ANNUAL PERFORMANCE PLAN

2020 - 2023

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Chairperson of the Board Statement

This Annual Performance Plan responds to the country's development agenda set out in the National Development Plan (NDP), the DSI White Paper on Science, Technology and Innovation (WP STI) and the Medium Term Strategic Priorities (MTSF). The National Research Foundation (NRF) understands that it has been given a critical role to contribute to high-end skills development, provide the critical research infrastructure needed to facilitate and promote knowledge creation and innovation in all fields of science and indigenous knowledge.

The importance of innovation performance to economic development has been recognised globally, leading to a greater demand for more innovation out of publicly funded research. This has come into sharper focus through the greater emphasis on delivery of innovation outcomes in the recent WP STI and a growing race to exploit the fourth industrial revolution technologies to leapfrog development and gain a competitive advantage. Through the *NRF Strategy 2025*, the organisation will begin a journey to reposition itself to be the fulcrum of a dynamic research enterprise that yields outcomes that contribute to the restructuring of the economy towards one with higher knowledge and innovation content.

Over the medium term the organisation will focus on the following strategic priorities:

- Realisation of the transformation of the research workforce;
- Investments in research based on a research agenda aligned with national development priorities, WP STI and Decadal plan for STI;
- Translation of knowledge outputs to innovation in collaboration with other National System of Innovation (NSI) entities; and
- Exploitation of the capabilities from new technologies to improve productivity of the research enterprise.

I would like to acknowledge the management of the NRF and all NRF employees for the development of this Annual Performance Plan and their dedication to serving the people of South Africa. I also thank fellow Board members for providing direction and oversight over the planning process. I endorse the NRF Annual Performance Plan and express my commitment to ensuring that it is implemented effectively by the organisation.

Chief Executive Officer Statement

The NRF occupies a critical position in the NSI that allows it to interface with and influence a variety of individuals, groups, and institutions that drive the South African knowledge enterprise. It achieves this important national task by providing leadership in the articulation and development of investment approaches, strategies, and priorities in supporting, promoting and advancing research and innovation. In so doing, it also sets the stage for, and enables the growth of, high-end talent, the establishment and provision of cutting-edge research infrastructure, as well as knowledge-based social capital, through the foregrounding of the science-and-society interface and engaged research. Importantly, partnerships at a national and global level with like-minded institutions and organisations ensures that the South African knowledge enterprise is appropriately internationalised, for purposes of both benchmarking and resource leveraging.

Driven by the desire to steer the research enterprise towards impact, and acknowledging that knowledge impact realisation takes time, the NRF has deliberately cast a vision with a ten year horizon. The NRF's Strategic Plan, *NRF Strategy 2025*, will be the delivery framework from which this Annual Performance Plan is derived.

During the medium term period, the NRF will focus on reorientation itself into a knowledge organisation that is *au fait* with all aspects of the knowledge enterprise and will seek to steer same towards impact for the benefit of society. The key areas for performance over the ten year the period will be anchored on the four pillars, namely:

- ***Transformation***, of the research workforce, the research enterprise, the science-and-society interface and organisational transformation of the NRF, thus ensuring equitable diversity of actors and spaces within the knowledge enterprise;
- ***Impact***, at a knowledge, technological and societal (social, economic, environmental) level derived in the long term from the investments the NRF makes in supporting/promoting/advancing excellent research;
- ***Excellence***, as a one of the pathways to impact creation for all the NRF's investment decision-making and service provision; and
- ***Sustainability***, to be a foundational principle emphasising the need for continuity, predictability and consistency.

Additionally, the progress of the organisation towards attaining the *NRF Strategy 2025* will be measured around the following dimensions that are aligned with the legislative mandate and, available resources, and that will be specified and paced to link to national policies and priorities:

- **People**: to facilitate the growth of a cohort of South African researchers and technical expertise that is internationally competitive, intergenerationally balanced and reflects equitable representation of designated groups;
- **Knowledge enterprise**: to build and grow a transformed research system that advances national development while giving South Africa pride of place globally, steered towards impact by means of a defined NRF Research Agenda;
- **Science engagement**: transforming the interface between science and society by embedding engaged research within the knowledge enterprise, and by leading and shaping the science engagement space nationally and globally, all towards building a scientifically literate and critically engaged society;
- **Resourcing the mandate**: development of a flexible and predictable resourcing framework to enable strategy-driven resource allocation and investment for maximum impact; and
- **The organisation we want to be**: to grow and nurture a single identity (ONE NRF) as a fit-for-purpose, transformed and coherent learning organisation that strives for excellence through its lived organisational culture and values.

During the next financial year, the detailed plans for which are included in this Annual Performance Plan, the focus will, more specifically, fall on laying the foundation for the delivery of the strategic direction through the following:

- Develop and complete the conceptual frameworks for the research agenda, engaged science/research, research excellence, societal impact of research and research infrastructure provision;
- Finalise discussions regarding the proposed new resourcing model to optimise the stewardship of available resources to deliver on the NRF's legislative mandate;
- Implementation of an organisational culture change programme to move the organisation towards becoming a learning, inclusive and high performance organisation living its values; and
- Initial implementation of the new postgraduate student funding policy.
- The design of the Exceptional Early Career Researchers (ECR) Programme will be finalised and preparations made for its implementation in the subsequent year.

Operationally, there are several key developments across the organisation forming part of the repositioning of the NRF for greater impact and excellence. These include:

- Optimisation of the operating model through accelerated implementation of an Enterprise Resource Planning (ERP) system aimed at giving the NRF greater process digitisation and business intelligence capabilities to support strategic decision making and reporting;
- Undertaking of an organisational reconfiguration study as part of building the NRF's fit-for-purpose capability to lead science engagement;
- Continued roll out of the first phase of the South African Isotope Facility at iThemba LABS, a project aimed at increasing the knowledge generation and student training capacity of the Facility manifold;
- Procurement and installation of an additional 20 dishes to the MeerKAT Array thus extending the scientific and technical capabilities of the instrument and pipelining SA's engineering capabilities into the next phase of the SKA Project;
- Commissioning of the 15m coastal research vessel, *Observer*, by SAIAB which is being acquired through funding from SARIR's Shallow Marine & Coastal Research Infrastructure allocation by the DSI. The vessel brings new capabilities in the deployment of heavier moorings in deeper water and will be linking in with the needs of SAEONs deep water monitoring programme and the SARChI in Marine Livelihoods which monitors the squid industry along the east coast;
- Development, implementation and integration of SMCRI and EFTEON coherently under SAEON's strategic outlook and operations in order to maximise the return on the combined investment of resources; and
- Plan and implement the Agulhas System Climate Array II in partnership with the DSI, the Department of Environment, Fisheries and Forestry (DEFF) and the national and global research community in order to maximise South Africa's geographical advantage with respect to the globally important Agulhas Current

I would like to take this opportunity to acknowledge the support and guidance of 'the NRF Board, the DSI, the DHEST Ministry and the dedication and commitment of NRF Management and all employees in the implementation of the Annual Performance Plan.

Official Sign-off

It is hereby certified that this Annual Performance Plan:

Was developed by the management of the NRF under the guidance of the Board,

Takes into account all the relevant policies, legislation and other mandates for which the NRF is responsible, and

Accurately reflects the Outcomes and Outputs which the NRF will endeavour to achieve over the period 2020/21 to 2022/23.

Mr B Singh

Chief Financial Officer Signature: _____

Dr M Qhobela

Chief Executive Officer Signature: _____

Dr N Obokoh

Chairperson of the Board Signature: _____

Approved by:

Dr BE Nzimande, MP

Minister of Higher Education,
Science and Technology Signature: _____

Part A: Our Mandate

1 Relevant Legislative and Policy Mandates

The context within which the NRF functions is informed by various strategic frameworks, legislation, polices and plans. Amongst these are those that outline developmental priorities for the nation and in particular for the higher education and science and technology sector in the medium to long term. The objectives and priorities relevant to the NRF's mandate, planning and priorities, are discussed below.

National Research Foundation Act, 1998 (Act 23 of 2018 as amended)

This Act established the NRF, and provides the object of the NRF, which is to contribute to national development by:

a) supporting, promoting and advancing research and human capacity development, through funding and the provision of the necessary research infrastructure, in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including humanities, social sciences and indigenous knowledge;

b) developing, supporting and maintaining national research facilities;

c) supporting and promoting public awareness of, and engagement with, science; and

d) promoting the development and maintenance of the national science system and support of Government priorities.

National Development Plan: Vision 2030

The central intention of the National Development Plan (NDP) is the achievement of economic well-being for all South Africans. It aims to reduce poverty, unemployment and inequality by 2030 and identifies the knowledge economy and Science, Technology and Innovation (STI) as among the primary drivers of economic growth, job creation and socio-economic reform. The NDP also outlines the need to improve the relationship between government, industry and the knowledge enterprise.

White Paper for Science, Technology and Innovation, 2019

The White Paper for Science Technology and Innovation (WP STI) places STI at the centre of South Africa's development agenda. It recognises rapid technological advances internationally and the need for South Africa to position itself in responding to these developments. It advocates for the adoption of the principles of open science as a means of growing the science, technology and innovation outputs and impact. The White Paper acknowledges the country's achievements over the past decades, but notes the need to accelerate transformation of the knowledge enterprise to achieve an inclusive science system that is responsive and innovative. It prioritises the need to increase investment and expand the research system and to promote partnerships among universities, society, industry and government to ensure a cohesive National System of Innovation (NSI).

White Paper for Post-School Education and Training, 2013

The White Paper for Post-School Education and Training (WP-PSET) advances priorities in the post-school education sector, including the expansion of the variety and number of post-school opportunities available to

youth. It advances diversity, quality education, expanded access to postgraduate education, and research and researcher advancement.

White Paper 3: A programme for the transformation of higher education, 1997

White Paper 3 emphasises a holistic approach to transformation and the need to balance the transformation imperative with the need for expansion and development. It advances a higher education and research sector that is responsive to the needs of a democratic society and an inclusive economy. In addition, White Paper 3 recognises the importance of countering the isolation of the university sector during the apartheid period through international partnerships and internationalisation.

Policies and other mandates

Macro-policies and strategies of Government developed by sector departments, including those in Higher Education, Science and Innovation, Health, Minerals, Energy, Agriculture, Environment, Water, and Industrial Development, are all crucial to the functioning and work of the NRF. Specifically, the DHET and DSI have developed and implemented a number of strategies and policies to guide the development of our science system and these include:

- The Strategy for Human Capacity Development for Research, Innovation and Scholarships;
- The Staffing South Africa's Universities Framework;
- The Science Engagement Framework;
- The Research Outputs policy;
- The South African Research Infrastructure Roadmap (SARIR);
- The Ministerial Guidelines for Improving Equity and the Distribution of DST/NRF Bursaries and Fellowships; and
- Discipline-specific strategies and plans that include Astronomy, Marine Biology, Biotechnology, Palaeosciences, Nanotechnology.

South Africa is also signatory to a number of international treaties, and in this regard there are a number of international strategies that inform the work of the NRF.

South Africa, and hence the NRF, has prioritised its contribution to the development of the continent and in this regard the African Union's Agenda 2063 is key. It is the strategic framework for the socio-economic transformation of the continent and builds on, and seeks to accelerate, the implementation of initiatives for growth and sustainable development. Most important among these is the aligned Science, Technology and Innovation Strategy for Africa, 2024 (STISA-2024) that identifies critical sectors for technology-led development aligned to the priority outcomes of hunger eradication; food security; prevention and control of diseases; communication; and wealth creation. It identifies four pillars for development, namely: building and/or upgrading research infrastructures; enhancing professional and technical competencies; promoting entrepreneurship and innovation; and providing an enabling environment for STI development.

Globally, the United Nations' Sustainable Development Goals (SDGs) outlines internationally recognised areas of priority in order to advance a better and more sustainable future for all. It sets targets for 2030 to address multi-disciplinary global challenges such as poverty, inequality, hunger, health, education, equality, environmental concerns, innovation and economic growth. These challenges are considered priority areas in terms of research and innovation investment, aligned with and informed by strategic priorities of each country.

2 Institutional Policies and Strategies

Transformation of the science system continues to be a national priority. To this end the NRF has developed a **Transformation Framework** to guide its contribution to system transformation.

In giving effect to the framework, the NRF has developed a **new Postgraduate Funding Policy** and is developing a **programme to support early career researchers (ECR) and scholars**.

3 Relevant Court Rulings

None

Part B Our Strategic Focus

Vision

"*Research for a better society*"

The NRF's strategic vision is that knowledge and research are at the epicentre of national development. It is about a knowledge and research enterprise whose products and effects bring about the advancement of the frontiers of knowledge, improve the quality of life for the people of our country, improve competitiveness of strategic sectors and industries of our economy, provide for better protection and preservation of our national natural heritage, and lead to elevation of the technological base of our country. All of these in order to bring about a better society through research.

Mission

As per its statutory mandate, the NRF's raison d'être is:

"To enable and facilitate the contribution of knowledge and scientific research to national development."

Values

The NRF's shared values reflect the organisation's core ethics and principles. They are lived values that inspire employees and articulate the NRF's aspirations regarding workplace behaviour and institutional culture. The NRF's values reflect its long term vision and the critical success factors of the knowledge enterprise being, transformation, impact, excellence and sustainability. These values are elaborated upon below:

People-centred

People are our greatest asset and are thus treasured and nurtured. We invest in current and future researchers in order to create a transformed, excellent and sustainable research enterprise with impact. We invest in our employees in order to create a transformed, empowering, inclusive and diverse working environment, and to advance health and wellness in the work environment.

Ethics and integrity

Integrity forms the basis of our business principles. As an organisation and individually we act with honesty and probity. We are consistent, fair and transparent in our actions and decisions.

Accountability

We are accountable for the way in which we utilise public resources in pursuit of national development. We make commitments and are prepared to be judged against them. We are responsible for our actions.

Passion for excellence

We recognise our obligation to society and to the research enterprise to deliver the highest standards in all areas of our mandate and to seek out and support excellence.

World-class service:

We are concerned about our stakeholders, their needs and their perceptions. We aspire to and are committed to provide exceptional service at all levels.

Respect

We recognise the inherent worth of every human being, embrace diversity, and treat everybody we encounter with dignity and respect. We respect the environment and all living creatures, and promote sustainable development.

1 Situational Analysis

The NRF functions within a national and international science system, with the key objective of developing, advancing and promoting the national research environment in support of national development. National development refers to the various components of development, for example the political, social, economic and environmental. A central component in South Africa is sustainable development to reduce poverty, unemployment and inequality. The knowledge enterprise contributes to national development through the impact (societal or knowledge impact) of the research it carries out. As outlined above, various pieces of South African legislation and policies have all highlighted the value of science and research to society and the economy. These national developments have arisen in the international context of the notion of a 'knowledge-economy'.

The concept of a knowledge-economy interprets knowledge as a currency within the modern global world, where the social and economic development of a country is enhanced by its ability to create, distribute and utilise knowledge and information. The notion of a knowledge-economy has led to an increase in investment in Research and Development in many developed and developing countries.

In pursuit of these objectives, it is imperative that the research or knowledge enterprise is supported, promoted and advanced in order to contribute to national development. Without a well-resourced, sustainable and transformed knowledge enterprise, developmental efforts, the NRF will not be able to bring about benefits for society, the economy and the environment. The NRF's Strategic Plan and Annual Performance Plan are informed by this key objective, which is central to its amended mandate.

In the South African context, the NDP indicates that 'Science and technology continue to revolutionise the way goods and services are produced and traded. As a middle-income country, South Africa needs to use its knowledge and innovative products to compete'. It explains further that 'Innovation is necessary for a middle income country to develop. Science and technology can also be leveraged to solve some of the biggest challenges in education and health'.

In pursuit of these objectives, it is imperative that the research or knowledge enterprise is supported, promoted and advanced in order to contribute to national development. Without a well-resourced, sustainable and transformed knowledge enterprise, it will not be able to continue to bring about benefits for society, the economy and the environment. The NRF's Strategy is informed by this key objective, which is central to its mandate.

The knowledge enterprise consists of four key components. First is the people who undertake and support the research endeavour – postgraduate students, researchers and support professionals. Second is the research

undertaken which advances knowledge production and dissemination. Third is research infrastructure – the tools researchers require to conduct their research. Finally is the relationship between science and society. These are also the four focus areas of delivery for the NRF.

Currently the NRF supports approximately four thousand research-productive and internationally recognised researchers. The productivity and quality of the knowledge produced by NRF-funded researchers has been significant over the past five years. In terms of Thomson Reuters Web of Science measures, NRF-funded researchers' growth rates in knowledge production have surpassed the world growth rate over the past five years. The science system not only produces excellent researchers, but South Africa has also become a 'sought-after' global platform for conducting Astronomy, Nuclear Physics, Palaeontology, Medicine, and Social Sciences research of international stature. Excellence is among the areas of strength of the South African science system, and the NRF will continue to drive excellence in the future.

The establishment of a Ministry of HEST provides an opportunity and increases the scope for a more unified approach to national research development by bringing Universities and Science Councils, including the NRF under a single Ministry. The NRF Transformation Framework envisions a transformed and transforming NRF that is an inclusive and diverse organisation that supports and promotes the simultaneous eradication of all aspects of unfair discrimination, that recognises and respects diverse cultures and knowledge systems, and that supports a research and higher education sector that gives full expression to opportunities for all. The Transformation Framework identifies the specific need to focus on transformation of the equity profiles of the South African research workforce; of the knowledge enterprise; of the relationship between science and society; and the building of a diverse and fully inclusive learning organisation.

The new Postgraduate Funding Policy make provisions for postgraduate funding allocations to be underpinned by the principles of equity of opportunity; representivity; prioritisation; and enhanced access, success and throughput. Race, age, gender, disability, and nationality will be considered in the allocation of funding, with transformation as the core objective. Financial need is, for the first time, included as a funding criterion. To attract and retain a diverse range of students, bursary values will be increased to cover the full cost of study. With regard to early career researchers (ECR) and scholars, the NRF is conceptualising a programme that will be highly competitive, merit-based and offer long-term, customised support to black or women early career researchers. The objective is to enable exceptional ECR and scholars to become internationally leading researchers and scholars.

2 External Environment Analysis

Based on the situational analysis, the NRF has identified four critical success factors of the knowledge enterprise for this Strategy that will inform the organisation's decisions and priorities over the next five years. First is the **transformation** of the knowledge enterprise; second is the **impact** of the knowledge enterprise on society, the economy, the environment and within the research enterprise; third is the importance of **excellence** and international competitiveness; and last is **sustainability**, both of the knowledge enterprise and of the environment. The success factors of Transformation, Impact, Excellence and Sustainability are inseparable and inter-dependent, and serve as lenses to inform the organisation's decisions and priorities over the next five years. Together they form a coherent structure for its Strategy over the next five years and its Annual Performance Plans, envisaging a mutually beneficial relationship between the knowledge enterprise and society. Each of these are discussed below.

Transformation

Transformation is essentially about fundamental change in form, nature or function. It is about structural or internal change that modifies the nature of a system or being. In the modern South African context, transformation is understood to be a process of transition from the legacies of the apartheid past, with its ideologies and discriminatory practices, into a new democratic era with new or modified practices, institutions, values and beliefs, which have societal legitimacy.

Part of transforming the knowledge enterprise is changing the way in which research and knowledge production relate to society and the economy. Knowledge and research can be used to support broad social and economic development, encourage critical discourse, and develop responsible and critically engaged citizens. Developing a knowledge economy, where social and economic development is based on knowledge production, is part of the national transformation agenda. The transformation agenda has been a national priority over the last 25 years, and remains a priority considering the pace of transformation in the sector.

As evidenced by national data, progress has been made in driving the racial and gender representation at postgraduate level, which show that in 2017, 59% of doctoral students were black African (from 47% in 2012) and 45% were women (from 44% in 2012). In terms of doctoral graduates, 54% were black African in 2017 and 43% were women (compared with 43% and 42% respectively in 2012). This serves to demonstrate that significant progress has been made in closing the racial and gender composition gaps, however, more needs to be done considering the demographic representation in the country.

Nationally, regarding research and instructional staff, 42% were black African in 2017 (compared with 32% in 2012) and of these 17% had a doctorate qualifications (compared to 13% in 2012). Women accounted for 50% of research and instruction staff in 2017 (from 48% in 2012) and of these 20% had a doctorate (from 16% in 2012). Despite progress made, the paucity of women and black African research and instructional staff with doctoral qualification persists. Therefore, there is a need to continue to drive the transformation agenda. This underscores the prioritisation of transformation of the equity profiles of the South African research workforce.

Impact

Impact, in its various dimensions, is about having influence or effect for change. The Organisation for Economic Co-operation and Development (OECD) defines impact as 'Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended'.

Within the knowledge enterprise, impact has come to be defined as either 'knowledge or academic impact' or 'research impact'. Knowledge impact, which is a well-established marker for research evaluation, is about the 'demonstrable contribution that excellent research makes to academic advances, across and within disciplines, including significant advances in understanding, methods, theory and application'.

Research impact, also called societal impact, which has been added to the evaluation of research more recently, is about the 'demonstrable contribution that excellent research makes to society and the economy. Economic and societal impacts embrace all the extremely diverse ways in which research-related knowledge and skills benefit individuals, organisations and nations.' The societal impact of research includes impact in the economic, social and environmental realms. Examples include environmental security, impact on policy development, technological advancement and innovations. In brief, it is about the impact of research outside of academia and about the direct or indirect causal relationship between knowledge production and improvement in the quality of people's lives.

Over the period of this Annual Performance Plan, the NRF will seek to support research that generates societal impact while maintaining a balanced approach to supporting fundamental and mission-led research. To this end, the organisation will entrench engaged research in the knowledge enterprise, through interaction for mutual

benefit. In addition, society will participate in knowledge production by identifying societal challenges or policy needs, evaluating impact case studies, or gathering data for research projects.

Excellence

Excellence is generally understood as a comparative judgement of an endeavour, rather than a substantive one. To be excellent means 'to excel', in other words to be judged better than others in terms of predefined criteria. In general, excellence can be ascribed to a person, an organisation, a product, or the performance of an activity. In the global knowledge and science system, the judgement of excellence is often done in terms of either a comparative evaluation or rating against benchmarks, process norms, criteria, and goals, or a sector-wide ranking.

The concept of research excellence is open to a number of interpretations and context specific definitions. It is internationally acknowledged that there is no fixed definition for 'research excellence', with continued debates around methods and discipline-specific criteria. More recently, the debate has extended beyond methodological quality to include 'fitness for purpose'. Emerging research excellence conceptual elements and criteria are scientific merit, ethics, originality, relevance, purpose, methodological rigour and impact.

In addition to being a value of the NRF, the pursuit of excellence is a fundamental objective of any scientific organisation. This is particularly important as the NRF is rightly expected to advance scientific excellence in the national science system.

Sustainability

To ensure a sustainable knowledge enterprise, growth must be balanced with the available operational and financial resources. For instance, growth in postgraduate enrolment must be balanced with undergraduate enrolment and must take cognisance of the available supervisory capacity and institutional capacity and infrastructure. Similarly, growth in the researcher cohort must also be commensurate to the expectations of the country to become a knowledge-led economy.

Sustainable development is about development that takes into account social, economic and environmental impact, recognising the importance of each and their inter-related nature.

The South African NDP and the UN's SDGs focus on optimising social justice, economic development and environmental sustainability. They identify key challenges relating to the social, economic and environmental context, such as those of poverty, climate change, education and health. These require national or global action. It is thus important to pursue responsible knowledge production aimed at sustainable development for South Africa.

3 Internal Environment Analysis

In order to deliver on its mandate, and support the knowledge enterprise in line with the four critical success factors identified in the external analysis, the NRF requires a fit-for-purpose organisation and appropriate resourcing. Both the NRF and the knowledge enterprise cannot function effectively without the provision of resources and the NRF cannot function optimally, or support the knowledge enterprise effectively, if it is not appropriately organised and fit-for-purpose

Appropriate resourcing

NRF Strategy 2025 can only be effectively implemented with the necessary financial resources, both for the NRF and for the knowledge enterprise as a whole. Implicit in this perspective is the notion that sustainable and dependable resources are required for a thriving research enterprise. It is critical that the NRF receives adequate resources, with sufficient predictability, to allow for long-term planning and sufficient flexibility to enable strategic decision making for maximum impact. This is a key challenge for the NRF.

The current reality is that government allocations to the NRF have not increased in real terms, and that the majority of the funding allocated to the organisation from government is already earmarked (75%), leaving only 25% for the NRF to invest in a balanced portfolio of strategic priorities. This funding model inhibits the NRF from determining where funding would best serve the knowledge enterprise and national development. The NRF requires a revised funding model to ensure greater flexibility and maximum impact from investments. An appropriate allocation of resources, aligned to the intentions of Strategy 2025, is essential. Greater resource flexibility will allow the organisation to invest in areas of maximum impact to increase societal and knowledge impact. To this end, the NRF has initiated a process of developing a strategically-oriented funding framework which would enable a greater degree of planning and will permit the NRF greater efficacy in achieving its mandate and strategy against performance objectives.

The NRF is aware that national resources are limited, and that other sources of funding the science system must be explored. Opportunities lie in enhancing strategic partnerships to strengthen the organisation's resource base and advance its mandate. To leverage additionality and advance its mandate, a strategy for strategic partnerships is under development. The strategy will seek to diversify strategic partners, both local and international, with a focus on strengthening existing and creating new partnerships with government and its entities, industry, and civil society. The strategy will also accelerate engagement among African countries to develop expertise, build capacity, and contribute to local and continental development agendas. The central characteristic of all partnerships is that they must align with the NRF's strategic objectives and provide mutual benefit.

The organisation will continue to practice good governance and efficiency, report on and show accountability for resource utilisation, and it will seek to demonstrate the societal and knowledge impact of its investment.

SOAR (Strengths, Opportunities, Aspirations and Results) Analysis

In order to assess the NRF's high-level strengths, and to consider the opportunities it has in the changing national and international context, a SOAR analysis was undertaken. This analysis not only allowed the organisation to consider its current position, but also its vision for the knowledge enterprise, and how this can be attained. Below is an overview of the NRF's SOAR analysis. This analysis informed the situational analysis and the identification of ambitions for the next decade as depicted in both NRF Strategy 2025 and Annual Performance Plan.

SOAR Analysis

Strengths • Highly networked within the knowledge system, nationally and internationally. • Well-developed, best practice research evaluation and support systems. • Talented and highly knowledgeable, committed and diverse leadership and staff cohort. • Unique position of influence across the national science system. • World-class National Research Facilities. • Good governance and accountability systems in place.
Opportunities

- Restructured administration and synergies (combined Ministry for DHE and DSI).
- Amended mandate that provides a clearer and expanded scope for the organisation.
- Digital technological advancements.
- Promote the benefit of the knowledge enterprise for societal development.
- Make science accessible through a variety of media platforms (including social media).

Aspirations

- To position the NRF to impact, shape and influence all aspects of the knowledge enterprise.
- To maximise the impact of our investment through strategic decision making that will benefit society.
- To demonstrate the impact of the NRF, and the research it performs and funds, on society, the economy, the environment and on the knowledge enterprise.
- To fundamentally change and strengthen the resourcing of our mandate.
- To create an inclusive and diverse knowledge enterprise.
- To influence the national science agenda and decision making in the science system.
- To be a transformed, coherent, learning organisation that strives for excellence.

Results

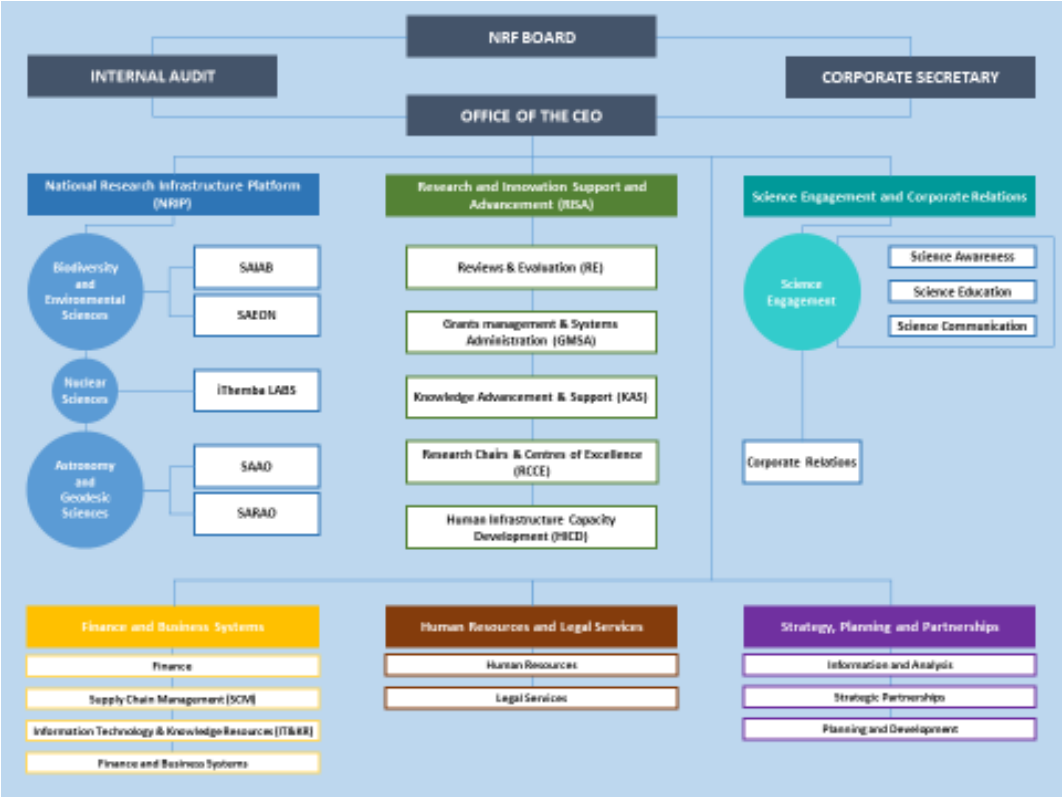
- A diverse, inclusive and transformed knowledge enterprise and research workforce.
- Excellent research with impact, that contributes to national development.
- A sustainable knowledge enterprise, delivering sustainable solutions to global challenges.
- An NRF that is the nexus of information on the science system, which provides research and analysis for informed decision making.
- An indispensable, agile, responsive and relevant NRF.

Both the Aspirations and the Results identified through the SOAR Analysis by the organisation lay the framework for the derivation of strategic intents. These are reflected as the desired Outcomes and Outputs which themselves provide a basis for positioning the performance expectations and stating specific medium term targets.

Organisational structure

Below is a representation of the NRF's organisational structure, which also reflects the leadership and governance structures responsible for the accountability and integrity of the organisation.

Figure 1: High level organisational structure



The structure of the organisation ensures optimal coordination of functions across specialist operational business units and corporate functions. Corporate Level Executives are assigned to exercise oversight over delivery on strategic plan outcomes and performance of critical support functions.

Part C Measuring Our performance

1 Institutional Programme Performance Information

Based on the situational analysis and informed by the WP STI, the MTSF 2019-2024 and DSI Strategic Plan, the NRF has determined its key strategic intents for the next five-years, set across the key focus areas of the following organising framework: **People, the research enterprise, research infrastructure,** and **the relationship between science and society**. The organising framework includes two cross-cutters enabling and **Fit-for-purpose NRF**, and **Resourcing the mandate.** The latter was elaborated upon in the situational analysis.

People (Outcome1: A transformed (internationally competitive and sustainable) research workforce)

In order to transform the equity profiles of the South African research workforce, the NRF aims to facilitate the growth of a cohort of South African researchers and technical expertise that is internationally competitive, intergenerational and with equitable representation of designated groups. The organisation will strategically invest its resources across the researcher pipeline and will partner and collaborate with relevant organisations nationally and internationally to achieve this intent. Key to the realisation of this intent will be implementation of the new Postgraduate Student Funding Policy, which seeks to improve access, throughput and success across the system, as well as a Programme for Early Career Researchers, which will seek to drive, enable and reward excellence through long term customised support for exceptional potential. It is a requirement that Established researchers supervise postgraduate students and mentor ECR and scholars.

The research enterprise (Outcome 2: Enhanced impact of the research enterprise)

In its intention of enhancing the research enterprise's contribution to National Development, the NRF will invest sustainably in strategic areas of national relevance, priority or advantage through a defined NRF Research Agenda. The Research Agenda will be used as a mechanism to steer the research enterprise towards impact, by adopting a thematic approach outlining the knowledge areas in which the organisation invests in order to maximise impact. Secondly, the organisation will prioritise the realisation of societal impact of research by transitioning to a portfolio of excellent research supported by the NRF that is justified with sound *ex-ante* evaluation of knowledge for societal impact potential, and *ex-post* evaluation to demonstrate societal impact of research. It is acknowledged that this will require the re-conceptualisation of the evaluative frameworks, systems and processes, including the expectations the NRF on proposals of research.

The NRF provides access to a range of **research infrastructure** platforms, both locally and internationally, and hosts a number of National Research Facilities. It will advance the adoption of a national lens approach to research infrastructure support and provision, beyond individual interests and capabilities. In this regard, it will seek to achieve knowledge domain balance across the portfolio of research infrastructure platforms with particular focus on the introduction of platforms in the social sciences and humanities. Furthermore, the NRF will seek to advance a platform approach to research infrastructure provision, and move away from provision of individual-level small scale research equipment or infrastructure elements. This will entail the development of consensus on the notion of "well-founded laboratories", infrastructure, i.e., infrastructure meant for undergraduate and postgraduate students teaching and learning, with the intention of excluding it from NRF funded research infrastructure.

The relationship between science and society (Outcome 3: Enhanced impact of science engagement)

The NRF recognises the importance of a scientifically literate and critically engaged society as an essential requirement of the transition towards a knowledge economy. It aims to transform the relationship between science and society over the next five years by creating a fit-for-purpose organisation that leads the science engagement mandate across the science sector, embedding an engaged research framework across the research enterprise and NRF-supported research.

The NRF aims to embed engaged research within the knowledge enterprise and position itself as a significant player in the international engagement and research impact discourse. In line with its mandate, the NRF will develop an Engaged Research Framework to encourage and embed clear and thoughtful approaches to science and community engagement and involvement across the life cycle of NRF-funded research. This will take into account the emphasis in the WP STI on continuing progress towards innovation in partnership with a range of relevant stakeholders, with the aim of building a culture of innovation and driving a strong sustainable economy and a more equitable society.

A fit-for-purpose organisation (Outcome 4: A transformed organisation that lives its culture and values)

In terms of ensuring a fit-for-purpose organisation, the NRF will advance a transformed, coherent, learning organisation that strives for excellence through its lived organisational culture. A supportive and high-performing organisational culture is essential for strategic delivery. Fit-for-purpose structure, business processes and technology systems are required to ensure true strategic delivery and excellent service. In this regard, people and organisational culture are key. Implied in the NRF's values is a high-performance culture. This is achieved through, among others, a participatory work environment in which employees are not only valued but are also well-motivated, engaged and productive. As such, the future of the NRF will be safeguarded through transformative succession planning, ongoing workforce planning and employee development and retention initiatives that ensure a future cohort of highly capable and committed employees. This will position the NRF to impact, shape and influence all aspects of the research and knowledge enterprise.

Alignment of NRF Plans

The NRF intends to organise itself towards realisation of its Strategy 2025. It has set specific strategic intents for each of these dimensions, along with envisaged strategic outcomes, indicators and targets for tracking the progress towards achievement. The Table below illustrate the alignment of the Annual Performance Plan to the NRF Strategy.

Table 1: Alignment of the NRF Plans

Organising framework elements	Outcomes (Strategy 2025)	Outputs (Annual Performance Plan)
People	A transformed (internationally competitive and sustainable) research workforce	A transformed postgraduate student cohort
		A transformed researcher cohort
The research enterprise and research infrastructure	Enhanced impact of the research enterprise	Knowledge produced by NRF supported researchers and research infrastructure platforms
The relationship between science and society	Enhanced impact of science engagement	A fit-for-purpose capability for science engagement and embedding of engaged research
Fit-for-purpose NRF, and Resourcing the mandate	A transformed organisation that lives its culture and values	A transformed leadership and management cohort (P1-7)
		An inclusive enabling organisational culture
		Efficient resource deployment enabled by a predictable and sustainable resourcing of the NRF mandate

Overview of NRF Programmes

The NRF business is geographically dispersed, and operationally and technically diverse in terms of size and contribution to the delivery of outputs of the organisation. In order to steer the organisation towards achievement of the strategic ambitions articulated in its Strategy 2025 and this Annual Performance Plan, a fit for purpose administration capability is critical.

The strategic outcomes will be pursued through a strategic implementation system made up of four budget programmes, namely, Administration; Science Engagement; Research and Innovation Support and Advancement (RISA); and National Research Infrastructure Platforms (NRIP). The actual design and delivery of outputs is carried out through a number of business units in alignment to the strategic outcomes. The programme structure is aptly designed to lead business units to deliver required outputs that will give effect to the four outcomes in NRF Strategy 2025. In the case of content-based Programmes, delivery may be achieved by more than one programme.

Performance targets for the programmes are given in **Table 4: Outcome, Outputs, Performance Indicators and Targets**.

1.1 Programme 1: Administration

Programme 1 is comprised of shared services functions and systemic enterprise-wide coordination capabilities in order to achieve synergies, shared systems and economies of scale, and to provide strategic direction. The frugal yet optimal and efficient design of this programme is necessary especially in this phase of the national economic cycle, where resources are scarce and the needs are too numerous for the available resources. Programme 1 comprises of the following functions or sub-programmes:

- Strategy, Planning and Partnerships;
- Finance and Business Systems;
- Human Resources and Legal Services; and
- Corporate Relations and Communication.

Sub-Programme 1.1: Strategy, Planning and Partnerships (SPP)

The purpose of SPP is to provide evidence-informed strategic planning, policy experimentation and development, and strategic partnering services, as levers for advancing the mandate of the NRF.

Key areas of focus are:

- Coordination and articulation of macro-organisational strategic direction, leading formulation of policy choices and develop, implement and maintain systems and tools for long-term monitoring and evaluation of progress towards attainment of organisational outcomes and impact;
- Move to a system wide data analytics of the knowledge enterprise for societal impact; and
- Leveraging of local and global relationships to secure additional resources for delivery of NRF mandate and vision.

SPP outputs will further contribute to informing and enabling the organisation to do its own strategic long-term planning and reflection on the delivery of its core mandate using the lenses of the critical success factors, namely Transformation, Impact, Excellence and Sustainability. The SPP's priorities over the MTEF period will be to:

- Create opportunities for students /researchers to access international and industry partners;
- Develop and implement the Research Development Information Portal (RDIP) according to an approved conceptual framework; and
- Develop policies/frameworks and strategies to advance the NRF mandate.

Immersing the SA research community internationally increases competitiveness and research impact. Furthermore, the leveraging of international opportunities such as supervisory capacity, mentoring, and large infrastructure has a major effect on the sustainability of the SA science sector. Accessing the local industrial sector improves impact and competitiveness of the SA industry, and assists in moving the country to being a knowledge intense economy. The transformation agenda remains a priority driven through diversity and inclusion of participants in the programmes, and the nature of the research that gets conducted as dictated by the NRF's research agenda.

In driving and tracking progress made in advancing the Vision, Impact, and Outcomes of Strategy 2025, SPP will develop and implement the Research Development Information Portal with reliable and usable data to drive the transformation, impact, excellence, and sustainability agenda in all areas of the NRF's mandate. New areas such as impact measurement will be advanced through co-learning with international partners.

Documents clarifying the organisation's planning, conceptualisation and advancement of areas of its mandate will be developed throughout the organisation but anchored on the SPP's core work.

Sub-Programme 1.2: Finance and Business Systems (FBS)

Finance and Business Systems provides shared service functions and coordination of organisation-wide processes to ensure compliance with statutory requirements for the management of public finance, accountability for service delivery, economical and transparent use of resources, compliance with legislative frameworks and ensuring ethical conduct. The sub-programme derives its mandate primarily from the PFMA and the NRF Act, and adopts best practices that enhances the business systems and governance practices to improve organisational effectiveness, accountability and performance.

Key areas of focus are:

- Financial accounting and reporting, PFMA compliance and internal controls, treasury function, development and maintenance of financial management systems, and policies and procedures;
- Provision of supply chain management function through systems and processes aligned to best practices in adherence to various SCM prescripts. The unit strives to achieve 'Value for Money' in enabling business delivery;
- Development and maintenance information, knowledge, communication management infrastructure and platforms, as well as delivery of information and knowledge management services towards higher performance objectives; and
- Coordination of organisation wide processes to set governance tone and oversight, develop commitments, determine and manage risk appetite of the organisation including regular reporting against plans and targets to meet statutory requirements, and expectations of various stakeholders.

The following priorities and outputs have been planned for the division in order to contribute to the achievement of the organisation's impact and outcomes:

- **Financial resourcing** – finalise proposal for the resourcing model, which includes the mapping of the model to the NRF legislative mandate and strategic priorities of the NRF as well as national STI policy direction and strategic outcomes of the DSI contributing to the development of an Annual Ministerial Funding Statement (AMFS). This model will support and drive improved allocation of resources towards sustainability and aligned to the proposed NRF Research Agenda, once finalised in consultation with the DSI and other stakeholders going forward. The implications of forced funding cuts by National Treasury will be factored into the budgets to ensure prudent financial management and a break-even financial position.

- **Information Communication Technology** - The rate of technology advancement is frenetic, and its impact is ubiquitous to the extent that adoption of new technologies is not a choice but a reality. The NRF must keep abreast through the provision of optimised and efficient ICT systems and platforms. The ICT function will ensure expansion and improvement of digital infrastructure and implement enabling information management policy to support of the NRF strategy and business outcomes. The NRF has also embarked on a journey to implement a fit-for-purpose ERP system that can cope with the changing demands of modern technology and efficiency improvements whilst simultaneously reducing transactional cost. The blue-print exercise has commenced and the phased roll-out of system modules will be initiated with the roll-out of the HR module. This will be followed by other core modules of Finance, Legal, SCM and Grants Management, providing a full operating system by the end of the first year of the MTEF.

- **Procurement & SCM** - The NRF will leverage the advantages of both the corporate and decentralised mode of operations in creating synergies to advance the 'One NRF' and to ensure value for money within legislative framework for public procurement. Particular attention will be focused on the transition to the ERP SCM module and elimination of manual processes. The organisation will optimise its internal processes to continuously improve its BBBEE level by further exploring all elements of the scorecard, in particular supplier enterprise development and skills development.

- **Open Science & Open Access** – The focus will be on the development of a roadmap towards open science for the NRF aligned to the broader movement towards open science both nationally and internationally including OA2020, Plan S and cOAlition S. The aim is to ensure that publications and research data are accessible with minimal restrictions, and that researchers retain copyright on publishing by avoiding double payments where researchers pay to publish articles, as well as to pay an additional subscription to access the publication through complex and costly models.

- **Governance** – The organisation will continue to invest in continuously improving its enterprise wide processes to ensure accountability, organisational effectiveness, improved performance and growing legitimacy among its stakeholders. The organisation is committed to social and environmental sustainability in its investments and operations.

Sub-Programme 1.3: Human Resources and Legal Services (HR&LS)

This sub-programme serves to create a conducive, attractive, inclusive and integrated transforming work environment where employees thrive and achieve not only excellence in their performance outputs, but also a sense of career fulfilment, engagement and total quality of work life, as well as provision of legal services, facilitation of harmonious employment relations to achieve labour peace and the management of the intellectual property generated from activities funded by the NRF.

Key areas of focus are:

- Facilitating the NRF's progression towards a transformed, coherent organisation that strives for excellence through its lived organisational culture with the goal to be a high-performance, supportive and inclusive learning organisation.

- Guidance across the organisation towards responsible corporate citizenship premised on ethical leadership and legislative compliance underpinned by fair labour practices, equity, equality, diversity and inclusivity, non-discrimination and labour harmony.

- Provision of sound legal, employee relations and intellectual property management services and advice across all levels of the NRF.

Progress and achievement of targets in the employment equity plan will create a critical mass necessary to achieve a transformed and inclusive organisational culture wherein all employees belong and feel valued. Particularly progress towards the increase in the number of South African black African women at senior and executive leadership levels will leverage diversity in decision making and support achievement of leadership outcomes. The targets including qualitative activities towards the integration of people with disabilities will in particular enhance the NRF's profile in respect of its inclusivity and diversity drive.

The NRF wants to achieve a diverse and productive workforce; an equitable and accessible work environment; an inclusive environment where all employees are valued; a work environment free from discrimination; and a level

playing field for employee success. The organisation has identified this matter as being instrumental to its own sustainability and to ensuring that there is equity of opportunity for all.

The following priorities have been planned for the sub-programme over the medium term period in order for the NRF to advance a transformed, coherent, learning organisation that strives for excellence through its lived organisational culture:

- Continuously assess the work place skills required and provide lifelong learning interventions to develop its employees. Interventions include management and leadership development initiatives, mentoring and coaching, education assistance programmes to enable employees to pursue formal qualifications, and training and development short courses. As part of Strategy 2025, interventions will be introduced to assist employees to adapt to the rapidly changing nature of work, in part due to the introduction of technology. The Enterprise resource planning (ERP system) will add to the ease of doing work through employee self-service.
- In the performance period, an organisation wide review of the structure to ensure optimal performance and fitness for purpose will be pursued. It is also essential that in the context of resource and budgetary constraints, the structure permits for optimal sharing of resources and expertise across the organisation.
- Meeting the employment equity targets and ensuring that the NRF succession pools are diverse will ensure sustainability of diversity and inclusion, as well as achieve gender diversity in senior decision making positions. This will directly contribute to the outcome of a transformed organisation.
- Review the NRF culture to ensure that the intended outcome of a lived culture is achieved. The review of the culture will also ensure that practical ways of living the NRF values by all are derived and mainstreamed.
- Workshops on practical ways of achieving inclusion and being conscious of and averse to exclusionary practices will be conducted with all supervisory employees, in addition to diversity sensitisation workshops.

Sub-Programme 1.4: Corporate Relations and Communication

The Corporate Relations unit is mandated primarily to build a positive reputation of the NRF, thus positioning it favourably in the perceptual maps of its stakeholders, which in turn helps to facilitate the pursuit of all the organisational outcomes. In addition, organisational culture is key to the delivery of the NRF Strategy 2025 and internal communication with employees remains an essential part of the journey to becoming the organisation we want to be. The mandate of Corporate Relations is therefore in service to the organisational vision and mission and its offerings and activities form an integral part of efforts to realise the organisation's ambitions to shape, influence and impact the national research system.

Key areas of focus are:

- Building the NRF brand within the National System of Innovation (NSI);
- Facilitating key NRF corporate stakeholder engagements;
- Communicating research funded by the NRF and its impact across society; and
- Promoting a positive organisational culture.

An increasingly scientifically literate and engaged society is dependent on exposure of scientific research to the public and provision of avenues for the public to engage with the researchers who develop the scientific knowledge. Therefore the work conducted to promote the NRF and the work that it does i.e. its value proposition, is tied to promoting the value proposition of science and scientific research. So both indirectly i.e. promoting the NRF and directly, promoting the research conducted by or funded by units of the NRF, serve to advance the outcomes of Strategy 2025. Therefore the work done in leveraging the traditional media offers the organisation an avenue to share, publicly, the research that it funds. The production of tools to share research in the form of publications such as Science Matters creates an avenue for sharing scientific information in an accessible and useful manner. The communication of research via social media and the interactive nature of this platform allows for an interactive engagement with the content shared, and therefore greater engagement. The lectures, exhibitions and other forms of in-person communication used by the sub-programme help in the dissemination of information, as well as providing opportunities for a two way engagement with diverse stakeholder audiences.

The following initiatives have been planned for the sub-programme over the medium term period in order to contribute to the achievement of the organisation's set strategic objectives and outputs:

- **Building NRF Brand (Positive Reputation):** the sub-programme will utilise opportunities in the media to position the NRF through paid brand advertising or positive earned media placement for the NRF. In addition, there is a desire that, as a knowledge organisation, we author op-ed (NRF opinion editorials) articles on relevant topics in the media to encourage the discourse around matters of science, technology and innovation. Social media platforms have proved highly engaging, especially with the student community, and hence the unit will continue to share information and engage on social media as a platform for building awareness about and enhancing the reputation of the NRF. The appointment of an In-house website designer allows for the much needed rebuild and redesign of the NRF Corporate website for optimal functionality in line with high performing website benchmarks. The website allows for the strategic positioning of the NRF products and services to stakeholders.

- **Facilitating key NRF corporate stakeholder engagements**: the approved stakeholder framework requires more detailed mapping at each business unit level in order to provide a more nuanced understanding of NRF stakeholders and engagements for more targeted stakeholder relationships. The organisation will consider the more strategic use of customer surveys , with the next 5 year survey due to be held in 2020.

- **Communicate Research funded and or conducted by the NRF:** the intention is to maximise exposure of NRF funded research and researchers through engaging lectures and debates, in-house publications (e.g. Science Matters), Social Media, television, YouTube and other available platforms. The NRF Awards remains the flagship project for communicating the value of research and researchers whilst positioning the NRF Brand.

- **Promoting a positive organisational culture:** in partnership with Corporate HR, the communications unit will contribute towards the ongoing building of the ONE NRF community, and a service culture through integrated NRF wide communication activations. This will be given strong emphasis in the short to medium term as the organisational culture project, led by Human Resources, unfolds across the NRF.

1.2 Programme 2: Science Engagement

The amendment to the NRF Act means that the science engagement mandate applies to the whole of the NRF with the expectation that SAASTA and all other service delivery business units in programme 3 and programme 4 will contribute meaningfully to the overall quest for a more engaged relationship between science and society.

The NRF has thus been presented with opportunities to review and reconceptualise its scope of influence and impact in relation to its envisaged science engagement leadership and coordination role within the NSI. This has and will continue to mean a deliberate shift from short term, activity based interactions, mainly targeted at school level, with a focus on counting numbers (reach) and generally operating under constrained resourcing to a more effective approach that necessitates leadership of a clear, national science engagement agenda by an appropriately skilled and knowledgeable science engagement workforce; within an approved science engagement funding framework that allows for an innovative, cutting edge portfolio of programmes. Well established strategic partnerships are essential to remaining internationally connected and recognised (influence and impact) within the global science engagement discourse. The development of this type of enabling context for science engagement remains an essential part of the work of Programme 2 in the short to medium timeframe.

The science engagement coordination function will include three intertwined and mutually inclusive areas that will need to be fully developed and implemented and include:

- Establishing and maintaining programme cohesion (across the identified partners);
- Managing the deployment of resources and capabilities (required to accomplish strategic intentions); and
- Enabling programme performance measurement (including the hosting of the science engagement information management system).

Key areas of delivery are:

Embedding engaged research - Through this focus area, the intention is to achieve the following goals: build trust between publics and scientists; strengthen the interface between science and society; increase public understanding of the process and impact of science; embed high quality and innovative public engagement as an integral part of research; influence and support public culture and democratic citizenship and enhance research and its impact.

Enabling public access to research and science engagement infrastructure – This focus area will ensure that existing science engagement infrastructure e.g. science centres and public spaces of the research infrastructure, are made more accessible to the public and are optimally used as science engagement platforms. The goals are to ensure that a greater number of publics have access to science engagement infrastructure; ensure that the investment in research infrastructure sees maximum benefit to society through raising awareness of research capabilities and also profiling South African science achievements.

Supporting the development of STEMI education - This focus area ensures the provision of support to the education sector to improve STEMI participation and performance and human capital development in these critical areas. These will be achieved through the following goals in collaboration with the Department of Basic Education as well as higher education institutions: provision of STEMI curriculum support; identifying and nurturing STEMI talent; supporting the development of educators and equipping them with content knowledge of STEMI fields; inspiring a passion for STEMI fields; enabling the next generation and future researchers to act as informed citizens on scientific issues.

Building science engagement capacity and capability - This focus area ensures the development of science engagement skills and capacity for meaningful and impactful science engagement. The intention is to achieve the following goals: ensure more impactful science engagement by researchers, media, science communicators and other stakeholders; develop capability to engage different and varied audiences in research and engagement with

current trends and research in science communication; develop high-quality, impactful and ethical resources that will enhance science engagement with all publics.

Facilitating partnerships with the private sector - This focus area ensures the strengthening and creation of collaborations with the private sector to promote a more effective interface between science and society. The goals of this focus area are to ensure that the investment in research infrastructure sees maximum benefit to society through raising awareness of research capabilities; creating greater awareness of existing local technological and innovation skills and capabilities and future technology development, and to harness investment in science engagement by the private sector.

1.3 Programme 3: Research and Innovation Support and Advancement

The core purpose of Programme 3 of the NRF is to respond to the following extract from the "Object of the Foundation" per the NRF Act, viz., "supporting, promoting and advancing research and human capacity development, through funding, in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including humanities, social sciences and indigenous knowledge".

Key areas of delivery are described below:

In line with the NRF's HCD pipeline, researchers are categorised into the following categories:

- Established researchers;
- Early Career / Emerging researchers;
- Instrument scientists and technical professionals; and
- Next Generation researchers.

Established Researchers

The NRF will continue to attract, support and retain established researchers to ensure growth in the research leadership to drive the NRF knowledge enterprise through the following:

- Investing in all knowledge domains through competitive processes - To promote, advance and support knowledge production and its application to resolution of societal and knowledge challenges, through funding and other interventions. The competitively allocated funding also aims at the achievement of demographically representative, internationally competitive (excellence and productive) and a sustainable South African knowledge workforce.

- Funding the DSI-NRF South African Research Chairs Initiative (SARChI) - SARChI fosters strategic partnerships within the NSI and the international research community, with the aim of creating a vibrant culture of excellence in research, thus strengthening research capacity to advance the frontiers of knowledge.

- Funding DSI-NRF Centres of Excellence (CoEs) - In addition to their multi-disciplinary and multi-institutional research capacity objectives, CoEs also constitute an additional dimension of the funding support that the NRF provides to researchers and research groups that are at different points of development on the research spectrum, viz., the new generation of researchers as well as established researchers. CoEs are also required to contribute to the development and promotion of emerging researchers.

- Evaluation and rating of individuals – The evaluation and rating of individuals is the voluntary ex-post evaluation by experts, of a researcher's relative position among her/his peers. It is a tool for benchmarking the quality of the country's researchers against the best in the world. It intended to be a mechanism for the recognition of the achievement of researchers and to assist them in maintaining their levels of research excellence through benchmarking. NRF will drive, through interventions addressed to academic groups or gatherings, the growth in number of rated scientists to transform the cohort towards closer alignment with the demographics of South Africa.

Early Career / Emerging Researchers

Early Career / Emerging researchers consist of postdoctoral fellows as well as early career researchers who occupy research or academic positions. Amongst the early career researchers are knowledge workers that have not as yet obtained a doctoral qualification. In the era of an ageing pool of academics, the NRF recognises the need to strategically invest in this cohort of researchers in order to transform, renew and replenish the research cohort for a sustainable science system. In order to effect transformation and expansion in the researcher cohort, increased investment will be made in emerging researchers, focussing on South African black and women researchers. Sustained support for exceptional emerging researchers, with an emphasis on black and women researchers, is needed to transform the research workforce leadership. International research exposure for emerging researchers will be facilitated through international bi-lateral partnerships.

The NRF has identified the need for a sustainably funded intervention to support and enable exceptional early career researchers to become leading researchers and scholars in their fields. To ensure its long-term sustainability, the country's national science system needs not only to grow, but also to diversify. The NRF will develop and implement a policy that addresses long term, highly competitive, merit-based customised support to black and women early career researchers.

Instrument scientists and technical professionals

Scientific discovery and innovation is increasingly driven by research infrastructures, platforms and big data. The effective use of advanced infrastructures and platforms require specialised and advanced expertise. Therefore sustainable and effective use thereof depends on the skills and expertise of domain specific instrument scientists and of well-trained technical professionals. Instrument scientists and technical professionals not only manage and operate research infrastructures, but are also a source of institutional knowledge and expertise gained over many years. Programmes are therefore also needed to train future instrument scientists and technical professionals in the natural science domains and in the humanities and social sciences. Despite their importance, these professionals often lack clear academic career paths and employment opportunities. Over the MTEF period, a new Framework will be developed detailing mechanisms for developing instrument scientists and technical professionals to ensure that they have career opportunities that retain their expertise within the research enterprise.

Next Generation Researchers

To address challenges of low progression rates from honours, masters and doctoral studies and longer time to completion, especially among Black and women postgraduate students, the NRF will implement its new post graduate student funding policy. The policy is aimed at enhancing equity of postgraduate student access, success and throughput using funding. The purpose is to retain students in the system to pursue postgraduate studies up to the doctoral level, as part of a national drive to grow the next generation of academics to sustain South Africa's knowledge enterprise. Another motivation for this policy is to fast-track the development of postgraduate students in high-impact, priority and vulnerable disciplines critical for national socio-economic development. The new policy will be implemented with the call for applications in 2020/21 for students commencing postgraduate studies in the 2021 academic year. The policy makes provision for Full Cost of Study (FCS) to financially needy students and students with disabilities, as well as for high academic achievers.

By using a Global Knowledge Partnerships Framework, the NRF aims to source new, and realign existing support programmes to offer new opportunities for exceptional doctoral students and postdoctoral fellows in South Africa to spend up to 12 and 18 months, respectively abroad (i.e., in Africa and beyond). The objective of the Global Knowledge Partnerships approach is to accelerate the production of world renowned experts and a diverse, globally competitive workforce through the provision of platforms that offer outstanding young researchers opportunities to enhance international networks, mentorship and access to global research funds and research infrastructure.

DSI-NRF Internship Programme

During the 2020/21 financial year, 500 new interns that were appointed in the 2019/20 financial year will be continuing with the second year of their internship. To effect alignment of the internship programme with the NRF mandate and the new Postgraduate Student Funding Policy, the programme has been redesigned as a **Graduate Internship Programme for part-time honours students.** Following conclusion of all consultations with DSI and other stakeholders the programme will be updated to provide for increased support to recent graduates, with an undergraduate qualification, from designated groups who have historically been supported by the National Student Financial Aid Scheme (NSFAS) or Ikusasa Student Financial Aid Programme (ISFAP). The NRF will also provide interns with postgraduate funding to cover the cost of tuition fees for two years for part-time honours studies. This new approach will ensure that interns obtain work experience and a postgraduate qualification, thus giving them an improved chance of entering the labour market or further pursuing higher degree studies.

1.4 Programme 4: National Research Infrastructure Platforms

The NRF is mandated to provide leading-edge research infrastructure platforms in support of knowledge generation, innovation, science engagement and human capacity development, a responsibility led within the NRF by Programme 4. This is done in order to ensure that the national research enterprise has the requisite infrastructure to undertake globally competitive discovery science, train the next generation of researchers, support engagement with science by and with the public and promote innovation that positively impacts society, the environment and the economy.

Programme 4 creates the framework for the integration and the establishment of connectivity between the physical, process, systems, data and intellectual infrastructural capacities for the benefit of the national research enterprise. This is done to enable excellence and sustainability of the South African research enterprise by ensuring that it has the requisite research infrastructure.

Key areas of delivery are:

- Develop, support and maintain National Research Infrastructure Platforms across domains; including e-Infrastructures (e-Research & Data Platforms);
- Facilitate researcher mobility to access world-class national and global research infrastructures (in conjunction with Programme 3);
- Lead the NRF's agency role as implementer of the country's participation in inter-governmental and multilateral research infrastructures;
- Promote and support research infrastructure networks and dialogues; and
- Develop and maintain frameworks for benchmarking national research infrastructure platforms
- Make available competitively accessed grants for the acquisition, upgrade or development of state-of-the-art research equipment to South African public research institutions, (in conjunction with Programme 3).

Programme 4 serves a strategic NRF and System-level advisory and leadership role on research infrastructure platform provision, as well as provide an administrative and management support function to the National Research Facilities and/or other NRF - supported research platforms or initiatives.

The **four declared National Research Facilities** and **one** awaiting final determination under Programme 4's management, at this stage, are the primary delivery mechanism for research infrastructure provision to the national research enterprise by the NRF. In terms of the NRF Amendment Act (19 of 2018), a **national research facility** means "…an institution that provides unique and substantial infrastructure, capabilities and services for competitive research, innovation and human capacity development in science, engineering and technology…". As per the Act such facilities are managed by the NRF. They are clustered in the thematic areas of **Nuclear Sciences** (comprised of iThemba Laboratory for Accelerator-based Sciences or iThemba LABS); **Biodiversity and Environmental Sciences** (incorporating the South African Aquatic Biodiversity Institute or SAIAB, and the South African Environmental Observation Network or SAEON), as well as **Astronomy and Geodetic Sciences** (incorporating the South African Astronomical Observatory or SAAO and the South African Radio Astronomy Observatory or SARAO). Table 1 illustrates the facilities' mandates as well as their clustering within the NRF operational context.

Table 2: Portfolio of National Research Facilities

Name of Research Facility	Science Domain / Discipline	NRF Cluster	Facility Mandate
iThemba Laboratory for Accelerator-based Sciences (iThemba LABS)	Nuclear Sciences	Nuclear Sciences	iThemba LABS is a multidisciplinary research facility that is based on the development, operation and use of particle accelerators and related research equipment. iThemba LABS research facilities are utilised by national and international researchers, including young generation South African students, for basic science research, and several applied research such as ion beam analysis, nanotechnology studies, atomic mass spectroscopy for dating ancient artefacts, radiobiology and nuclear medicine, and environmental studies.
South African Environmental Observation Network (SAEON)	Long Term Ecological Monitoring and observation	Biodiversity & Environmental Sciences	SAEON is a comprehensive, sustained, coordinated and responsive national network of in situ environmental observatories that delivers long-term reliable data for scientific research; and that also informs decision-making for a knowledge society and improved quality of life. SAEON has a distributed nodal structure covering all of South Africa's biomes spread across 5 of the 9 provinces of the country. Its six geographically dispersed observation nodes are Arid Lands Node; Ndlovu Node; Fynbos Node; Elwandle Coastal Node; Grasslands-Forests-Wetlands Node; and the Egagasini Node.
South African Institute for Aquatic Biodiversity (SAIAB)	Aquatic Biodiversity Science	Biodiversity & Environmental Sciences	SAIAB serves as a hub for national and international scientific research into the country's most precious resource – water – and the diversity of life supported by our marine, coastal and inland freshwater ecosystems. Its focus on aquatic biodiversity is a unique scientific strength, nationally and internationally with expertise in freshwater aquatic biodiversity that is vital when dealing with issues arising from exponentially increasing pressures of human population growth and development.
South African Astronomical Observatory (SAAO)	Optical/infra-red Astronomy	Astronomy & Geodetic Sciences	The SAAO is the premier facility for optical and infra-red astronomy on the African continent, and operates the Southern African Large Telescope (SALT), the largest optical telescope in the southern hemisphere. The Facility provides ground-based optical observational research infrastructure for astronomers across South Africa, conducts world-class astronomical research, and communicates the excitement of astronomy to the people of South Africa.

Name of Research Facility	Science Domain / Discipline	NRF Cluster	Facility Mandate
South African Radio-Astronomy Observatory (SARAO)	Radio Astronomy	Astronomy & Geodetic Sciences	SARAO's mission is to establish South Africa as a global leader in radio astronomy and associated technologies and disciplines by successfully hosting, and participating in the design and construction, of the SKA telescope and other radio astronomy and geodesy facilities. This mission is implemented through programs and activities that deliver against four strategic objectives: a)To manage and optimise South Africa's contribution to, and benefit from, the international Square Kilometre Array (SKA) Project; b)To establish and sustain globally competitive and transformed radio astronomy and space geodesy research and infrastructure in South Africa and abroad, where appropriate; c)To maximise the associated national socio-economic benefit from radio astronomy and space geodesy activities; and d)To promote radio astronomy and space geodesy capacity in Africa.

The research granting activities of the NRF supporting the acquisition of research equipment - National Equipment Programme (NEP), and the Strategic Research Equipment Programme (SREP) make it possible for South African research organisations to acquire, upgrade or develop high-end research equipment in support of their research endeavours. This initiative, while driven by Programme 3, articulates and aligns with Programme 4's strategic intents of building national research infrastructure platforms, and thus falls under the ambit of the latter Programme. In addition, Programmes 3 and 4 cooperate to make possible access by South African researchers and postgraduate students to Global Research Infrastructures through bilateral and multilateral programmes in conjunction with the Department of Science & Innovation. In line with the strategic intent of the NRF to inculcate a national lens for dealing with research infrastructure provision, as well as mainstreaming a national research infrastructure platform approach, the NRF supports high-end research infrastructure platforms which have the potential to pilot both notions of research infrastructure provision. These, with their respective mandates, are listed on the table below.

Table 3: Other Research Infrastructure Platforms

Research Platform	Science Domain / Discipline	Platform description	Platform's Mandate
Centre for High Resolution Transmission Electron Microscopy (C-HRTEM)	Advanced Electron Microscopy & Micro-analysis	The C-HRTEM is a facility for advanced electron microscopy situated at the Nelson Mandela University in Port Elizabeth. The facility houses four state-of-the-art electron microscopes - including the only double aberration corrected transmission electron microscope on the African continent.	The main aim of the CHRTEM is to provide a full range of world-class state-of-the-art instruments and expertise for materials research, including training and support for researchers and postgraduate students in advanced electron microscopy.
Hydrogen Intensity and Real-time Analysis eXperiment (HIRAX) Telescope	Astronomy	HIRAX is a radio telescope array that will map nearly all of the southern sky in radio continuum and neutral hydrogen line emission over a frequency range of 400 to 800 MHz. It is implemented by an international consortium of institutions led by the University of KwaZulu-Natal and will receive support by the NRF through funding from the Department of Science & Innovation, as part of the Strategic Research Equipment initiative.	The primary goal of HIRAX is to use 21-cm intensity mapping to measure baryon acoustic oscillations (BAOs): these are remnant ripples in the distribution of galaxies that are imprinted by primordial sound waves that existed in the early universe. The characteristic BAO length scale can be used as a "ruler" for charting the expansion history of the universe and for shedding light on the nature of dark energy.

It is intended to create capacity within Programme 4 for leadership and management of support by the NRF for e-Infrastructures (such as e-Research and Data Platforms) in order to incorporate and position the historical data archives and databases that have resided with the NRF, but with a new trajectory and focus on national platforms, including future support for national scale cyber infrastructure to undergird the national research enterprise.

Table 4: Outcome, Outputs, Performance Indicators and Targets

Strategic outcome	Output	Indicator count	Output Indicators		Prog	Annual Performance		Annual Targets		
						Audited	Estimate	MTEF Period		
						2018/19	2019/20	2020/21	2021/22	2022/23
A transformed (internationally competitive and sustainable) research workforce	A transformed profile of NRF funded postgraduate students	1	Profile of NRF funded post-graduate students	Black	Prog 3	73%	76%	80%	81%	82%
		2		Women	Prog 3	53%	55%	57%	57%	57%
	A transformed profile of NRF funded researchers	3	Profile of NRF funded researchers	Black	Prog 3	33%	38%	42%	49%	52%
		4		Women	Prog 3	35%	39%	41%	43%	46%
Enhanced impact of the research enterprise	Knowledge produced by NRF supported researchers	5	Proportion of peer-reviewed publications produced by NRF supported researchers relative to the number of peer-reviewed publications produced by all researchers in the NSI		Prog 3 and Prog 4	40%	40%	41%	41%	41%
Enhanced impact of science engagement (SE)	A fit-for-purpose capability for science engagement and engaged research	6	Proportion of investment in science engagement		Prog 2	3%	3%	3.5%	4%	4.0%
A transformed organisation that lives its culture and values	A transformed leadership and management cohort	7	Proportion of employees from designated groups at Peromnes levels 1-7	Black	Prog 1	44%	45%	47%	49%	51%
		8		Women	Prog 1	24%	26%	28%	30%	32%
	Predictable and sustainable resourcing of the NRF mandate	9	Organisation overheads as a proportion of total expenditure		Prog 1	7.5%	8%	<10%	<10%	<10%

Table 5: Outcome, Outputs, Performance Indicators and Targets

Indicator count	Output Indicators (refer to TID)		Prog	Reporting period (Quarterly or Annually)	Annual Target	Quarterly Targets			
						Qtr 1	Qtr 2	Qtr 3	Qtr 4
					2020/21	2020/21	2020/21	2020/21	2020/21
1	Profile of NRF funded post-graduate students	Black	Prog 3	Quarterly	80%	75%	80%	80%	80%
2		Women	Prog 3	Quarterly	57%	50%	55%	57%	57%
3	Profile of NRF funded researchers	Black	Prog 3	Quarterly	42%	35%	38%	40%	42%
4		Women	Prog 3	Quarterly	41%	35%	37%	39%	41%
5	Proportion of peer-reviewed publications produced by NRF supported researchers relative to the number of peer-reviewed publications produced by all researchers in the NSI		Prog 3 and Prog 4	Annual	41%	-	-	-	41% (April)
6	Proportion of investment in science engagement		Prog 2	Annual	3.5%	-	-	-	3.5%
7	Proportion of employees from designated groups at Peromnes levels 1-7	Black	Prog 1	Annual	47%	-	-	-	47%
8		Women	Prog 1	Annual	28%	-	-	-	28%
9	Organisation overheads as a proportion of total expenditure		Prog 1	Annual	<10%	-	-	-	<10%

Note:

The NRF does not lend itself to quarterly operations and thus quarterly target setting. However, in-year indicative quarterly milestones have been included only where it is feasible to facilitate quarterly performance progress review and oversight in line with PFMA requirements.

2 Explanation of Planned Performance over the MTEF Period

The performance of the organisation over the MTEF period be guided by the MTSF 2019-2024, WP STI, Decadal Plan for STI and will be driven through development and implementation of proposed priorities or initiatives aimed in order to ensure that required quality of outputs committed in this Annual Performance Plan result in the achievements of outcomes in the NRF Strategy 2025.

People (Outcome 1: A transformed (internationally competitive and sustainable) research workforce)

Table 6: Planned priorities and/initiatives by programme

Programme	Priorities and Initiatives
Programme 3	• A transformed post graduate student and researcher cohort through fit-for-purpose grants towards cost of studies (next generation researchers)
	• A transformed, excellent scientific/research cohort through grants towards cost of postdoctoral career development programmes (emerging researchers)
	• Develop and implement a clear funding policy to ensure achievement of equitable support to researchers
	• Framework for developing instrument scientists and technical professionals to ensure that they have career opportunities that retain their expertise within the research enterprise
Programme 4	• A transformed postgraduate student cohort, via the several postgraduate student funding programmes (through scholarships and bursaries) undertaken by the National Research Infrastructure Platforms
	• A transformed excellent scientific/ research cohort, through providing a supportive, enabling environment for the researchers working at, and those utilising, the platforms for their research.

The research enterprise (Outcome 2: Enhanced impact of the research enterprise)

Over the medium term the National Research Infrastructure Platforms will focus on enhancing their capabilities to make an impact by (a) prioritising enhancements and optimisations of their scientific productivity; (b) enhancing the quality (as measured by productive availability) of the scientific platforms they provide to the research community; as well as (c) investing in growing their strategic capability for interfacing with society , the latter being towards the NRF's strategic intent of building a fit-for-purpose capability in science engagement and being the leader nationally and globally in that context.

Table 7: Planned priorities and/initiatives by programme

Programme	Priorities and initiatives
Programme 1	• Research and Development Information Portal (RDIP) that is available to the NRF and the public
	• Invest in the development of data Analytics infrastructure
	• Develop a system wide analytics of the knowledge enterprise for the social impact on society.
Programme 2	• Develop an Engaged research framework to advance relationship between science and society
Programme 3	• Attract, support and retain established researchers to ensure growth in the research leadership through competitive support of research and evaluation and rating of individuals and research institutions; • Funding research to support transformation of the researcher cohort and deliver knowledge outputs in support of national and continental development; and • Investing in research that tackles societal level socio-economic challenges through multidisciplinary research initiatives;
	• Review and update the grants management processes to include research impact in both ex-ante and ex-post review and the evaluation of significant investments by the NRF.
Programme 4	• Prioritise enhancements and optimise scientific productivity.
	• Enhance the quality (as measured by productive availability) of the scientific platforms provided to the research community.
	• Conceptualisation of social sciences research infrastructure platforms
	• Continued roll out of the first phase of the South African Isotope Facility at iThemba LABS, a project aimed at increasing the knowledge generation and student training capacity of the Facility manifold.
	• Procurement and installation of an additional 20 dishes to the MeerKAT Array thus extending the scientific and technical capabilities of the instrument and pipelining SA's engineering capabilities into the next phase of the SKA Project.
	• Commissioning of the 15m coastal research vessel, *Observer*, by SAIAB which is being acquired through funding from SARIR's Shallow Marine & Coastal Research Infrastructure allocation by the DSI. The vessel brings new capabilities in the deployment of heavier moorings in deeper water and will be linking in with the needs of SAEONs deep water monitoring programme and the SARChI in Marine Livelihoods which monitors the squid industry along the east coast.
	• Development, implementation and integration of SMCRI and EFTEON coherently under SAEON's strategic outlook and operations in order to maximise the return on the combined investment of resources.
	• Plan and implement the Agulhas System Climate Array II in partnership with the DSI, the Department of Environment, Fisheries and Forestry (DEFF) and the national and global research community in order to maximise South Africa's geographical advantage with respect to the globally important Agulhas Current.

The relationship between science and society (Outcome 3: Enhanced impact of science engagement)

The planned performance over the medium term period involves a significant amount of building or setting up of structures, processes and systems. The implementation of a national-level science engagement programme requires a multi-stakeholder approach and there is a strong DSI focus on bringing alignment of science engagement between the Department and it's entities in the areas of planning, implementation and performance information, with NRF being positioned as central to this envisaged broader alignment. A business model review will inform further developments with regard to organisational structure, optimal business processes and people capacity and capabilities that will be necessary to support the role envisaged.

Table 8: Planned priorities and/initiatives per programme

Programme	Priorities and initiatives
Programme 1	• Research Development Information Portal (RDIP) that is available to the NRF and the public. • Implement a portfolio of corporate communication interventions that engage the public on NRF funded research.
Programme 2	• Development for a system wide science engagement management and information system.
	• Management of deployment of resources and capabilities (required to across the NSI to accomplish strategic intentions.
	• Development of a portfolio of science engagement and communication skills training for students and researchers across the NRF research investment areas.
Programme 3	• Review and update grants management processes to include engaged research in proposal planning and development, the evaluation of applications, and knowledge outputs.
	• Make provisions for science engagement costs in the allocations and conditions of grants.
Programme 4	• Undertake science engagement portfolio that encourages engaged research, enhances access to public spaces within national infrastructure and improves the relationship between the research enterprise and the public.

A fit-for-purpose organisation (Outcome 4: A transformed organisation that lives its culture and values)

A transformed and transforming NRF is an inclusive and diverse organisation that supports and promotes the simultaneous eradication of all aspects of unfair discrimination, recognises and respects diverse cultures and knowledge systems, and supports a research and higher education sector that gives full expression to opportunities for all, in line with the ambitions of national education, science and technology policy.

Table 9: Planned priorities and/initiatives per programme

Programme	Priorities and initiatives
Programme 1	• Develop enterprise architecture, business process and technologies to improve governance
	• Provide lifelong learning support and opportunities to employees to develop to meet organisation talent requirements
	• Co-create an organisational culture to support the delivery of NRF strategic direction and high performance
	• Build NRF brand equity and profile public supported science and research among stakeholders
	• Build a transformed technical/research support cohort through targeted training interventions and placements that improve the technical expertise of research support staff, including support for doctoral level degree in appropriate cases
All Programmes	• Ensure transformation with respect to the demographic profile of the NRF in line with employment equity undertakings

3 Programme Resource Considerations

Table 10: Budget Allocation for Programmes as per the ENE

	2016/17		2017/18		2018/19		2019/20			2020/21			2021/22			2022/23
	Budget	Audited Outcome	Budget	Audited Outcome	Budget	Audited Outcome	Budget estimate	Approved budget	Changes from approved budget	Budget estimate	Revised budget estimate	Changes from budget estimate	Budget estimate	Revised budget estimate	Changes from budget estimate	Planning Budget Estimate
Rand thousand (R'000)																
PROGAMME																
Administration	95,306	85,007	104,185	89,658	126,600	101,298	126,726	126,725	(1)	133,919	142,968	9,049	142,042	132,653	(9,389)	136,233
Science engagement	176,658	169,509	176,328	169,925	125,190	119,658	118,427	119,287	860	118,507	127,409	8,902	132,501	124,648	(7,853)	123,863
Research and innovation support and advancement	2,520,726	2,690,504	2,564,415	2,793,780	2,504,185	2,638,323	2,799,378	2,845,962	46,584	2,846,455	2,585,714	(260,741)	2,805,128	2,863,137	58,009	2,780,354
National research infrastructure platforms	402,574	430,026	1,119,254	1,175,420	1,272,435	1,251,384	1,413,087	1,391,776	(21,311)	1,467,043	1,534,807	67,764	1,712,068	1,552,519	(159,549)	1,722,941
National research facilities: Astronomy	627,379	637,930	-	-	-	-	-	-	-	-	-	-	-	-	-	-

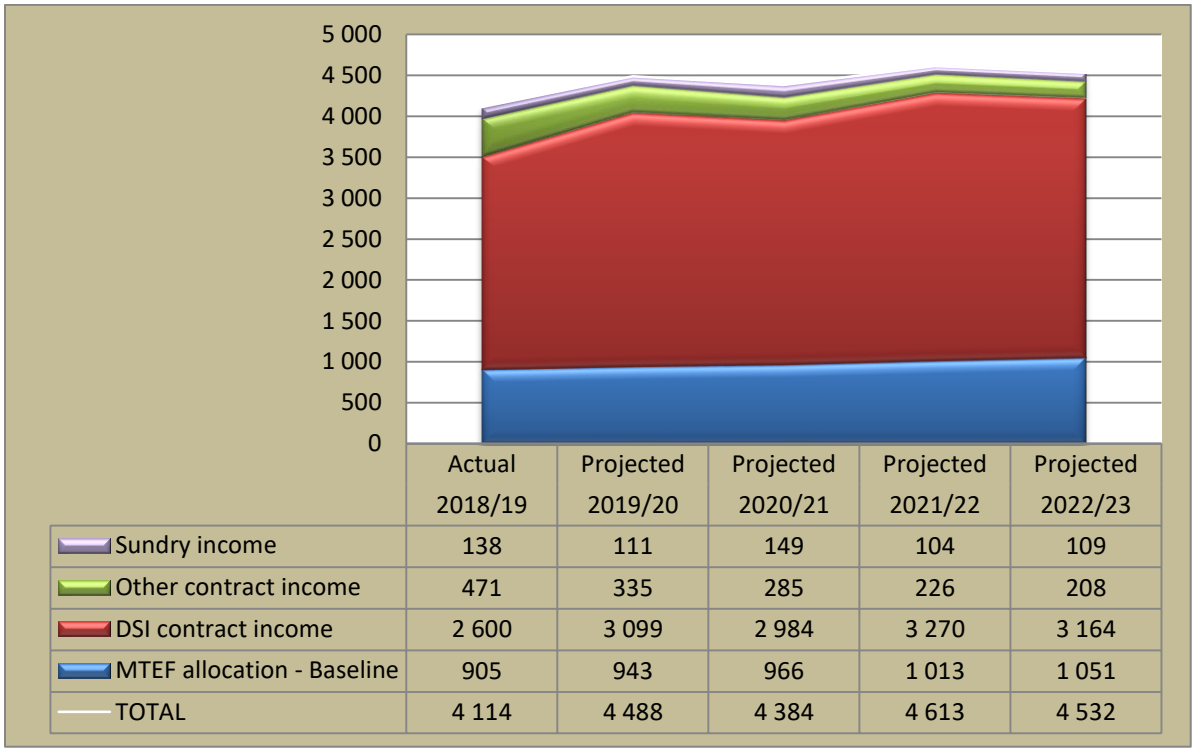
NRF Overall Financial Overview

NRF total funding remains flat lined in comparison to the prior year with relatively minor shifts in the expenditure pattern, except for the National Equipment Programme which is funded every alternate year, hence no allocation in 2020/21. The baseline allocation (Parliamentary Grant) has been cut by an average of R20 million (2%) per annum over the MTEF in view of governments cost cutting measures.

Sources of Income

NRF funding is primarily received in four income streams: the parliamentary grant (22%); DSI contract funding (68%); contract funds from other government departments and entities (6.5%), and income generated internally through sales and interest accrued (3.5%). The discretionary element of the income reduced slightly against the prior year which was 25% of total income.

Figure 2: Comparison of sources of funding 2018/19 -2022/23



	Actual 2018/19	Projected 2019/20	Projected 2020/21	Projected 2021/22	Projected 2022/23
Sundry income	138	111	149	104	109
Other contract income	471	335	285	226	208
DSI contract income	2 600	3 099	2 984	3 270	3 164
MTEF allocation - Baseline	905	943	966	1 013	1 051
TOTAL	4 114	4 488	4 384	4 613	4 532

NRF parliamentary grant (baseline allocation), which is appropriated for the delivery of the organisational mandate, is set to increase on average by 3.7% over the MTEF period, being an effective decrease of about 1.8% in real terms, impacting on the financial sustainability of the organisation. This will require ongoing focus and close monitoring of the key cost drivers without prejudicing the scientific and platform

operations. A particular area of focus will be the salary bill where past increases have outpaced inflation over the years whilst income remains constrained.

The marginal increase in the baseline allocation is partly due to the reduction against the planned allocations (budget cuts) implemented across the government sector from 2020/21 by National Treasury as a result of the constrained fiscal situation facing the country.

Considering that the National Research Facilities are largely funded from the parliamentary grant, the impact is likely to affect their performance and sustainability which will have to be carefully managed over this difficult period. The real risk posed will be to ensure the upkeep and access to facilities. The fluctuation and volatility of the Rand against major foreign currencies further exacerbates the challenge as the maintenance and upkeep costs of scientific infrastructure far outpaces inflation as specialised materials and equipment are imported.

DSI contract income revenue stream is projected to decrease mainly due the NEP programme funding of R160 million being funded every second year resulting in fluctuations year-on-year. The corresponding grant expenditure has been adjusted accordingly in view of the lead times to source, procure and commission specialised research equipment.

Other contract income includes contracts with other public entities, private companies as well as international organisations, including government departments such as the Department of Higher Education & Training, the Department of Trade and Industry and the Department of Agriculture, Forestry and Fisheries. Sundry income consists mainly of interest earned on cash holdings and income generated through the sale of isotopes at iThemba Labs.

Sundry income which comprises of income generated internally through sales and interest accrued remains consistent with the prior year and is likely to decrease going forward as cash-holdings decrease.

The current NRF funding model is premised on 75% of the total budget being pre-determined through DSI and other contracts, leaving little room for the organisation to respond to new and emerging priorities such as the transformation of the researcher cohorts. This model is recognised as being sub-optimal for the organisation to deliver on its goals and objectives. The NRF has thus initiated a process of developing a more appropriate funding framework in consultation with the DSI which is supported in principle and will

be explored further to ensure greater efficacy in the use of limited resources towards the intentions of NRF Strategy 2025, the WP STI, DSI Strategic Plan and other key strategies of government.

Table 11: Split of NRF MTEF parliamentary grant allocation by Programme

Programme	NRF baseline allocation from DST	2019/20	2020/21	2021/22	2022/23
		R'000	R'000	R'000	R'000
1	Corporate services	97 646	93 166	102 200	105 826
2	Science Advancement	26 366	27 213	28 450	29 511
3	RISA	502 107	515 242	540 016	560 159
4	National Research Facilities*	317 266	330 476	342 400	355 198
	Total NRF Parliamentary Grant	943 385	966 097	1 013 066	1 050 694
	Year-on-year baseline movement	4,3%	2,4%	4,9%	3,7%

National Research Facilities figure includes SAEON

The total DSI contract income for 2020/21 based on the 5 consolidated contracts is reflected in the table below.

Table 12: Three year projection of the DSI contract funding allocation by Programme

Programme	NRF contract income allocation from DSI	2019/20	2020/21	2021/22	2022/23
		R'000	R'000	R'000	R'000
2	Science Awareness	62 579	62 579	62 579	65 583
3	Human Resource Development	1 498 421	1 569 775	1 620 189	1 685 254
3 & 4	Research Development Infrastructure	299 185	176 575	297 328	155 282
3 & 4	Science Missions	231 978	234 328	246 150	255 317
4	Square Kilometre Array (SKA) project	686 974	780 778	811 038	840 564
	Total MTEF contract income allocation	**2 779 137**	**2 824 035**	**3 037 284**	**3 002 000**
	Year-on-year DSI contract income movement	9%	1,6%	7,6%	(1,2%)

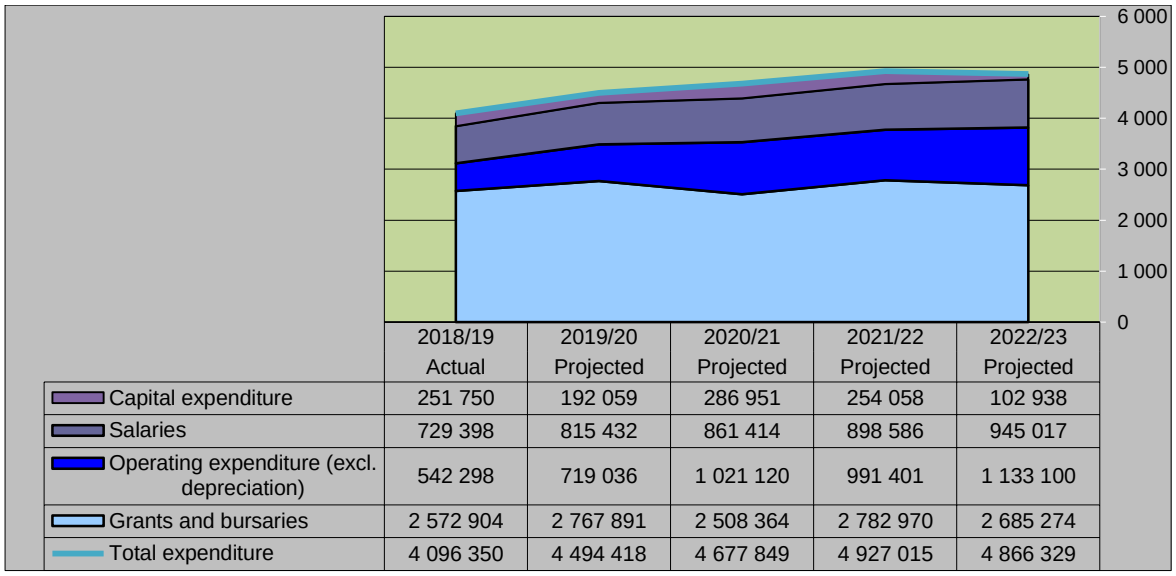
Expenditure

In the light of the NRF MTEF allocation not mirroring inflation levels, the NRF must ensure that it remains sustainable over the medium term with particular focus on carefully managing the:

- Movement in the overall salary bill and staffing requirements.
- Operational cost which generally exceed inflation such as utilities and maintenance.
- Impact of foreign exchange volatility.
- Lack of flexibility in initiating necessary bold new initiatives and its impact on targets.

Figure 3 below is a graphical representation of the distribution of projected expenditure across the organisation over the MTEF period. Research grants and bursaries account for 54% of the total NRF expenditure, which is invested through research grants, scholarships and bursaries at universities through various funding instruments.

Figure 3: Projected expenditure by category for 2020/21 – 2022/23



	2018/19 Actual	2019/20 Projected	2020/21 Projected	2021/22 Projected	2022/23 Projected
Capital expenditure	251 750	192 059	286 951	254 058	102 938
Salaries	729 398	815 432	861 414	898 586	945 017
Operating expenditure (excl. depreciation)	542 298	719 036	1 021 120	991 401	1 133 100
Grants and bursaries	2 572 904	2 767 891	2 508 364	2 782 970	2 685 274
Total expenditure	4 096 350	4 494 418	4 677 849	4 927 015	4 866 329

Capital expenditure declines significantly with the final commissioning of the MeerKAT radio telescope being completed in 2018. Capital expenditure is provided at a bare minimum in order to maintain operations based on limited. The exception is the continuing capital expenditure in SARAO for the MeerKAT extension and preparatory costs for the SKA1 build.

Grants and bursaries are directly linked to the movement in funding, mainly in line with DSI contract income. Major fluctuations are attributable to the alternative year funding of the NEP programme.

Operating expenditure in 2020/21 remained constant across the business units except for SARAO which transitions into operations following the commissioning of MeerKAT.

Employee's remuneration is forecast to increase in line with a cost-of-living adjustment as per National Treasury guidelines. The prior year wage freeze for senior officials has impacted on the budgets going forward. The budget includes vacancies and staff requirements for the SARIR (SAEON) and SKA1 (SARAO) projects, otherwise the staffing levels has remained stable in other business units.

Key Challenges per Programme

RISA

RISA's main business activity is grant funding which comprises 93% of RISA expenditure. This expenditure in reality is characterised by investments in research grant funding, bursaries and scholarships and research equipment grants.

Over the medium-term period, no funding growth is allocated, hence grant funding follows the same trend. In the event of further budget cuts, it is likely that the size and number of grants will be reduced which could have a negative impact on the NSI and the reputation of the NRF.

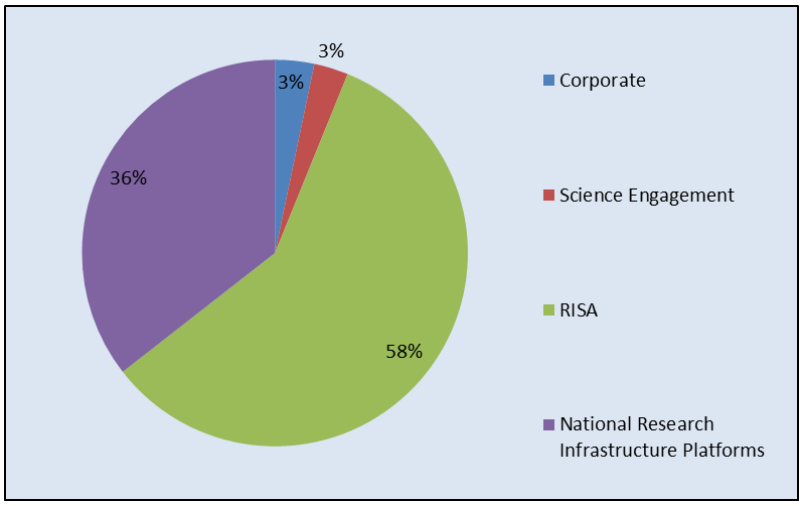
National Research Infrastructure Platforms

The primary cost drivers at the National Research Facilities are associated with maintaining its massive research infrastructure with its unique capability to contribute to relevant research capacity, human capital development and advancement of science. The primary source of funding at the facilities is limited to the parliamentary grant (baseline funds) and the flat lined income trend leaves no room for any replacements, whilst costs for maintenance and upkeep remain stringent.

Science Engagement

The re-organisation of SAASTA in gearing towards the implementation of the Science Engagement Strategy will require focused attention, as well as the development and implementation of an engaged research agenda. Key business interventions have already been initiated in line with the proposed top-slicing of funding to ensure that at least 4% of baseline funding is directed to towards science engagement. This has not yet been factored into the above figures.

Figure 4: Proportion of Expenditure by NRF Programmes in 2020/21



4 Key Risks

In developing the organisational Strategic Risks the NRF Board concluded a robust process where both internal and external factors are considered to understand the interconnectedness of risks and to appreciate potential adverse impacts. The table below presents several risks that were identified by the Board as they align to Strategy 2025 outcomes and will be used to guide appropriate mitigation over the course of strategy execution.

These high level risks have been mapped to the Strategy 2025 outcomes and include a Strategy Execution Risk description and mitigation for additional clarity where deemed necessary.

Table 13: NRF Risk Register

Outcome	Strategic Risk	Risk Mitigation
[1] A transformed (internationally competitive and sustainable) research workforce	Inadequate rate of system-wide Transformation	
	• Inadequate design of funding support to transform the profile of graduated postgraduate students and research productive researchers.	Periodic review, continuous improvements to funding policies, heightened institutional influence and accountability to increase throughputs for students and researchers;
[2] Enhanced impact of the research enterprise	Quality and impact of research	
	• Lack of flexibility of resource allocation model to enable re-prioritisation of funds in line with new impact-oriented Research Agenda	Build flexibility into the resourcing of the research enterprise to enable management to take accountability to achieving national development outcomes
	• Inadequately designed Research Agenda due to lack of robust Information and Analytics	Develop capacity and capability to provide organisational and NSI analytics to support strategic decisions;
	Failure to deliver Infrastructure / Large projects	
	• Failure to secure research infrastructure portfolio management capabilities due to talent and funding constraints	Establish or acquire research infrastructure portfolio management capability to amplify knowledge and societal impacts.
	Loss of support from critical stakeholders	

Outcome	Strategic Risk	Risk Mitigation
[3] Enhanced impact of science engagement	• Failure to secure required funds in support of Science Engagement Strategy	Ensure scalable programme that can be adapted to the amount of secured funds
	• Limited success and stakeholder acceptance of required transition from the current capability and operating model	Ensure fair inclusion of change management and stakeholder engagements components in the design and establishment of the required capability and new operating model for science engagement
[4] A transformed organisation that lives its values and organisational culture.	Market challenges to attract and retain research and technical workforce	Continual remuneration review to ensure market competitiveness and succession and retention interventions
	Inadequate rate of Organisational Transformation	Implementation of the Organisational Transformation Framework
	Pervasive skills mismatch and/or un-availability	Succession planning and retention interventions
	• Absence of articulated employee value proposition and HCD support that meet the needs of staff from designated groups	1. Establish HCD support for production of technical skills linked to requirements of research infrastructure 2. Implement a suite of incentives tailored to attracting and retaining critical skills required for the sustainability of the organisation
Resourcing (affect all Outcomes)	Strategy Execution risk / Failure to deliver on Mandate	
	Lack of financial sustainability	
	Threat of cybersecurity breach	

Table 14: Infrastructure Projects

No.	Project name	Project description	Outputs	Project start date	Estimated Project completion date	Total Estimated cost	Current year Expenditure	2020/21 Expenditure
1	ERP	Enterprise Resource Planning (ERP) System	Functional, fit for purpose ERP solution for the NRF	Sept 2019	Aug 2034	R147,093,561	R33,775,762	R6,500,000 p.a.
2	Water purification plant	Underground purification plant for potable water supply	Installation of reverse-osmosis water purification plant for industrial and potable water supply from boreholes	April 2018	Due Diligence completion estimated for Dec 2020 Project completion date subject to due diligence results and availability of funds	R4,000,000	R528,000	Expenditure will resume in 2022/23 Subject to due diligence results and availability of funds
3	SAIF infrastructure	Building Infrastructure for the Radioisotope Facility (RIF)	Construct new infrastructure and services for 70 MeV cyclotron	Aug 2019	Sept 2022	R120,000,000	R2,000,000	R86,113,000
4	SAIF accelerator equipment	C70 MeV cyclotron facility	Procure new 70 MeV cyclotron and beam line equipment	Nov 2018	Sept 2022	R322,000,000	R98,800,000	R58,956,000
5	SAIF targetry	Bombardment stations for RIF	Development and manufacturing of new target stations and targetry infrastructure for 70 MeV cyclotron	Aug 2019	Sept 2022	R138,000,000	R2,000,000	R41,900,000

No.	Project name	Project description	Outputs	Project start date	Estimated Project completion date	Total Estimated cost	Current year Expenditure	2020/21 Expenditure
6	Office building refurbishment	Administration building upgrade	Refurbishment of J-block administrative offices	Nov 2018	Sept 2020	R6,500,000	R80,000	R6,420,000
7	Technology Innovation Platform (TIP)	Offices and laboratories for the technology and innovation platform facility	Construction of laboratories and offices for TIP	Oct 2019	Sept 2022	R5 000 000	R477,000	R4,523,000
8	Alpha Emitter Lab	Irradiation facilities for the alpha emitter lab	Establish irradiation facilities and processing laboratory for development of alpha emitter radioisotopes	June 2019	Dec 2022	R4,100,000	Nil	R4,100,000
9	Radiobiology Laboratory	Establishment of a preparation room for radiology experiments during experiments	Establish a new laboratory for radiobiology experiments	April 2020	March 2021	R1,500,000	R700,000	R800,000
10	Waste Skip Relocation	Relocation of the Waste skip facility.	Construction of new plinths and access road for waste skips	April 2022	March 2023	R2,500,000	Nil	Nil
11	MeerKAT Extension	Extension of MeerKAT through international investment	20 additional dishes	April 2019	March 2023	R370,000,000	R20,000,000	R140,000,000
12	SKA1_MID Construction	Initiation of SKA1 construction	South African SKA-MID work package contracts placed and construction activity started.	April 2022	March 2027	R1,520,000,000 the quantum is estimated, yet to be finalised, subject to Inter Governmental Organisation (IGO) formalisation	Nil	Nil
13	EOC	SKA Engineering Operations Centre (Karoo)	Workshops & offices	April 2022	March 2023	R60,000,000	Nil	Nil

No.	Project name	Project description	Outputs	Project start date	Estimated Project completion date	Total Estimated cost	Current year Expenditure	2020/21 Expenditure
						Subject to finances secured, part of Host commitment		
14	SOC	SKA Science Operating Centre (including SARAO building)	Fit for purpose building and facility	April 2022	March 2025	R250,000,000 Subject to finances secured, part of Host commitment	Nil	Nil
15	SPC	SKA Science Processing Centre	Fit for purpose building and facility	April 2022	March 2025	R450,000,000 Subject to finances secured	Nil	Nil
16	SKA Visitor's Centre	Visitor's centre in Karoo	Multi-purpose visitor's centre	Planning Project Start date to be confirmed		Total estimated project cost R62,000,000; NRF (SARAO) share of total cost R31 000 000, balance to be funded by Department of Tourism	Nil	Tbc
17	SRC	Computer equipment to populate the SRC_ZA	Development and Procurement of SRC_ZA computer systems	Planning	March 2026	R70,000,000 Subject to finances secured	Nil	Tbc
18	National Park game Fence	Provision of a 2.4m high game fence around MeerKAT National Park	Game Fence	April 2021	March 2023	R50,000,000 Subject to finances secured	Nil	Nil
19	SKA Dark Fibre	Installation of Fibre	Data transfer from MeerKAT science	April 2020	March 2022	R128,000,000	R38,000,000 estimated	R45,000,000
20	SKA JHB offices	Upgrade of SAASTA Building	Admin offices for SARAO as at 1 Jan 2021	April 2020	Jan 2021	R7,500,000	Nil	R7,500,000

No.	Project name	Project description	Outputs	Project start date	Estimated Project completion date	Total Estimated cost	Current year Expenditure	2020/21 Expenditure
21	VGOS	Receivers for VGOS antennas and back-end system	Enhance science from the antennas	April 2020	March 2022	R20,000,000	Nil	R12,000,000
22	Innovative Instrumentation	Innovative Instrumentation	LJMU Spectrograph	April 2019	March 2021	R4,000,000	R2,000,000	R2,000,000
23	PRIME Infrared Telescope	PRIME Infrared Telescope	Construction of new PRIME building	April 2019	March 2021	R5,000,000	R1,200,000	R3,800,000
24	Phuhlisa HDIs Infrastructure project	Phuhlisa Historically Disadvantaged Institutions (HDIs) Infrastructure project	Procure vehicle and equipment	April 2020	March 2022	R18,000,000	Nil	R9,000,000

Note:

ERP current year expenditure includes software and licensing costs for Microsoft Dynamics 365 Finance and Operations, Symplexity and Axnosis. Implementation and change management. 2020/21 onwards includes licenses and maintenance.

SAEON projects already implemented and roll over to the new MTEF - No new projects to be implemented over the MTEF due to Lack of Infrastructure funding

5 Public Private Partnerships

No PPP's have been established

Part D Technical Indicator Descriptions

Indicator Title (combined for indicators 1 and 2)	**Profile of NRF funded post-graduate students**
Definition	The indicator measures the profile of NRF funded post graduate students with specific annual MTEF targets set for the proportion of black and women students in the overall profile of funded students in order to transform the profile of NRF funded students that complete their qualifications. For the purpose of this indicator only South African citizens and permanent residents regarded as black (African, Coloured and Indian) and women and such profile information will be taken as voluntarily disclosed by the student.
Source of data	NRF Grants Management and Systems Administration records of students funded by the NRF.
Method of Calculation / Assessment	Divide the count of black or women, as applicable, NRF funded postgraduate students by the overall count of all NRF funded postgraduate students, expressed as a percentage (%). A student will be recognised as funded when the funding support to the student is expensed or in the case of a student supported by a Centre of Excellence, the grant to the centre is expensed. Each student must only be counted once per level of postgraduate qualification. Grant year 2020 performance will be reported in the 2020/21 reporting year.
Means of verification	Evidence to prove that the student has enrolled at a higher education institution for a post graduate qualification and profile information.
Assumptions	The HEI accepts the student for a postgraduate degree. The student is formally registered for the degree. Both the HEI and student will accept and abide by the terms associated with receiving support from the NRF to enable collection of the records and data by the NRF.
Disaggregation of Beneficiaries	The profile of students to be reported include proportions for all groups that constitute the full profile of all NRF funded postgraduate students expressed as percentages (%)
Spatial Transformation	N/A
Calculation Type	Cumulative on an annual basis
Reporting Cycle	Quarterly
Desired performance	In line with annual target
Indicator Responsibility	DCEOs of Programmes 3 and 4

Indicator Title (combined for indicators 3 and 4)	**Profile of NRF funded researchers**
Definition	This indicator measures the profile of NRF funded researchers with specific annual MTEF targets set for proportion of black and women researchers in the overall profile of the NRF funded researchers in order to transform the profile of producers of knowledge outputs. For the purpose of this indicator only South African citizens and permanent residents regarded as black (African, Coloured and Indian) and women and such profile information will be taken as voluntarily disclosed by the researchers.
Source of data	Through the NRF Grants Management and Systems Administration, records of researchers funded by the NRF are maintained.
Method of Calculation / Assessment	Divide the count of either black or women, as applicable, NRF funded researchers including postdoctoral fellowships by the overall count of all NRF funded researchers including postdoctoral fellowships, expressed as a percentage (%). A researcher will be counted as funded when the funding support to the researcher is expensed. Each researcher must only be counted once. Grant year 2020 performance will be reported in the 2020/21 reporting year.
Means of verification	Evidence of accepted financial grant and expensed by the researcher and research institution, profile information and a copy of the person's ID or passport.
Assumptions	Both the researcher and his/her research institution will accept and abide by the terms and conditions for receiving such support to enable collection of the records and data by the NRF.
Disaggregation of Beneficiaries (where applicable)	The profile of researchers to be reported include proportions for all groups that constitute the full profile of all NRF funded researchers, expressed as a percentage (%).
Spatial Transformation (where applicable)	N/A
Calculation Type	Cumulative on an annual basis.
Reporting Cycle	Quarterly
Desired performance	In line with annual target
Indicator Responsibility	Deputy CEOs Programmes 3 and 4

Indicator Title	**Proportion of peer-reviewed publications produced by NRF supported researchers relative to the number of peer-reviewed publications produced by all researchers in the NSI**
Definition	This indicator measures the research productivity of researchers publishing in the NRF National Facilities' name as well as NRF supported researchers relative to all researchers in the NSI.
Source of data	Peer reviewed knowledge outputs databases, such as Web of Science.
Method of Calculation / Assessment	Divide the proportion of peer reviewed publications authored and/or co-authored by NRF supported researchers as well as researchers that published as an NRF national facility affiliated author who published in the national facility's name, by the overall count of South African peer reviewed publications, expressed as a percentage (%). Publication year 2020 performance will be reported in the 2020/21 reporting year.
Means of verification	Evidence generated from the Web of Science database including publications from NRF funded authors as well as publications published in the National Facilities' names with details of the authors, institutional affiliation or, titles of journal and publication year.
Assumptions	Availability of sufficient funds and reflection of publications in the correct annual cycle in the databases.
Disaggregation of Beneficiaries (where applicable)	N/A
Spatial Transformation (where applicable)	N/A
Calculation Type	Non-cumulative on an annual basis
Reporting Cycle	Annually
Desired performance	In line with annual target
Indicator Responsibility	Deputy CEOs - Programmes 3 and 4

Indicator Title	**Proportion of investment in science engagement**
Definition	Science engagement provides a pathway for research and science to have a more impact of national development by improving the public literacy of benefits of research and science, as well as entrench engaged research. This indicator measures the investment of resources towards realisation of the science engagement mandate of the NRF.
Source of data	NRF Financial Performance Reports
Method of Calculation / Assessment	Divide the sum of expenses towards and financial support for science engagement activities incurred by all NRF business units by the total expenses of the NRF, expressed as a percentage (%).
Means of verification	Expenses can be audited through accounting and auditing policies and standards
Assumptions	Coordination of the science engagement activities across the NRF will be successful to ensure that the most value is derived from allocated funds.
Disaggregation of Beneficiaries (where applicable)	N/A
Spatial Transformation (where applicable)	N/A
Calculation Type	Non-cumulative
Reporting Cycle	Annually on an annual basis
Desired performance	In line with target
Indicator Responsibility	Group Executive: Programme 2

Indicator Title (combined for indicators 7 and 8)	**Proportion of employees from designated groups at Peromnes levels 1-7**
Definition	This indicator measures the demographic representation of the NRF leadership, management and supervisory cohort with specific annual MTEF targets set for proportion black (Africa, Coloured and Indian) and women employees in the specified Peromnes levels. Designated groups will be identified in accordance with requirements of the Employment Equity Act
Source of data	NRF Human Resources Information Management System – minimum details must be: full names of the all employees, evidence used for classification to a designated group, job title, occupation category and level.
Method of Calculation / Assessment	Divide the count of employees from designated groups occupying positions that fall in the peromnes 1-7 levels by the overall count of all employees in the same levels, expressed as a percentage (%).
Means of verification	Employment records
Assumptions	An appropriate attrition rate and availability of candidates when positions become available
Disaggregation of Beneficiaries (where applicable)	The employee demographic profile will be reported for all groups of employees in accordance with the requirements of the Employment Equity Act for the Peromnes levels specified in the performance indicators
Spatial Transformation (where applicable)	N/A
Calculation Type	Non-cumulative on an annual basis
Reporting Cycle	Annually
Desired performance	Actual performance that is in line with targeted performance is desirable
Indicator Responsibility	Group Executive – Human Resources and Legal Services

Indicator Title	**Organisational overhead as a proportion of total expenditure**
Definition	This indicator measures the efficiency of the organisation in in allocating funds towards delivering on its mandate.
Source of data	Financial Reporting System
Method of Calculation / Assessment	Divide the sum of shared/support services costs and Corporate expenses by total NRF expenditure (including capital expenditure, but excluding depreciation/amortisation and internal expenditure) incurred by the organisation during the financial year, expressed as a percentage (%).
Means of verification	All the calculations can be verified from data extracted from the financial system. All amounts are reconciled to the annual financial statements.
Assumptions	Reliability of data extracted from the financial system. All costs that cannot be directly attributed to an operational activity or project. The organisational Corporate and Support structures remains stable.
Disaggregation of Beneficiaries (where applicable)	N/A
Spatial Transformation (where applicable)	N/A
Calculation Type	Non-cumulative
Reporting Cycle	Annually on an annual basis
Desired performance	<10%
Indicator Responsibility	CFO/Group Executive: Finance and Business Systems

Annexures to the Annual Performance Plan

Annexure A: District Development Model

The NRF operates as a national entity that provides services across the country. The organisation has a service delivery footprint that covers all nine provinces, the largest being the National Research Infrastructure Platforms in the western Cape, northern Cape and the eastern Cape. Other significant assets are in Gauteng, Tshwane and the Johannesburg Metropolitan Areas, as well as a network of environmental observatory nodes in Limpopo, Mpumalanga and KwaZulu Natal.

The NRF funding and programmes provide support to beneficiaries that come from all nine provinces, districts and metropolitan areas. The organisation will in line with the guidance from the DSI develop baseline performance data in reference to the 44 districts and 8 metropolitan municipalities in order to be able to plan and report its performance in accordance with requirements for district based service delivery model and to take into account the spatial developmental needs of our country.

List of Acronyms

AMFS	Annual Ministerial Funding Statement
AU	African Union
BAOs	Baryon Acoustic Oscillations
BBBEE	Broad-Based Black Economic Empowerment
CEO	Chief Executive Officer
C-HRTEM	Centre for High Resolution Transmission Electron Microscopy
CoEs	Centres of Excellence
DCEO	Deputy Chief Executive Officer
DEFF	Department of Environment, Fisheries and Forestry
DHEST	Department of Higher Education, Science and Technology
DHET	Department of Higher Education and Training
DSI	Department of Science and Innovation
ECR	Early Career Researchers
EFTEON	Expanded Freshwater and Terrestrial Environmental Observation Network
EOC	Engineering Operations Centre
ERP	Enterprise Resource Planning
FBS	Finance and Business Systems
FCS	Full Cost of Study
HCD	Human Capacity Development
HDIs	Historically Disadvantaged Institutions
HEST	Higher Education Science and Technology
HIRAX	Hydrogen Intensity and Real-time Analysis eXperiment
HR&LS	Human Resources and Legal Services
ICT	Information Communication Technology
ISFAP	Ikusasa Student Financial Aid Programme
iThemba LABS	iThemba Laboratory for Accelerator-based Sciences
LJMU	Liverpool John Moores University
MTEF	Mid-Term Expenditure Framework
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NEP	National Equipment Programme
NRF	National Research Foundation
NRIP	National Research Infrastructure Platforms
NSFAS	National Student Financial Aid Scheme
NSI	National System of Innovation
PFMA	Public Finance Management Act
PRIME	Prime Focus Infrared Microlensing Experiment
RDIP	Research Development Information Portal
RIF	Radioisotope Facility
RISA	Research and Innovation Support and Advancement
RRI	Responsible Research and Innovation
SAAO	South African Astronomical Observatory
SAASTA	South African Agency for Science and Technology Advancement

SAEON	South African Environmental Observation Network
SAIAB	South African Institute for Aquatic Biodiversity
SAIF	South African Isotope Facility
SARAO	South African Radio-Astronomy Observatory
SARChI	South African Research Chairs Initiative
SARIR	South African Research Infrastructure Roadmap
SCM	Supply Chain Management
SDGs	Sustainable Development Goals
SKA	Square Kilometre Array
SMCRI	Shallow Marine and Coastal Research Infrastructure
SOAR	Strengths, Opportunities, Aspirations and Results
SOC	Science Operating Centre
SPP	Strategy, Planning and Partnerships
SRC-ZA	SKA Regional Centre - South Africa
SREP	Strategic Research Equipment Programme
STEMI	Science, Technology, Engineering, Mathematics and Innovation
STI	Science, Technology and Innovation
STISA	Science, Technology and Innovation Strategy for Africa
TIP	Technology Innovation Platform
UKZN	University of KwaZulu-Natal
UN	United Nations
USAf	Universities South Africa
WP-PSET	White Paper for Post-School Education and Training
WP STI	White Paper for Science, Technology and Innovation