ Tourism and recreation. ▪ Communications. ▪ Space science and exploration. ▪ Space technology transfer and spinoffs. ▪ Development of the space industry.

Table 4: Clustering government priorities and National Space Programme user needs

South Africa is burdened with the triple challenge of poverty, inequality, and unemployment and resolving this challenge will emancipate the marginalised communities of South Africa to their full economic and social potential. Space science finds resonance with the triple challenges and contributes towards addressing these as follows:

1) Poverty: Broaden opportunities through education, health, nutrition, public transport, and access to information through the delivery of essential services using space-based platforms.
2) Inequality: Drive unity and social cohesion through understanding the impacts of social and economic divisions using geospatial information.
3) Unemployment: Inform the removal of structural impediments, such as poor-quality education or spatial settlement patterns that exclude the majority.

Taking the user needs identified in Table 4 as the primacy of the National Space Programme, Table 5 below reflects how many priorities of the abovementioned policy instruments are impacted by each of these user needs in terms of the 13 chapters of the NDP, 2030, the seven priorities of MTSF 2019-2024, the 17 SDGs and nine priorities of the ERRP.

PRIORITY AREAS	NDP (13)	TRIPLE CHALLENGE	MTSF (7)	SDGS (17)	ERRP (9)
Environmental and geospatial monitoring	7	3	5	2	3
Ocean, coastal, and marine management	8	3	5	3	5
Land management	10	3	7	3	5
Rural development and urban planning	13	3	7	2	7
Topographic mapping	5	2	7	15	2
Hydrological monitoring	12	3	7	2	4
Climate change adaptation and mitigation	13	2	7	1	5
Meteorological monitoring	8	2	5	5	4
Disaster monitoring and relief	11	2	5	3	2
Hazards forecasting and early warning	11	2	5	5	3
Cross-border risk	8	3	4	2	3
Disease surveillance and health risk	9	2	4	1	4
Asset monitoring	5	3	5	2	4
Regulatory enforcement	5	3	7	17	2
Defence, peacekeeping, and treaty monitoring	4	2	4	1	3
Tourism and recreation	6	3	5	16	5
Communications	9	3	7	17	6
Space science and exploration	8	3	5	3	4
Space technology transfer and spinoffs	4	3	4	4	9
Development of the space industry	4	2	5	3	4

Table 5: Space programme response to the priorities of government

Given the adverse impact of the COVID-19 pandemic on the South African economy and thus the importance of aligning with South Africa's Economic Reconstruction and Recovery Plan, SANSA has assessed in detail its contribution to the ERRP for the remainder of the 2020/25 strategic term as summarised in the table below.

ERRP OBJECTIVES	SANSA KEY DELIVERABLES
To create jobs, primarily through aggressive infrastructure investment and mass employment programmes.	Prioritisation of infrastructure development through the following flagship projects: ▪ An operational Space Weather Centre. ▪ Development of Digital Earth South Africa. ▪ An upgraded Assembly Integration and Testing (AIT) Facility.
To reindustrialise our economy, focusing on growing small businesses.	Small to medium enterprises to benefit from 30% of SANSA expenditure of the parliamentary grant.
To accelerate economic reforms to unlock investment and growth.	▪ Enhanced benefit for the space programme through international, African, and national partnerships (including collaboration with our BRICS partners). ▪ Generation of income from space operations activities to promote growth of the local space sector.
To fight crime and corruption.	Initiatives to promote good governance and transform SANSA into a high-performing agency.
To improve the capability of the State.	▪ Youth awareness and skills development initiatives. ▪ Creation of opportunities to enhance the national capability through cutting–edge research and development, innovation, and expertise for the implementation of key space initiatives

Table 6: Alignment of SANSA's key deliverables to ERRP objectives

The progress updates in this report are aligned with the strategic outcomes of 2020-2025 Strategic Plan of the DSI, which are:

1) A transformed, inclusive, responsive, and coherent NSI - over the next five years expand, transform, and enhance the responsiveness of the NSI.
2) Increased knowledge generation and innovation output - over the next five years, to maintain and increase the relative contribution of South African researchers to global scientific output.
3) Human capabilities and skills for the economy and for development - over the next five years improve the representativity of high-end skills and increase the development of technical and vocational skills for the economy.
4) Knowledge utilisation for economic development - over the next five years improve the sustainability and competitiveness of traditional sectors of the economy and initiate/continue research and development in emerging/nascent technology areas.
5) Knowledge utilisation for inclusive development - over the next five years, expand the use of scientific knowledge (as evidence) in support of innovation for societal benefit and public good.
6) Innovation in support of a capable and developmental State - over the next five years, increase the use of innovation as an enabler in the delivery of efficient services and access to government programmes.

PART B: OUR STRATEGIC FOCUS

4. VISION

SANSA's vision statement for repositioning the South African Space Programme is:

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

5. MISSION

SANSA's mission statement for what it is the South African Space Programme does is:

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

6. VALUES

The organisational values outlined in Table 7 below were applicable to the 2020/21 – 2021/22 financial years:

SANSA HAS SIX CORE VALUES, REFERRED TO AS STRIPE, THAT ITS EMPLOYEES PLEDGE TO UPHOLD THROUGH AN "EARN YOUR STRIPE" CAMPAIGN, NAMELY:	
Service	Deliver superior customer value on time every time.
Teamwork	Consult, inform and share knowledge.
Respect	Acknowledge and value what is good.
Integrity	Keep promise and own up to mistakes.
Personal Growth	Acknowledge potential and grow competence.
Excellence	Go the extra mile and implement tasks to the best of our ability.

Table 7: SANSA's six core values

As part of the change management and culture development initiative SANSA revised its values in the 2022/23 financial year in alignment with the organisational strategy and New Business Model:

VALUE	MOTIVATION	INTENDED BEHAVIOUR
Customer-centric	Time is money and, therefore, every delayed action has an impact on the financials of SANSA and missed opportunities, which will affect the long-term stability and security of the organisation	Everything we do is treated with a sense of urgency and agility
Collaboration and Teamwork	Given the interrelatedness of the work we do along the space value chain and the need to leverage our support functions, teamwork, and collaboration within and across programmes becomes essential	We accomplish so much more working together
Innovation and Solutions-driven	Whenever we hit a bottleneck, it is important that we act quickly to resolve the issue, as this impacts our growth and our future prognosis and opportunities	No problem is too large for us – we find solutions
Responsive to Opportunities	The way we embrace opportunities that come over the horizon and align with our strategic focus will determine how we grow and expand our operational base, which ultimately affects our sustainability	Every opportunity is treated as a potential for growth for our future
Having Fun Together	Employees should enjoy what they do, and every day should bring a sense of energy and excitement knowing that we are working towards achieving a larger agenda and every task is important	We thoroughly enjoy what we do – it is fun to be at SANSA

Table 8: SANSA's Revised Values

Aligned 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."

PART C: MEASURING OUR PERFORMANCE

7. IMPACT STATEMENT

The SANSA Impact Statement is outlined below:

"A sustainable South African space sector that contributes meaningfully to socio-economic development across the African continent"

The key enablers for the achievement of the impact statement are identified as follows in the revised SANSA 2020/25 Strategic Plan: *(i) Development of a fit-for-purpose and performance-driven organisation and (ii) Leveraging on strategic partnerships to mobilise resources.* The related key initiatives are contributing towards achievement of Outcome 4: SANSA positioned as a key enabler for the implementation of government's space-related policies.

- **Development of a fit-for-purpose and performance-driven organisation.**
  - Over the period 2020/21 to 2022/23 SANSA has focused on the implementation a number of initiatives aimed at transforming SANSA into a high performing Agency.

  - (i) As at the end of the 2021/22 financial year SANSA had concluded the following: Development and implementation of organisation redesign and marketing Initiatives (Human Resources, Communications and Marketing Strategies).
  - (ii) SANSA launched a Skills Audit project in January 2022 to identify the existing set of skills within the Agency and align such with the organisational skills and knowledge requirements of the future. SANSA aims to build a core team that can execute the capability and also align skills sets directly to the potential projects. A five-year workforce plan that is a critical part of this process will aid the development of clear career growth paths for employees.

- **Leveraging on strategic partnerships to mobilise resources.**
  - During the reporting period SANSA pursued formal partnerships with National, African, and International stakeholders leading to several joint initiatives having been undertaken to develop the national space sector and contribute to the Africa-centred vision for development. Over and above the initiatives implemented locally, external partnerships with other countries or entities/universities in foreign countries enabled SANSA to implement several activities and initiatives through established bilateral and multilateral agreements with other space agencies and science institutions to forge collaborations that benefit the national space sector.

8. INTEGRATED IMPACT REPORT

SANSA uses research to real life applications

SANSA's research can be placed in the top 10% of research output compared to South African Universities (average of three (3) peer reviewed publications per researcher per year). The Agency has demonstrated expertise in the entire value chain from research, to development, to application. A prime example is the Geomagnetic Field Model, an annual product produced by SANSA used in real-life practical applications such as land-based mapping and surveillance.

Figure 1: The SANSA Team and Researchers in Front of the new Operational Space Weather Centre where Space Weather Research is being used for Real-Life Applications.

SANSA represented on international space weather forum

A member of the SANSA Executive team, Dr Lee-Anne McKinnell, has been nominated as the co-chair of the World Meteorological Organisation (WMO) Expert team on Space Weather (ET-SWx). The ET-SWx's objective is to lead the delivery of the space weather related research to operations and stakeholder engagement activities of WMO in close coordination with the relevant WMO bodies.

African Instrumentation Network – securing near real-time data to operationalise space weather

SANSA has over 80 years' experience in ground-based instrumentation networks spanning over 80 sites in Southern Africa, the islands in the Southern Ocean and Antarctica, with the next step being expanding into the rest of Africa. The African Instrumentation Network is the deployment of real-time Global Navigation Satellite System (GNSS) instruments to address lack of space-weather data in African countries.

Quality Assurance unlocks service excellence at the SANSA Hermanus facility

SANSA's Hermanus facility achieved ISO 9001:2015 certification for its products and services. ISO certification was one of the requirements by the International Civil Aviation Organisation (ICAO) upon designating SANSA as a regional Space Weather Centre for the aviation industry.

Figure 2: The SANSA Hermanus Team that contributed towards ISO certification

SANSA Awarded ISO 45001

SANSA was awarded the ISO 45001: 2018 accreditation, which is essential to Space Operations, allowing the provision of reliable customer service to all SANSA clientele.

Figure 3: SANSA Space Operations Awarded ISO 45001.

Space weather research and its potential impact on food security

The ability to forecast the impact and effect of space weather on crop yields provides the South African Agricultural sector an advantage edge and opportunity to contribute toward greater crop yield and food security. This illustrates the importance of space weather research being conducted at SANSA and its contribution toward a sustainable food secure future for South African citizens.

24/7 Operational Space Weather Centre

The official launch for the Space Weather Centre is planned for 03 November 2022. The goal is to ensure that products and services developed by the 24/7 Space Weather Centre are adopted by the market and fundamentally contribute to the sustainability of the facility.

Figure 4: SANSA 24/7 Space Weather Centre.

Digital Earth Africa (DE Africa)

SANSA was appointed as the DE Africa Program Management Office host to amplify the value of Earth Observations for the African continent. SANSA's role includes running the operations of the technical platform. DE Africa's eco-system of stakeholders includes governments, space agencies, the private sector and civil society across Africa and internationally, who all play a role in ensuring that vital global Earth Observations continue, and that the data are analysis-ready, rapidly available, and readily accessible.

Figure 5: PMO launch event hosted by the Australian High Commission in Pretoria.

SpaceOps 2021

Spaceops2021 Virtual edition took place during the first week of May 2021. This was the first virtual Space Operations conference in the history of SpaceOps. The conference was attended by over 600 delegates from across the globe. The conference took place over three days (3-5 May 2021). It provided industry players and delegates from around the world the opportunity to foster managerial and technical interchange on all aspects of space mission operations, including robotics, human, earth orbiting and deep space aspects of space operations.

Figure 6 & 7: SANSA SpaceOps 2021 Virtual edition.

Figure 8: SANSA SpaceOps 2021 Virtual edition.

Building key capability and scarce skills

SANSA directly supported 217 students and interns over the past two-and-a-half years (since April 2020). The students were supported through opportunities provided in the form of bursaries, internships, job shadowing, in-service training and/or supervision by SANSA researchers. SANSA plans to leverage on the relationship between DSI and Department of Higher Education and Training (DHET) to expand student infrastructure and programmes.

Engaging the youth and public ignites the passion for space

SANSA has directly engaged with over sixty-six thousand (i.e., 66 275) youth across South Africa with the main objective of igniting passion for space within the youth. Priorities in this area include attracting, developing, and growing the national space science and technology skills base as well as developing and maintaining market space science and technology-related platforms to deliver appropriate science engagement programmes.

Figure 9 & 10: Students and learners being supported by SANSA.

First of its kind in Africa

Despite the negative impact of COVID-19 and its restrictions in the 2020/21 FY SANSA persevered with the installation of a first-of-its kind antenna in Africa at the Hartebeesthoek site. The installation of the antenna was part of the Satellite and Weather Information for Disaster Resilience in Africa (SAWIDRA) Project and the first African ground station receiving satellite data for early warnings against natural disasters to improve Disaster Risk Management weather forecasting capacity.

Figure 11: SAWIDRA Project - Antenna

Deep-Space Communications Study agreement signed

SANSA and NASA signed a Deep Space Communications Study Agreement paving the way for the two organisations to conduct the necessary technical and environmental research for the establishment of a ground station in South Africa which will support future Near Earth and Deep Space exploration. The establishment of the Matjiesfontein ground segment is planned to commence in the 2022/23 financial year.

Figure 12: SANSA and NASA Signing ceremony

Mapping informal settlement growth patterns

The National Department of Human Settlements has been utilising SANSA products and services to create situational awareness on the characteristics of settlements, environmental conditions, and access to the services within South Africa. The Agency's products were used to identify settlements requiring basic services such as temporary shelter and water at the beginning of COVID-19 pandemic.

National Integrated Water Information System (NIWIS) Drought Status Information

SANSA developed the Vegetation Condition Index (VCI) to generate drought information for the National Integrated Water Information System. VCI indicates different vegetation conditions from month-to-month in comparison to the long-term average (Normal/No drought, Light, Moderate, Severe, Extreme). The National Integrated Water Information System (NIWIS) provides integrated monthly drought status information based on the Multi- Criteria Decision Analysis using rainfall, streamflow, dam levels, and groundwater. The information system disseminates all water and sanitation information to all relevant users/stakeholders, including those in the fields of agriculture and food security. The information disseminated covers business requirements such as climate change and weather, disaster management, water quantity and quality, water ecosystems, and water services.

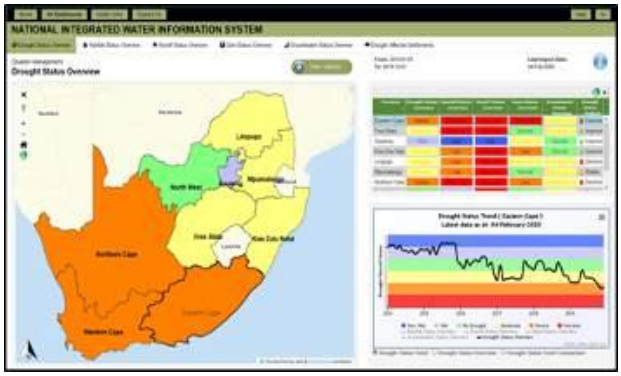


Figure 13: The developed vegetation condition information per province

Mzansi-Amanzi: Water volume

SANSA provides monthly water quantity data through the Mzansi- Amanzi National Water Quantity Information Service which is distributed to the Department of Water and Sanitation, water boards and authorities, research institutions and other government institutions. These institutions utilises the data to monitor water quantity (volume) in both small and large dams across South Africa on a regular basis.

mzansiAmanzi
A MONTHLY outlook of Water in South Africa

Figure 14: Monthly water volume data available to all users from Mzansi-Amanzi National Water Quantity Information Service portal, https://www.water-southafrica.co.za/

9. MID-TERM KEY PERFORMANCE HIGHLIGHTS

217

Students & Interns Supported

66 275

Youth Engaged

4 703.61

Research Productivity Score

R200 million

Revenue Generated

99.88%

Successful Satellite pass rate

10. PROGRESS ON THE ACHIEVEMENT OF OUTCOMES: STRATEGIC PLAN 2020-2025

10.1. ACHIEVEMENT AGAINST STRATEGIC PLAN: STRATEGIC OBJECTIVES, INDICATORS AND TARGETS

Table 9 below reflects progress made in relation to the first year of implementing the initial 2020/25 Strategic Plan based on strategic objectives. This was prior to the revision of the organisation's 2020/25 Strategic Plan, as from the 2021/22 financial year, to shift from strategic objectives to outcomes – based approach to planning in alignment with the revised DMPE Framework for Strategic Plans and Annual Performance Plans.

STRATEGIC OBJECTIVE	MEASURE / INDICATOR	2019/20 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT (AS AT 31 MARCH 2021)	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
Strategic Objective 1: To support the development of a critical mass of skills and expertise needed to give effect to local and regional space initiatives	M1.1.1 Number of youths directly engaged	36 506	T1.1.1 Total of 163 500 young people directly engaged by March 2025	2937	Copies of attendance registers	Target on track.
	M1.2.1 Number of students and interns supported for formalized training	54	T1.2.1 Total of 350 students and interns supported by March 2025	60	Contracts and student agreements / records	Target on track.
Strategic Objective 2: To expand and exploit our knowledge base for the development of essential services and products that	M2.1.1 Number of products and applications	5	T2.1.1 7 operational space-related applications by March 2025	7	Products/service reports.	Target on track
	M2.2.1 The national research productivity	1 765	T2.2.1 Achieve a total research productivity score	1 904.44	Function of research funding sourced and publications	Target on track.

STRATEGIC OBJECTIVE	MEASURE / INDICATOR	2019/20 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT (AS AT 31 MARCH 2021)	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
respond to user needs	score for space supported R&D		of 2000 by March 2025		(journals, books, reports, proceedings)	
Strategic Objective 3: **To develop, grow and transform the indigenous space industry that is responsive to local needs and is globally positioned**	M3.1.1 Successful satellite pass monitoring rate for Earth Observation	99.37%	T3.1.1 Successful Satellite pass monitoring maintained at a rate of 98% by March 2025	99.35%	Systematic count of minutes of data captured and demodulated	Target on track.
	M3.1.2 Total income generated from space operations activities	R99.13 million	T3.1.2 Total income of R352 million generated from space operations activities by March 2025	R75.65 million	Signed contracts and actual financial transactions	Target on track.
	M3.2.1 The total contract expenditure to SMEs for core space projects	New indicator	T3.2.1 A total contract expenditure of 20% to SMEs for core space projects by March 2025	51%	Internal contracts and invoices	Target on track.
	M3.2.2 The total contract expenditure to the broad space related industry for core space projects	New indicator	T3.2.2 The total contract expenditure of R266 million to the broad space related industry for core space projects by March 2025	R13.68 Million	Internal contracts and invoices	Target at risk. Resolution of the pending Houwteq facility ownership challenges and continued rollout of other key infrastructure projects.

STRATEGIC OBJECTIVE	MEASURE / INDICATOR	2019/20 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT (AS AT 31 MARCH 2021)	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
Strategic Objective 4: To build and host the appropriate infrastructure that will support the local space sector	M4.1.1 A new operational space weather centre	New indicator	T4.1.1 Proportional progress of an operational space weather centre, as per an approved Business Case	42.8% progress towards establishment of a new operational space weather centre, as per an approved Business Case	Quarterly progress reports against the approved business case	Target on track.
	M4.1.2 Development of Digital Earth South Africa	New indicator	T4.1.2 Proportional progress towards an operational Digital Earth South Africa (DESA)	All SPOT 6/7 imagery extracted and ingested for processing to ARD	Quarterly progress reports against project concept document	Target on track.
	M4.1.3 An upgraded AIT Facility	New indicator	T4.1.3 AIT facility upgraded as per approved plan by March 2025	Project delayed	Progress as per project plan on the upgrade of the AIT facility	Target at risk. Resolution of the pending Houwteq facility ownership challenge in progress.
Strategic Objective 5: Develop active partnerships and implement changes	M5.1.1 Number of active formal overseas partnerships	22	T5.1.1 A total of15 active formal overseas partnerships by March 2025	13	Tracking of actual projects implemented with partners	Target on track. (Target is not cumulative)
	M5.1.2 Number of active formal African partnerships	11	T5.1.2 A total of 15 active formal African partnerships by March 2025	15	Tracking of actual projects implemented with partners	Target on track. (Target is not cumulative)

STRATEGIC OBJECTIVE	MEASURE / INDICATOR	2019/20 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT (AS AT 31 MARCH 2021)	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
	M5.1.3 Number of active formal national partnerships	25	T5.1.3 A total of 15 active formal national partnerships by March 2025	20	Tracking of actual projects implemented with partners	Target on track. (Target is not cumulative)
	M5.2.1 Percentage of government departments and public entities that use geospatial information using space products and services	New indicator	T5.2.1 80% of government departments and public entities that are using space products and services by March 2025	30%	Progress report organs of states using SANSA services/products	Target on track.
	M5.2.2 Number of awareness and training interventions to key users of space-based products and services	New indicator	T5.2.2 39 awareness and training interventions conducted by March 2025	9	Reports on awareness and training interventions, including the users reached	Target on track.
	M5.2.3 Number of initiatives to transform SANSA into a high performing Agency	New indicator	T.5.2.3 6 initiatives to transform SANSA by March 2025	4 (Human Resources Strategy, Communications Strategy, Business Model/Macro Structure, Business Development/ Marketing Strategy)	EXCO approved strategies and plans relating to the interventions and implementation thereof	Target on track.

Table 9: Mid-Term Progress against the SP 2020-2025 targets with defined strategic objectives

10.2.ACHIEVEMENT AGAINST REVISED STRATEGIC PLAN: OUTCOMES, INDICATORS AND TARGETS

There are nine (9) outcome indicators in the 2020/25 Revised SP, with five (5) on track towards achievement of the 5-year targets, three (3) are pending data collection and analysis (with noted positive progress at output level), while one (1) indicator is currently at risk of non-achievement. Table 10 below reflects progress made in relation to the outcome Indicators as per the Agency's revised 2020/25 Strategic Plan.

OUTCOME	OUTCOME INDICATOR	2021/22 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT AS AT 30 SEPTEMBER 2022	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
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	91 research publications by SANSA researchers with work continuing in relation to SANSA supporting researchers.	Publication list of impact factor listed journal papers for space-related researchers in South Africa	A data collection instrument to be developed and deployed by Quarter 4 of financial year 2022/23.
MTSF 2019-2024: Priority 2 – Economic transformation and job creation						
Outcome 2: Stimulated and growing, inclusive space sector	O2.1. Average operational expenditure spend on SMEs	New indicator	Lower target: 20% Desired target: 30% Upper target: 40%	20%	Internal contracts / purchase orders and related invoices for all expenditure (including core space projects), excluding foreign contracts	Target on track.

OUTCOME	OUTCOME INDICATOR	2021/22 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT AS AT 30 SEPTEMBER 2022	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
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	35 student graduates (those supported by SANSA)	1. University databases 2. Student admin files	A data collection instrument to be developed and deployed by Quarter 4 of financial year 2022/23.
	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	217 students and interns supported with 35 student graduations	Tracking tool of SANSA mentored students and interns Exit interviews with interns	The data tracking instrument to be developed and deployed by Quarter 4 of financial year 2022/23.
MTSF 2019-2024: Priority 1 – A capable, ethical, and developmental State						
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	53%	Progress report organs of states using SANSA services/products	Target on track.

OUTCOME	OUTCOME INDICATOR	2021/22 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT AS AT 30 SEPTEMBER 2022	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
	O4.2. External audit outcome	Unqualified audit opinion with material findings	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	Final signed External Auditor's Report, reflecting the Audit Outcome	Target on track.
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%	7%	SANSA Fixed Asset Register	Target at risk. Priorities over the next two and half years include securing funding and the rollout of key infrastructure projects such as SIH, EOSAT-1 continuation project, the AIT project and site preparation for installation of the Matjiesfontein ground station.
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	O6.1. Percentage growth in revenue generated from	R405m from Space Operations (based on	Lower Target: 5% (primarily through space operations) Upper Target: 8%	8% (R182m generated)	Financial statements of SANSA Product count from programmes	Target on track.

OUTCOME	OUTCOME INDICATOR	2021/22 BASELINE	2024/25 TARGET	ACTUAL ACHIEVEMENT AS AT 30 SEPTEMBER 2022	DATA SOURCES AS PER TIDS	IMPROVEMENTS REQUIRED FOR THE REMAINDER OF PLANNING PERIOD
programme in the regional and global space market	space products and applications	the previous five-year term)	(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%	33.3%	Detailed products/service reports	Target on track.

Table 10: SANSA strategic outcomes, outcome indicators and five-year targets (Revised Strategic Plan 2020-1025)

The target outcome indicator at risk is:

- *O5.1. Percentage growth in the Rand value of the national infrastructure asset base*

The recent investments through support from the DSI in the space weather capability has contributed to the progress made to date. However, this indicator has been adversely impacted by slow progress relating to the rollout of key infrastructure projects such as:

- Upgrade to the AIT facility which has been affected by the delayed access and transfer of the Houwteq Facility's ownership from Denel to SANSA. SANSA has been steadfast in its efforts to address this long-standing issue with support from the DSI and anticipates a resolution in the 2022/23 financial year.

- A proposal for the continuation of the EOSAT-1satellite built programme was submitted to the DSI in March 2022 and is pending funding decision.

- In relation to the SIH project, the Phase 1 funding requirement for the first ten years is R3,544 million, of which R1,309 million is required over the current MTEF period. The proposal to this effect was submitted to the Budget Facility for Infrastructure in May 2022 and is pending funding outcome as from the 2024 MTEF. Lobbying for Government support is ongoing to aid effective implementation of this gazetted Strategic Integrated Project (SIP 22).

11. EXPLANATION OF ACHIEVED PEFORMANCE OVER THE MID-TERM PERIOD

In keeping with the aim for SANSA to be positioned as a key enabler for the implementation of government's space-related policy priorities, focus during the reporting period included development and implementation of initiatives aimed at transforming SANSA into a high-performance agency and developing the broader national space sector. Progress achieved in this regard includes the review of the 2020/25 Strategic Plan to conform with government's outcome-based approach and the development of Human Resources, Communications and Marketing strategies. SANSA has further commenced with implementation of a new business model with a value – chain driven and commercial focus. To support the embedment of the new business model, a culture change management process and a brand revamp have been undertaken during the 2022/23 financial year and will continue in 2023/24. It is envisaged that the institutional reconfiguration and supporting strategic initiatives will enhance SANSA's ability to effectively deliver on its mandate, realise sustainability and achieve the desired impact.

The following SANSA outcome-focused priorities remain the critical foundation against which the Agency will measure and evaluate the progress towards the 2019-2024 MTSF priorities and the DSI Strategic Plan 2020-2025 outcomes:

- **Outcome 1: Increased space relevant knowledge that supports the developmental** agenda (5-year target: Average annual research publication rate of 3 for South African researchers in direct space-related areas).

    - The SANSA Research, Development, and Innovation agenda is informed by this strategic outcome. Focus on this area involves growing the knowledge economy while delivering on the research to operations process and providing fundamental and applied research, new and existing product development, education and innovation of offerings and strategies. SANSA continues to make a significant contribution to space-related knowledge base through research, with a research productivity score of 4703.61, including 91 research publications over the first two and a half years of implementing 2020/25 the Strategic Plan. Efforts are planned towards gathering data relating to the average annual research publication rate for South African researchers in direct space-related areas to ensure the target is achieved by the end of current five-year term.

- **Outcome 2: Stimulated and growing, inclusive space sector** (5-year target: Total contract expenditure to SMEs for core space projects - Lower target: 20%; Desired target: 30%; Upper target: 40%).

    - SANSA continues to focus on support to SMEs in the rollout of its projects and the Agency has set lower, medium, and upper targets of 20%, 30% and 40% respectively for achievement by 2024/25. As at 30 September 2022 SANSA had achieved a total contract expenditure of 20% to SMEs for core space projects (i.e., the lower target) and work is ongoing towards improving the level of support to SMEs during the remainder of the current term.

- **Outcome 3: Increased human capacity for the implementation of key space initiatives** (5-year targets: (i) Up to 20% of all registered (in space-related fields) postgraduate students graduate with space-related degrees and (ii) Up to 50% of all students and interns mentored by SANSA absorbed by the formal labour market).

    - SANSA is driving initiatives targeted towards ensuring growth in throughput of postgraduate students in space-related fields, through provision of bursaries, data, research equipment and research supervision by SANSA researchers. In these early stages of the 2020/25 strategy implementation the entity has supported 217 students and interns and will focus on the monitoring and reporting on their progress going forward.
    - Efforts are planned towards gathering data directly relating to both outcome indicators for reporting, whilst continuing with efforts to ensure target is achieved by the end of current five-year term.

- **Outcome 4: SANSA positioned as a key enabler for the implementation of government's space-related policies** (5-year targets: (i) 80% of government departments and public entities that are using space products and services and (ii) Achieve and maintain an unqualified audit opinion with no material findings).

    - As at the end the reporting period 53% of government departments and public entities were using space products and services with work continuing towards increasing this percentage to the desired 80% by the end of term.
    - SANSA achieved an unqualified audit with findings in the 2020/21 financial year and has achieved an unqualified audit opinion with no findings in the 2021/22 financial year due to strengthened governance and systems of internal control. The entity aims to maintain the clean audit outcome over the remainder of the 2020/25 strategic term.

- **Outcome 5: Enabling infrastructure developed and upgraded to support the space sector value chain** (5-year target: Percentage growth in the Rand value infrastructure asset base - Lower target: 25% and Upper target: 50%).

    - As at 30 September 2022 the Agency had seen a 7% growth in its infrastructure asset base from R473,7m at the beginning of term to R508,3m as at 30 September 2022.
    - SANSA continues to focus on the rollout of initiatives aimed at strengthening the national space capacity that services national, regional, and global needs through infrastructure investment. Key priorities going forward include - Securing funding and concluding the acquisition of the Space Infrastructure Hub (SIH) Phase-1 mission system; Placing of contracts and commencing with site establishment of the Matjiesfontein Deep Space Facility; and undertaking work relating to the Assembly Integration and Testing (AIT) Facility once Houwteq is accessible for SANSA to conduct the necessary upgrade.

- **Outcome 6: Increased participation of the National Space Programme in the regional and global space market** (5-year target: (i) Percentage growth in revenue generated from space products and applications - Lower Target: 5% and Upper Target: 8% and (ii) Percentage growth in products and services provided to the market - Lower Target: 20% and Upper Target: 40%)

- As at 30 September 2022 8% growth had been realised based on the cumulative revenue generated from space operations and activities at the time of reporting over the two and half years period.
- In relation to the products and services provided to the market SANSA had provided 6 products and services to the market as at the onset of the 2020/25 strategic term and this number had grown to 8 as at the end for the 2021/22 financial year (i.e., 33,3% increase).

The organisational outcomes outlined above are aligned to the Science, Technology, and Innovation (STI) Decadal Plan which has been developed to ensure the sector plays a greater role in contributing towards government's Reindustrialisation and Research, Development and Innovation, economic growth, and social sustainability agenda amongst other key priorities.

Since the implementation of the Revised SANSA Strategic Plan 2020-2025, the groundwork for the establishment of the Space Infrastructure Hub has commenced with further delivery towards a capacitated and resourced National Space Programme that also positively impacts on delivering African solutions to Africa's challenges. The continued emphasis in responding to the needs of government, academic and industry stakeholders will see further improvements in transforming the local space sector with several high-profile space projects that have global impact, such as the implementation of a new 24/7 Space Weather Centre and the development of a Deep Space Network node in Matjiesfontein.

Contribution to SANSA's Impact Statement: ***"A sustainable South African space sector that contributes meaningfully to socio-economic development across the African continent"***

The development of a fit-for-purpose and performance-driven organisation is a key enabler for ensuring SANSA can achieve a legacy of impact. Another key enabler relates to initiatives aimed at leveraging on strategic partnerships to mobilise resources. As of 31 March 2021, a cumulative total of 48 active partnerships had been secured with National, Regional, and international stakeholders against an outcome indicator target of 183 for the five-year term ending 31 March 2025. There was however a shift as from the 2021/22 financial year to focus on the number of initiatives undertaken through formal partnerships annually rather than to merely focus on the number of active partnerships as this would result in a greater impact. SANSA programmes are committed to an integrated approach in this regard in accordance with the organisational operating model for improved growth and sustainability.

12. CONTRIBUTION TO MTSF 2019-2024, DSI 2020-2025, STRATEGIC OUTCOMES, AND TO SANSA'S INTENDED IMPACT

The Medium-Term Strategic Framework (MTSF) 2019-2024 sets out seven priorities which the sixth administration has chosen for the MTSF period 2019 to 2024. While SANSA contributes indirectly to all seven of the MTSF 2019-2024 priorities, the Agency directly contributes is to the following priorities:

- Priority 1: A capable, ethical, and developmental State.
- Priority 2: Economic transformation and job creation.
- Priority 3: Education, skills, and health.
- Priority 7: A better Africa and World.

The below table 11 depicts the alignment of SANSA's outcomes to the MTSF priorities, DSI outcomes and the intended impact.

MTSF PRIORITIES	RELEVANT MTSF INTERVENTIONS	DSI STRATEGIC OUTCOMES	SANSA OUTCOME AND TARGETS	KEY INTERVENTIONS	CONTRIBUTION TO IMPACT	SANSA'S PROGRESS
Priority 1: A capable, ethical, and developmental State	**Contributory role:** ▪ Prevent and fight corruption ▪ Modernise business processes ▪ Improve financial management ▪ Eliminate wasteful, fruitless, and irregular expenditure ▪ Implement the district development model ▪ Informed and empowered citizenry ▪ Mainstreaming women, youth, and people with disabilities (WYPWDs) ▪ Strategic plans to include priorities related to WYPWDs	Innovation in support of a capable and developmental State	**Outcome 4:** SANSA positioned as a key enabler for the implementation of government's space-related policies: ▪ Increase the percentage of government departments and public entities that are using space products and services from 42% to 80% ▪ Achieve and maintain an unqualified audit opinion with no material matters	▪ Implement change initiatives to transform SANSA into a high-performing Agency ▪ Implement audit recommendations ▪ Build the reputation of SANSA through improved customer satisfaction and brand awareness ▪ Build and maintain strategic partnerships at local, Regional, and international level	▪ Fulfilment of SANSA mandate ▪ Socio-economic environmental challenges are addressed in a rational and sustainable manner ▪ SANSA is a recognised brand name ▪ Increased market share of the global space applications market	▪ As at mid-term 53% of government departments and public entities were using space products and services with work continuing towards the desired 80% by end of term. ▪ Achieved an unqualified external audit opinion with no findings for 2021/22FY. ▪ Implemented four (4) initiatives aimed at transforming SANSA into a high-performing agency (Human Resources Strategy, Communications Strategy, Business Model/Macro Structure, Business Development/ Marketing Strategy). ▪ SANSA continues to create and maintain strategic partnerships internationally, regionally, and nationally.

MTSF PRIORITIES	RELEVANT MTSF INTERVENTIONS	DSI STRATEGIC OUTCOMES	SANSA OUTCOME AND TARGETS	KEY INTERVENTIONS	CONTRIBUTION TO IMPACT	SANSA'S PROGRESS
Priority 2: Economic transformation and job creation	▪ Skills priority plan developed (led by DHET and supported by DSI, with inputs from public entities) ▪ Increased investment in gross expenditure on R&D ▪ Commercialisation of public sector funded IP ▪ Jobs created through various interventions ▪ Youth in NEET absorbed in employment ▪ SMME development ▪ Increased infrastructure investment (fund) ▪ Preferential procurement: 40% women, 30% youth, 7% PWDs	Increased knowledge generation and research output	**Outcome 1:** Increased space-relevant knowledge that supports the developmental agenda: ▪ Benchmark and achieve an average research publication rate of 3 for South African researchers in direct space-related areas	National research and development output in space-related sciences: ▪ The national research productivity score for space supported R&D	▪ Increased access to global research opportunities that promotes the national capability and expertise ▪ Socio-economic priorities are achieved in a cost-effective and sustainable manner ▪ The value proposition of space is appreciated by all South Africans ▪ Evidence-based policy making and enabled decision-making	▪ The Agency continues to make a significant contribution to space-related knowledge base through research, with a research productivity score of 4703.61 as at 30 September 2022. Gathering of data in relation to the national average publication rate to be prioritised.
		A transformed, inclusive, responsive, and coherent NSI	**Outcome 2:** Stimulated and growing, inclusive space sector: ▪ 30% average operational expenditure spend on SMEs	▪ Preferential procurement aimed at SMEs, disaggregated to WYPWDs ▪ SANSA space-related expenditure ▪ Industry exposure, leadership, and advocacy	Growth of the industry with sustainable SMEs, created through active participation in the space industry procurement and development	▪ SANSA has achieved a total contract expenditure of 20% to SMEs for core space projects (i.e., lower target for the 5-year period met).

MTSF PRIORITIES	RELEVANT MTSF INTERVENTIONS	DSI STRATEGIC OUTCOMES	SANSA OUTCOME AND TARGETS	KEY INTERVENTIONS	CONTRIBUTION TO IMPACT	SANSA'S PROGRESS
				▪ Deal making and opportunities facilitation		
		Knowledge utilisation for economic development	**Outcome 5:** Enabling infrastructure developed and upgraded to support the space sector value chain: ▪ Percentage growth in the Rand value of the national infrastructure asset base – upper target, 50% / lower target, 25%	Infrastructure developed or upgraded, including: ▪ Digital Earth South Africa ▪ Operational Space Weather Centre ▪ Upgraded AIT Facility ▪ SIH development ▪ Deep space capabilities	▪ Comprehensive space infrastructure as an enabler of the space sector value chain ▪ Infrastructure positioned as a national platform that is part of a global space network ▪ Recognition as a leader in space technology and a preferred partner on the African continent.	▪ Construction of the 24/7 operational Space Weather Centre has been completed. 24/7 operations started in the 2022/23 FY and the centre will be launched on 03 November 2022. ▪ The 100% ingestion of Landsat archive for achieved as at 31 March 2022. The official launch of DESA is scheduled for 28 October 2022. ▪ Progress relating to the AIT upgrade project has been delayed (SANSA awaits handover of the Houwteq Facility from Denel). Engagements with Denel and SANSA to be accelerated. ▪ SIH: following preliminary synthesis of user requirements and scoping for

MTSF PRIORITIES	RELEVANT MTSF INTERVENTIONS	DSI STRATEGIC OUTCOMES	SANSA OUTCOME AND TARGETS	KEY INTERVENTIONS	CONTRIBUTION TO IMPACT	SANSA'S PROGRESS
						mission definition, establishment of user needs specification was in draft as at 30 September 2022. ▪ Deep Space Capabilities: SANSA completed the Environmental Impact Assessment (EIA) for the Matjiesfontein site and engaged stakeholders. Letter of intent by NASA and Cabinet Memo finalised and duly endorsed. DSI has approved the Letter of Intent.
Priority 2: Economic transformation and job creation and **Priority 7:** A better Africa and World	In addition to the above MTSF Priority 2 interventions, Outcome 6 contributes to the following Priority 7 interventions: ▪ Source investment into the South African economy for identified sectors ▪ Increased exports ▪ Preferred tourist destination	Knowledge utilisation for economic development	**Outcome 6:** Increased participation of the national space programme in the regional and global space market: ▪ Percentage growth in revenue generated space products and applications: Upper target, 8%	▪ Development of operational space products and services that respond to market needs ▪ Revenue generated from space products and services ▪ Leverage international partnerships	▪ The space sector as a significant contributor to the knowledge-based economy ▪ Regional integration and increased FDI ▪ Space-induced tourism	▪ SANSA continues to develop and provide space products and services that respond to the market needs, having so far produced, and provided 8 operational space-related applications. ▪ The Agency's achievement to date is 8% growth in revenue generate

MTSF PRIORITIES	RELEVANT MTSF INTERVENTIONS	DSI STRATEGIC OUTCOMES	SANSA OUTCOME AND TARGETS	KEY INTERVENTIONS	CONTRIBUTION TO IMPACT	SANSA'S PROGRESS
	▪ Growth of intra-Africa trade and leverage the African Continental Free Trade Agreement (AfCFTA)		/ Lower target, 5% ▪ Percentage growth in products and services provided to the market: Lower target: 20%, Upper target: 40%			from space products and applications (R182m generated by 30 September 2022).
Priority 3: Education, skills, and health	▪ IP awareness at technical and vocational education and training colleges ▪ Placing of graduates and students in DSI-funded work ▪ Grants provided to emerging researchers to improve the percentage of PhDs qualified staff ▪ PhD and pipeline postgraduate students awarded bursaries ▪ People reached through outreach, awareness, and training programmes in space science	Human capabilities and skills for the economy and for development	**Outcome 3:** Increased human capacity for the implementation of key space initiatives: ▪ Up to 20% of all registered (in space-related fields) postgraduate students graduate with space-related degrees ▪ Up to 50% of all students and interns mentored by SANSA absorbed by the formal labour market	▪ Youth engaged on awareness of space-related sciences ▪ Students and interns supported for formalised training ▪ Bursaries and scholarships provided for postgraduate studies in niche areas	▪ A skilled workforce that can effectively contribute to the knowledge economy ▪ Increased public support for space enabled applications and platforms ▪ Reduction in youth unemployment	▪ Initiatives aimed at building human capabilities for the skills economy and development are ongoing. SANSA has directly engaged 66 275 youth and supported 217 students and interns. ▪ The Agency has achieved a total research productivity score of 4703.61 as of 30 September 2022.

Table 11: Relating SANSA strategic outcomes and interventions to the MTSF, DSI outcomes and the intended impact

13. ALIGNMENT OF SANSA'S KEY DELIVERABLES TO SOUTH AFRICA'S ECONOMIC RECONSTRUCTION AND RECOVERY PLAN

South Africa's 2020 Economic Reconstruction and Recovery Plan (ERRP) was developed in response to the deepening economic crisis in South Africa brought on by the COVID-19 pandemic and the various levels of lockdown since March 2020. SANSA's contribution to the priorities of the ERRP is depicted below:

ERRP OBJECTIVES	SANSA KEY DELIVERABLES	PROGRESS IN ACHIEVING KEY DELIVERABLES
To create jobs, primarily through aggressive infrastructure investment and mass employment programmes.	Prioritisation of infrastructure development through the following flagship projects: ▪ Development of an operational Space Weather Centre. ▪ Development of Digital Earth South Africa. ▪ An upgraded Assembly Integration and Testing (AIT) Facility.	▪ The construction of the 24/7 operational Space Weather Centre has been completed. The official launch of the newly completed Centre will take place on 03 November 2022. ▪ The 100% ingestion of Landsat archive achieved as at 31 March 2022. The official launch of DESA will take place on 28 October 2022. ▪ The progress on the AIT Upgrade project has been delayed as SANSA awaits the handover of the Houwteq Facility from Denel.
To reindustrialise our economy, focusing on growing small businesses.	Small to medium enterprises to benefit from 30% of SANSA expenditure of the parliamentary grant.	▪ SANSA has achieved a total contract expenditure of 20% to SMEs for core space projects (i.e., lower target for 5-year term met). Work is continuing towards ensuring increased support to SMEs.
To accelerate economic reforms to unlock investment and growth.	▪ Enhanced benefit for the space programme through international, African, and national partnerships (including collaboration with our BRICS partners). ▪ Generation of income from space operations activities to promote growth of the local space sector.	▪ SANSA has implemented thirteen (13) international, fifteen (15) African, and twenty (20) National partnerships (and/or initiatives through active or new partnerships) over the review period. ▪ The Agency has generated a total income of R182 million from space operation activities.
To fight crime and corruption.	Initiatives to promote good governance and transform SANSA into a high-performing agency.	▪ The Agency has so far implemented four (4) initiatives during the performance period aimed at promoting good governance and transforming

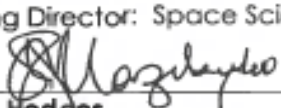
ERRP OBJECTIVES	SANSA KEY DELIVERABLES	PROGRESS IN ACHIEVING KEY DELIVERABLES
		SANSA into a high-performing agency.
To improve the capability of the State.	▪ Youth awareness and skills development initiatives.	▪ SANSA has directly engaged 66 275 youth, and directly supported 217 students and interns.
	▪ Creation of opportunities to enhance the national capability through cutting–edge research and development, innovation, and expertise for the implementation of key space initiatives	▪ The Agency has achieved a total research productivity score of 4703.61 as of 30 September 2022. This contributes towards growing the knowledge economy and provides the foundation on which to build innovative applications that develop the nation's industry.

Table 12: Alignment of SANSA'S Key deliverables to ERRP objectives

OFFICIAL SIGN-OFF

08/11/2022

Dr Lee-Anne McKinnell
Managing Director: Space Science
Date

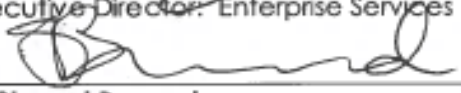


03/11/22

Mr Raoul Hodges
Managing Director: Space Operations
Date

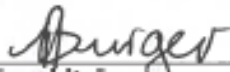
03/11/22

Ms Sibongile Mazibuko
Executive Director: Enterprise Services
Date



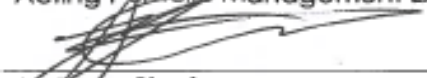
03/11/2022

Dr Stewart Bernard
Acting Managing Director: Earth Observation
Date



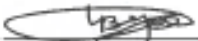
03/11/2022

Mr Hendrik Burger
Acting Portfolio Management Executive
Date



03/11/2022

Mr Tiaan Strydom
Acting Commercial Services Executive
Date

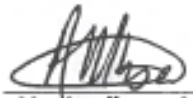


03.11.2022

Ms Vuyokazi Ntshoko
Acting Strategy & Governance Executive
Date

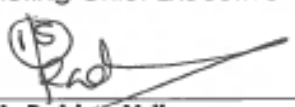
03/11/2022

Mr Brighton Jena
Chief Financial Officer
Date



03/11/2022

Ms Andiswa Mlisa
Acting Chief Executive Officer
Date



03/11/2022

Mr Patrick Ndlovu
SANSA Board Chairperson
(Accounting Authority)
Date