



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Department of Science and Technology
ANNUAL REPORT 2012/2013



Vision

To create a prosperous society that derives enduring and equitable benefits from science and technology.

Mission

To develop, coordinate and manage a national system of innovation that will bring about maximum human capital, sustainable economic growth and improved quality of life for all.



RP157/2013

ISBN: 978-0-621-41900-9

ANNUAL REPORT **2012/2013**



C O N T E N T S

CONTENTS

TABLE OF CONTENTS

Page	Page
ABBREVIATIONS	1
FOREWORD	2
INTRODUCTION	5
STRUCTURE	8
1. STATEMENT OF RESPONSIBILITY FOR PERFORMANCE INFORMATION	10
2. OVERVIEW OF DEPARTMENTAL PERFORMANCE	11
2.1 Introduction	11
2.2 Strategic Outcome-Oriented Goals	11
2.3 Government Outcomes	11
2.4 Highlights and overall achievements for the 2012/13 financial year	12
3. PERFORMANCE INFORMATION BY PROGRAMME	17
3.1 Programme 1: Administration	17
3.2 Programme 2: Research, Development and Innovation	20
3.3 Programme 3: International Cooperation and Resources	30
3.4 Programme 4: Human Capital and Knowledge Systems	34
3.5 Programme 5: Socio-Economic Partnerships	47
	56
	PUBLIC ENTITIES REPORTING TO THE DEPARTMENT
	NATIONAL ADVISORY COUNCIL ON INNOVATION
	57
	TECHNOLOGY INNOVATION AGENCY
	58
	COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH
	59
	HUMAN SCIENCES RESEARCH COUNCIL
	61
	NATIONAL RESEARCH FOUNDATION
	65
	AFRICA INSTITUTE OF SOUTH AFRICA
	67
	SOUTH AFRICAN NATIONAL SPACE AGENCY
	68
	ANNUAL FINANCIAL STATEMENTS
	70
	HUMAN RESOURCES STATEMENTS
	147
	DST Corporate Information
	165

LIST OF TABLES

Table 1: Selected ENE indicators for the 2012/13 financial year	15
Table 2: Programme 2 performance information for the 2012/13 financial year	23
Table 3: Programme 3 performance information for the 2012/13 financial year	32
Table 4: Programme 4 performance information for the 2012/13 financial year	37
Table 5: Programme 5 performance information for the 2012/13 financial year	50

ABBREVIATIONS

ABBREVIATIONS

AISA	Africa Institute of South Africa	NIC	nanotechnology innovation centre
AOSTI	African Observatory for Science and Technology and Innovation	NIKSO	National Indigenous Knowledge Systems Office
ASSAF	Academy of Science of South Africa	NIPMO	National Intellectual Property Management Office
BCC	Biocomposites Centre of Competence	NNEP	National Nanotechnology Equipment Programme
BRAGMA	Bridging Actions for GMES and Africa	NRDS	National Research and Development Strategy
BRICS	Brazil, Russia, India, China and South Africa	NRF	National Research Foundation
CAPRISA	Centre for the Aids Programme of Research in South Africa	NRS	National Recordal System
CIPC	Companies and Intellectual Property Commission	NSI	National System of Innovation
CoC	centre of competence	NSW	National Science Week
CoE	centre of excellence	NOW	Netherlands Organisation for Scientific Research
CoP	community of practice	OTT	office of technology transfer
COO	Chief Operations Office	PPGME	Policy, Planning, Governance, Monitoring and Evaluation
CSIR	Council for Scientific and Industrial Research	R&D	research and development
DPSA	Department of Public Service and Administration	RDI	research, development and innovation
DST	Department of Science and Technology	S&T	science and technology
DTI	Department of Trade and Industry	SAASTA	South African Agency for Science and Technology Advancement
ECM	Enterprise Content Management	SABC	South African Broadcasting Corporation
EPO	European Patent Office	SADC	Southern African Development Community
EU	European Union	SA-GEO	South African Group Earth Observation
EXCO	Executive Committee	SANReN	South African National Research Network
FP7	Seventh Framework Programme for Research and Technological Development	SANSA	South African National Space Agency
GCSIS	Government Communication and Information System	SAQA	South African Qualifications Authority
GCRP	Global Change Grand Challenge Research Plan	SARChI	South African Research Chairs Initiative
GMES	Global Monitoring for Environment and Security	SARIMA	Southern African Research and Innovation Management Association
HCD	human capital development	SAWS	South African Weather Services
HEI	higher education institution	SET	science, engineering and technology
HEMIS	Higher Education Management Information System	SETI	science, engineering and technology institution
HSRC	Human Sciences Research Council	SKA	Square Kilometre Array
HT-MEA	high temperature membrane electrode assembly	SME	small and medium enterprises
HySA	Hydrogen South Africa	SMS	Senior Management Service
IAA	Internal Audit Activity	SSDU	Specialised Services Delivery Unit
ICASA	Independent Communications Authority of South Africa	STEMI	science, technology, engineering, mathematics and innovation
ICR	International Cooperation and Resources	STI	science, technology and Innovation
ICT	information and communication technology	TAP	technology assistant package
IKS	indigenous knowledge systems	TIA	Technology Innovation Agency
IKSDC	IKS documentation centre	TLIU	Technology Localisation Implementation Unit
IP	intellectual property	TYIP	Ten-Year Innovation Plan
KSAT	Kongsberg Satellite Services	UCT	University of Cape Town
LULC	Land Use and Land Cover	UNESCO	United Nations Educational, Scientific and Cultural Organization
MFPP	Multipurpose Fluorination Pilot Plant	Unisa	University of South Africa
MISR	Multi-angle Imaging SpectroRadiometer	UNISPACE III	Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space
MMV	Medicines for Malaria Venture	USPTO	United States Patent and Trademark Office
MoA	memorandum of agreement	UWC	University of the Western Cape
MTEF	Medium Term Expenditure Framework	WIPO	World Intellectual Property Organization
NEP	National Equipment Programme		



Derek Hanekom
Minister of Science and Technology

Foreword by the Minister

In the period under review, the Department of Science and Technology (DST) made some significant achievements in its quest to provide world-class scientific infrastructure so as to support research, development and innovation (RDI). The Department continues to be guided by key strategic documents, namely the National Research and Development Strategy (NRDS), the White Paper on Science and Technology and the Ten-Year Innovation Plan (TYIP). The Department has continued the process of careful consideration and, where appropriate, implementation of the analysis of the Ministerial Review Committee. However, the Department also calls on international expertise and convened a high-powered international panel, in partnership with the European Commission, to develop a multi-year, high-level roadmap for research and innovation infrastructure.

Astronomy and space science

A major achievement for the country and the DST was the announcement on 25 May 2012 that South Africa, together with eight other African partner countries, would host the major part of the Square Kilometre Array (SKA) telescope. This announcement coincided with Africa Day celebrations and the 50th anniversary of the formation of the Organization of African Unity. This iconic project will be one of the biggest scientific projects the world has ever undertaken – the biggest radio astronomy project in the world.

By the end of the financial year, a detailed design of one MeerKAT antenna, which is the precursor to the SKA, was completed. The Karoo MeerKAT site, about 100 km from Carnarvon, is a hive of activity as preparation for building the 64-dish telescope is underway. The roads, civil works, landing strip, electrical and fibre reticulation and construction camps are all progressing according to schedule. The MeerKAT is a mega project in itself and is due for completion in 2017.

The Department and the Japanese Embassy co-hosted a colloquium with the theme “Promoting Space Exploration and Earth Observation: Contribution of Japan and South Africa to Humanity”. The Department continued to create awareness about space science through World Space Week celebrations through its participation in the Bridging Actions for Global Monitoring for Environment and Security and Africa (BRAGMA), and through its organisation of the first Global Monitoring for Environment and Security (GMES) and Africa workshop in Kenya.

Biotechnology and health

DST funding supported the development of a candidate malaria drug that shows potential against multiple points in the malaria parasite’s life cycle. This was announced by the Drug Discovery and Development Centre at the University of Cape Town. In addition, the Centre for the Aids Programme of Research in South Africa (CAPRISA) consortium announced the discovery of potent antibodies that can kill 88% of HIV found throughout the world. This groundbreaking discovery provides important clues that could be used in developing a vaccine against HIV and Aids.

This breakthrough was the result of CAPRISA studies of how two KwaZulu-Natal women, who were HIV-infected, developed very powerful broadly neutralising antibodies that are able to counter a wide range of HIV strains in different parts of the world.



Human capital development

In its endeavour to enhance South Africa's knowledge generation capacity – as evidenced in the publication of world-class research papers and the conversion of certain advanced findings into innovative products and processes – the Department supported a total of 3 076 researchers during the year under review. The recruitment by universities of candidates for the 60 research chair positions (in addition to the 92 already established research chairs) awarded in 2011/12 continued and appointments have been finalised for 117 of the possible 152 research chairs. The goal of the South African Research Chairs Initiative (SARChI) is to expand the scientific research base of South Africa; to increase the number of world-class researchers; to attract and retain research excellence; and to create research career pathways for highly skilled, high-quality young researchers.

Over the past half decade, South Africa's contribution to global scientific output has doubled from 6 000 to over 12 000 scientific papers per annum, and the impact of that output has increased by about 15%. A strategically important aspect of this increase is that the impact of publications produced through international cooperation increased by 25% in the past five years.

The draft Strategy for Human Capital Development for Research, Innovation and Scholarship was finalised, and a set of Ministerial Guidelines for the National Research Foundation (NRF) bursary programme was communicated to the NRF Board. The purpose of the latter is to improve the efficiency of DST funding for postgraduate students in respect of funding per capita, race and gender equity, as well as student throughput rates.

The Department recognises the importance of encouraging high school learners to choose Mathematics and Physical Science in an attempt to develop science, engineering and technology (SET) human capital in the country. In line with its Youth into Science Strategy, the Department has specific programmes targeting learners, including science centres that attract vast numbers of learners and the National Science Week (NSW) activities across the country.

Palaeosciences

The Department has established the new Centre of Excellence (CoE) in Palaeosciences, as a field in which South Africa has a natural geographic advantage. The centre is expected to make a substantial contribution to positioning South Africa as a world leader in palaeosciences, fossil collections and site management.

A strategy for the palaeosciences, aimed at building human capital, providing resources and increasing public involvement in this exciting field of science was also launched.

Developing our understanding of Africa's ancient heritage also makes a direct contribution to the broader challenge of achieving social cohesion and the creation of national identity and pride, as this newly created CoE in Palaeosciences explores the common ancestry of all species, including humans.

Information and communication technology

In the period under review, the Information and Communication Technology (ICT) RDI Implementation Roadmap was finalised, approved by Cabinet and continues to gain support from key role players in government, the private sector and higher education institutions. The Department convened an international strategic advisory committee to review and advise on DST investments in cyber-infrastructure (the South African National Research Network, the Centre for High Performance Computing, and the work being done towards the Very Large Database facility).

Science and technology for social impact

In order to support the growth and development priorities of government through targeted science and technology (S&T) interventions, the Department's KwaNobuhle Essential Oils project has increased its oil production by a significant 61%. This project is funded under the EU's Sector Budget Support as part of the Innovation for Poverty Alleviation Programme and is managed by the CSIR. Rose geranium and *Lippia javanica* (fever tea) are harvested for their essential oils – high-value, low-volume botanical products used in the fragrance-related industries.

In addition, the DST-funded Nkwankowa project signed a contract with a large local juice producer, for which the centre has started pulping volumes of fruit for supply to the producer. The project targets rural communities with the aim of creating employment and promoting economic benefits through entrepreneur support. It is implemented by ChemCity (Pty) Ltd, a unit of Sasol, in partnership with the CSIR and the Vaal University of Technology.

Technology localisation programme

The Technology Localisation Programme has met the target of delivering 50 technology assistance packages (TAPs) since its inception. The TAPs assist local companies to develop their technology capabilities in order to leverage the procurement opportunities offered by the infrastructure-build programmes of the state-owned enterprises. Interesting new additions to the intellectual property (IP) portfolio (technology packages), such as a new set of bearings, a simulation model for modelling the mechanical behaviour of transformer cores and the development of a new generic "toolbox" (canopy design) for Eskom service vehicles were developed jointly by TAP recipients and the Council for Scientific and Industrial Research (CSIR).

The titanium initiative

The Aeroswift project, which entails the development of a new-generation additive manufacturing machine and is executed by Aerosud and the National Laser Centre at the CSIR, signed a memorandum of agreement with Airbus in September 2012. This is a titanium additive-manufacturing project, involving a process of joining materials to make objects from three-dimensional data, one layer at a time. This technology has the potential to introduce major efficiency improvements for the aviation industry, offering the possibility of vastly reducing material waste, compared to the conventional process in which parts are machined from a solid piece of material. Another agreement was signed with Boeing, indicative of the level of novelty associated with this programme, which could change the face of manufacturing.

Incentives for research and development

In an effort to promote research and development (R&D) investment in the country, new amendments to the R&D Tax Incentive Programme came into effect on 1 October 2012. The most significant change introduced by the new legislation is the requirement for organisations to obtain prior approval for R&D expenditure from the DST if they wish to make use of the allowance. This arrangement serves a dual purpose: from a Treasury point of view, it prevents companies from retrospectively reclassifying capital spending as R&D outlays, thus blocking a sizeable revenue leakage; secondly, and from the investor's point of view, it creates a secure environment as, instead of waiting for the South African Revenue Service to approve or audit their R&D activities and expenditure, companies are able to get approval in advance. Between 1 October 2012 and 31 March 2013, the DST received 308 applications, of which 21 have been processed. The changes have been welcomed in the business sector, and the incentive has started attracting new participants.

International cooperation

The Department seeks to position South Africa as a strategic international RDI partner and destination through the exchange of knowledge, capacity and resources between South Africa, the region and other international partners. The year under review saw further enhancement of South Africa's science, technology and innovation (STI) cooperation on multilateral platforms, especially those in the region and the continent. In promoting integration in Southern Africa,

the DST led the development of the Southern African Development Community (SADC) STI Climate Change Framework and Implementation Plan. The Department also hosted the first SADC Science and Technology Policy Training Programme for senior SADC officials, which was launched in partnership with the United Nations Economic, Social and Cultural Organization (UNESCO).

S&T has emerged as one of the key areas of cooperation under the Brazil, Russia, India, China and South Africa (BRICS) grouping of emerging economies. In building on this relationship, the DST hosted the 2nd BRICS Senior Officials' Meeting in November 2012. The meeting agreed to draft a memorandum of understanding to serve as a framework for S&T cooperation between BRICS member states.

The consolidation and deepening of relations with strategic partners of the global North has continued in the year under review, with the DST playing an active role during the South Africa-European Union (EU) Summit that was held in Brussels in September 2012.

The German-South African Year of Science 2012/2013 celebrated the cooperation between the two countries with a series of exhibitions, seminars, international conferences, workshops, cultural activities and other S&T events. In honour of this partnership, the Neville Alexander Memorial Fund was launched and will allow researchers from South Africa and the rest of the continent to spend months studying in Germany at laboratories of their choice.

The DST is in the process of finalising a partnership in support of bioeconomy in the SADC region, which is likely to attract an investment by the Ministry of Foreign Affairs of Finland of about R60 million. Critical components of the partnership with the Government of Finland include community projects led by young people to improve socio-economic conditions by creating jobs, providing training, and developing business and innovation in communities. One example is Reconstruct Labs, an organisation that delivers free training in ICT to communities in South Africa and the rest of Africa.

In conclusion

The Department has continued to impress in the achievement of its planned targets.

I would like to thank Ms Naledi Pandor, the former Minister of this Department, the Director-General, Dr Phil Mjwara, the Department's employees, the science councils and all the stakeholders in the National System of Innovation for their hard work in demonstrating the relevance of science, technology and innovation in our society.



Derek Hanekom
Minister of Science and Technology



Accounting Officer: Phil Mjwara
Director-General of Science and Technology

Introduction by the Director-General

In terms of section 40(d) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), as amended, it is my honour to submit the Annual Report of the Department of Science and Technology (DST) for the period 1 April 2012 to 31 March 2013. In the period under review, the Department's appropriation was R4,999 billion, compared to R4,407 billion in 2011/12. This is a 13,4% year-on-year increase. The Department's spending has consistently been above 90%; for 2012/13 it was 99,5%.

This Annual Report outlines the work undertaken by the DST in terms of fulfilling the South African Government's medium-term objectives during the 2012/13 financial year. It details the achievements recorded against the planned targets and the challenges relating to the targets that were not achieved. The achievements presented herein are arranged in terms of five strategic areas, namely, science, technology and innovation (STI) human capital development; STI infrastructure development; knowledge generation; innovation capacity development; and international cooperation relations.

Policy, planning, governance, monitoring and evaluation

In the year under review, the Subprogramme: Policy, Planning, Governance, Monitoring and Evaluation (PPGME) provided support for the Ministerial Review Committee and the finalisation of the Performance Information Management System (PIMS). Furthermore, the unit developed a governance framework aimed at clarifying the roles and responsibilities of the DST's Programmes and entities that report to the Department – streamlining the planning, budgeting, reporting and governance of the entities.

Performance information

The Department also demonstrated its commitment to achieving its targets on a yearly basis. In this regard, for this financial year, of the 66 targets set, the Department achieved a total of 47 (71%). This is a 4% increase from the previous reporting year and the highest achieved in the last three years.

Internal Audit

Our Internal Audit unit continues to provide an independent and objective service in order to improve the effectiveness of controls and governance processes within the Department, thereby adding value to its operations. In the period under review, the audit coverage plan was successfully completed; further Internal Audit Activity also introduced a separate quality assurance function to increase the unit's maturity level.

Enterprise Risk Management

In the period under review, strategic, operational and fraud risk profiles for the 2012/13 financial year were finalised and approved. The Department also reviewed its fraud risk management system. In this regard, the Fraud Risk Management Policy and Handbook and a revised whistle-blowing policy were approved.

Innovation instruments and planning

In 2012/13, the National Intellectual Property Management Office (NIPMO) launched the first series of guidelines mandated by the Intellectual Property (IP) Rights from Publicly Financed Research and Development Act, 2008. In this period, NIPMO also continued to build capacity in respect of IP, organising sector-specific workshops on the commercialisation and use of IP. These workshops were related to animal health and nutrition and engineering for mining and agriculture, and were intended to equip Technology Transfer (TT) professionals and researchers at institutions with skills to introduce their emerging technologies to the market. In the year under review a summer school on IP and TT was held in partnership with the World Intellectual Property Organization (WIPO) and the Companies and Intellectual Property Commission (CIPC).

Enhancing nanoscience teaching and training

The Department further launched the National Nanoscience Postgraduate Teaching and Training Platform in collaboration with four universities, namely, the University of Johannesburg, Nelson Mandela Metropolitan University, the University of the Free State and the University of the Western Cape (UWC). This multi-university consortium offers a structured master's degree in nanoscience. It is the only programme in the country where the same degree is offered at all partner institutions, with one partner acting as the champion (UWC in this case) and the lecturing load being shared by all partners. This platform provides an excellent model for other collaborative programmes. The first intake for the programme was 21 students.

Knowledge generation and exploitation

In the period under review, the Department continued to enhance South Africa's knowledge generation capacity to produce world-class papers and turn certain advanced findings into innovative products and processes. In this regard, the Department supported a total of 3 076 researchers. Through the South African Research Chairs Initiative (SARChI), a flagship initiative of government, we continue to increase the number of world-class researchers, to attract and retain research excellence. The Department continues to facilitate knowledge generation and exploitation through R&D in key priority areas such as space science, bioscience and energy. Furthermore, the DST promotes the exploitation of our knowledge stock through stimulating the development of innovative products and services, as well as commercialisation, where appropriate.

Interaction with international partners

The DST continued to position South Africa as a strategic international research, development and innovation (RDI) partner and destination through exchange of knowledge, capacity and resources between South Africa, the region and other international partners. The establishment of the South Africa-GEO (the South African component of the Group on Earth Observation (GEO) and the National Space and Earth Observation Secretariat has facilitated South Africa's inputs into the GEO and its Global Earth Observation System of Systems through engaging the South African Earth Observation community through communities of practice. On the African continent, South Africa hosted the first ever SADC STI Policy Training Workshop in October 2012 with the aim of building the science and technology (S&T) policy capacity in the SADC region. Internationally, South Africa hosted the second BRICS Senior Officials' meeting, which prioritised thematic areas for cooperation, with each country mandated to indicate its preferred theme for implementation, as well as the drafting of a memorandum of understanding that will serve as a framework for S&T cooperation between BRICS member states. South Africa also participated in the South Africa-European Union (EU) Summit in September 2012. With the S&T partnership the most active area of the Trade, Development and Cooperation Agreement between South Africa and the EU, three S&T events were organised, including a celebration of the South Africa-EU partnership on Innovation for Poverty Alleviation.

Although the Department made notable progress on a number of fronts during the previous financial year, it is recognised that more work still needs to be done to continue the work of developing and managing the National System of Innovation.

In conclusion, I would like to thank the previous Minister, Naledi Pandor, the current Minister Derek Hanekom, the Executive Management and the entire staff of the Department for their contribution to the work undertaken in the 2012/2013 financial year. I know that I can rely on their dedication to ensuring that we surpass these achievements in the 2013/14 financial year.



Dr Phil Mjwara
DIRECTOR-GENERAL
DEPARTMENT OF SCIENCE AND TECHNOLOGY



STATEMENT OF RESPONSIBILITY FOR PERFORMANCE INFORMATION

OVERVIEW OF DEPARTMENTAL PERFORMANCE

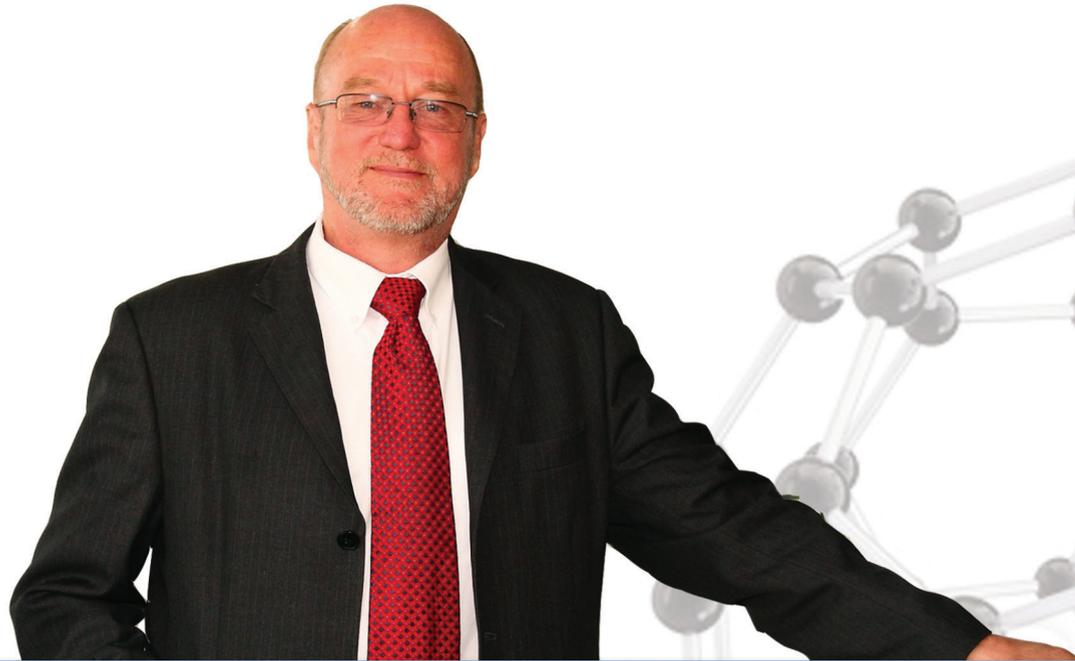
Introduction

Strategic Outcome-Oriented Goals

Government Outcomes

Highlights and overall achievements
for the 2012/13 financial year

STRUCTURE



Derek Hanekom
Minister of Science and Technology



Dr Phil Mjwara
Director-General of Science and Technology



Nombuyiselo Mokoena
Programme 1: Deputy Director-General
Corporate Services



Dr Valanathan Munsamy
Programme 2: Deputy Director-General
Research, Development and Innovation



Mmboneni Muofhe
Programme 3: Deputy Director-General
International Cooperation and Resources



Dr Thomas Auf Der Heyde
Programme 4: Deputy Director-General
Human Capital and Knowledge Systems



Inraam Patel
Programme 5: Deputy Director-General
Socio-Economic Partnerships



Thulani Mavuso
Chief Operations Officer

1. STATEMENT OF RESPONSIBILITY FOR PERFORMANCE INFORMATION



Accounting Officer: Phil Mjwara
Director-General of Science and Technology

The Accounting Officer is responsible for the preparation of the Department's performance information and for the judgements made in this information.

The Accounting Officer is responsible for establishing and implementing a system of internal controls designed to provide reasonable assurance as to the integrity and reliability of performance information.

In my opinion, the information contained in this report fairly reflects the performance of the Department for the financial year ended 31 March 2013.

A handwritten signature in black ink, appearing to read 'Phil Mjwara'.

Phil Mjwara
Accounting Officer
Date: 31 July 2013

2. OVERVIEW OF DEPARTMENTAL PERFORMANCE

2.1 Introduction

The Department of Science and Technology (DST) derives its mandate from the 1996 White Paper on Science and Technology. The DST provides leadership to develop the National System of Innovation (NSI), which the White Paper defines as “a set of functioning institutions, organisations and policies which interact constructively in the pursuit of a common set of social and economic goals and objectives”.

The Department influences the NSI primarily by implementing the 2002 National Research and Development Strategy (NRDS) and the 2008 Ten-Year Innovation Plan (TYIP). The TYIP seeks to contribute to transforming South Africa’s resource-based economy into a knowledge-based one, in which the production and dissemination of knowledge will lead to socio-economic benefits and enrich all fields of human endeavour. The measure of its success will be the extent to which science, technology and innovation (STI) are used to drive economic growth and socio-economic development.

The DST’s efforts are therefore aimed at, among other things, providing high-level STI human capital, developing science and technology (S&T) infrastructure, encouraging research in emerging domains, establishing technologies and innovations to stimulate entirely new industries, and driving indigenous innovation in established industries. Its role includes managing and coordinating the NSI through policy formulation and resource allocation, and working closely with all NSI stakeholders, e.g. business, agencies and service delivery departments.

The Department does this work guided by its key national strategies such as the NRDS and the TYIP. The latter, particularly, seeks to contribute to the transformation of the South African economy from a resource-based economy to a knowledge-based economy, in which the production and dissemination of knowledge will lead to economic benefits and enrich all fields of human endeavour. In this regard the measure of success will be the extent to which S&T play a driving role in enhancing productivity, economic growth and socio-economic development.

2.2 Strategic outcome-oriented goals

Goal 1: To develop the innovation capacity of the NSI and thereby contribute to socio-economic development.

Goal 2: To enhance South Africa’s knowledge generation capacity in order to produce world-class research papers and convert advanced findings into innovative products and processes.

Goal 3: To develop appropriate STI human capital to meet the needs of society.

Goal 4: To build world-class STI infrastructure to extend the frontiers of knowledge, train the next generation of researchers, and enable technology development and transfer, as well as knowledge interchange.

Goal 5: To position South Africa as a strategic international research, development and innovation (RDI) partner and destination through the exchange of knowledge, capacity and resources between South Africa, the region and other international partners, thereby steering the NSI.

2.3 Government outcomes

The Department also contributes to and reports on the following government outcomes:

Outcome 2: A long and healthy life for all South Africans.

Outcome 4: Decent employment through inclusive economic growth.

Outcome 5: A skilled and capable workforce to support an inclusive growth path.

Outcome 7: Vibrant, equitable and sustainable rural communities and food security for all.

Outcome 10: Environmental assets and natural resources that are well protected and continually enhanced.

2.4 Highlights and overall achievements for the 2012/13 financial year

One of the achievements of the DST celebrated by the country was the announcement on 25 May 2012 that South Africa, together with eight other African partner countries, would host the major portion of the Square Kilometre Array (SKA) radio telescope. The SKA will be one of the biggest scientific projects the world has ever undertaken. By the end of the financial year, a detailed design of one MeerKAT antenna, which is aligned to the SKA design, was completed. In addition, the Karoo MeerKAT site, about 100 km from Carnarvon, is a hive of activity as preparation for building the 64-dish telescope is underway. The roads, civil works, landing strip, electrical and fibre reticulation and construction camps are all progressing according to schedule.

South Africa's communications regulator, the Independent Communications Authority of South Africa (ICASA), made a decision to migrate broadcasting services in the Northern Cape to alternative frequencies in order to make way for astronomy services during the year under review. This application to ICASA was made by the DST, as the high-powered transmissions from analogue broadcasting could cause harmful interference that would affect the telescope. The aim of this migration is to minimise the level of radio frequency interference in the Astronomy Advantage Areas.

Through DST funding, the University of Cape Town (UCT) announced the development of a candidate malaria drug that shows potential activity against multiple points in the malaria parasite's life cycle. Also, the National Health Laboratory Service announced the discovery of potent antibodies that are able to kill 88% of HIV found throughout the world. This groundbreaking discovery provides important clues that could be useful in making the Aids vaccine.

The DST, through its participation in the Bridging Action for Global Monitoring for Environment and Security and Africa (BRAGMA), organised the 1st Global Monitoring for the Environment and Security (GMES) and Africa workshop in Mombasa, Kenya, in October 2012. GMES (now called Copernicus) and Africa aims to provide a framework for long-term African-European cooperation in the definition and implementation of operational Earth observation-based services driven by African needs. GMES & Africa will make available tools needed to inform and support the implementation of policies addressing key societal benefit areas. It will build on existing initiatives and exploit synergies with related activities. Principles such as equity, transparency and African ownership will guide the implementation. The workshop brought together experts on marine and coastal activities in African countries with a sea coast, representatives of the African and EU Commissions, the African Regional Economic Communities, and other relevant stakeholders. The objective was to finalise the GMES & Africa baseline plan and the endorsement of marine and coastal requirements through consultation with relevant African stakeholders.

In its endeavour to enhance South Africa's knowledge generation capacity to produce world-class research papers and turn some advanced findings into innovative products and processes, the Department supported a total of 3 076 researchers during the year under review. In addition, the recruitment by universities of candidates for the 60 research chair positions (in addition to the 92 already established research chairs) awarded in 2011/12 continued. The South African Research Chairs Initiative (SARChI) is a flagship initiative of government, whose main goal is to strengthen the country's universities to produce high-quality postgraduate

students and research and innovation outputs. The main purpose of this initiative is to expand the scientific research base of South Africa in support of the NRDS, the TYIP and other governmental strategies; to increase the number of world-class researchers; to attract and retain research excellence; and to create research career pathways for highly skilled, high-quality young and mid-career researchers. In this regard, appointments have been finalised for 117 of the possible 152 research chairs.

In 2012/13, the Department established the new Centre of Excellence (CoE) (the ninth CoE) in Palaeosciences, with a framework approved (in the same year) for the establishment of five new CoEs. CoEs are physical or virtual centres of research that concentrate existing capacity and resources to enable researchers to collaborate across disciplines on long-term projects that are locally relevant and internationally competitive in order to enhance the pursuit of research excellence and capacity development.

Over the past half decade, South Africa's contribution to global scientific output has doubled from 6 000 to over 12 000 scientific papers per annum, and the impact of that output has increased by about 15%. A strategically important aspect of this increase is that the impact of publications produced through international cooperation increased by 25% in the past five years.

A draft Strategy for Human Capital Development for Research, Innovation and Scholarship was finalised and distributed among key stakeholders for comments, and a set of Ministerial Guidelines for the National Research Foundation (NRF) bursary programme was communicated to the NRF Board. The purpose of the latter is to improve the efficiency of DST funding for postgraduate students in respect of funding per capita, race and gender equity, as well as student throughput rates. Indications are that 1 700 doctoral students graduated during the 2012 academic year, a significant improvement on the 1 200 graduates just five years ago.

Furthermore, 8 379 postgraduate students were funded for postgraduate studies through the DST funding programmes. The number of postgraduate students supported is increasing every year and the Department is committed to ensuring adequate S&T human capital in the country in an effort to steer the NSI.

The Department recognises the importance of encouraging high school learners to choose Mathematics and Physical Science when they enter grade 10 in an attempt to develop science, engineering and technology (SET) human capital in the country. In line with its Youth into Science Strategy, the Department has specific programmes targeting learners. To date, a total of 34 science centres are operational in the country that attract vast numbers of learners to encourage and motivate them to take Mathematics and Physical Science as subjects. In addition, the Department raises awareness of S&T through the National Science Week (NSW) events. More than 560 000 individuals attended the NSW activities across the country, of whom 524 789 were learners.

On the infrastructure side, the DST convened an international steering committee to review DST investments in cyber-infrastructure (the South African National Research Network, the Centre for High Performance Computing, and the work being done towards the Very Large Database facility) in order to advise the Department in respect of governance structures and business models that will enhance the sustainable development of the cyber-infrastructure. Another high-level international expert team was convened, in partnership with the European Commission, to develop a multi-year, national roadmap for research and innovation infrastructure. This roadmap will be a key input into the DST's planning for infrastructure roll-out.

In order to support the growth and development priorities of government through targeted S&T interventions, the Department's KwaNobuhle Essential Oils project has increased its oil production significantly, by approximately 61%. This project is funded under the EU's Sector Budget Support as part of the Innovation for Poverty Alleviation Programme and is managed by the Council for Scientific and Industrial Research (CSIR) through its Enterprise Creation for Development activities. Rose geranium and *Lippia javanica* (fever tea) are harvested for their essential oils – high-value, low-volume botanical products used in the fragrance-related industries.

The DST-funded Nkowankowa project signed a contract with a large local juice producer, for which the centre has started pulping volumes of fruit for supply. The project targets rural communities with the aim of creating employment and promoting economic benefits through entrepreneur support. It is implemented by ChemCity (Pty) Ltd, a unit of Sasol, in partnership with the CSIR and the Vaal University of Technology.

The Technology Localisation Programme has met the target of delivering 50 technology assistance packages (TAPs) since its inception. The TAPs assist local companies to develop their technology capabilities in order to leverage the procurement opportunities offered by the infrastructure-build programmes of the state-owned enterprises. Interesting new additions to the intellectual property (IP) portfolio (technology packages), such as a new set of bearings, a simulation model for modelling the mechanical behaviour of transformer cores and the development of a new generic "toolbox" (canopy design) for Eskom service vehicles were developed jointly by TAP recipients and the Council for Scientific and Industrial Research (CSIR).

The Aeroswift project, which entails the development of a new-generation additive manufacturing machine and is executed by Aerosud and the National Laser Centre at the CSIR, signed a memorandum of agreement (MoA) with Airbus in September 2012. This is a titanium additive-manufacturing project, involving a process of joining materials to make objects from three-dimensional data, one layer at a time. This technology has the potential to introduce major efficiency improvements in the aviation industry, offering the possibility of vastly reducing material waste, compared to the conventional process in which parts are machined from a solid piece of material. Another MoA was signed with Boeing. The interest from these large firms is indicative of the level of novelty associated with this programme, which could change the face of manufacturing.

With a Treasury allocation of R500 million over the 2013 Medium Term Expenditure Framework (MTEF) period from the Competitiveness Fund, the DST initiated an Industry Innovation Partnership Fund in the year under review. The fund's main objective is to enhance the competitiveness of various strategic sectors of the economy through research, development and innovation (RDI). It already caters for a number of RDI-based industrial development activities, such as the satellite development programme and the Titanium Centre of Competence (CoC). By the end of 2012/13, plans were being developed to accommodate other strategic sectors such as post-harvest innovation, aquaculture, citrus, red meat and grain. Under this fund, ring-fenced funding of R90 million for the 2013 MTEF was allocated to the CSIR for the development of industry innovation programmes in various strategic sectors such as biosciences and nanosciences, safety and security, energy, robotics and mining. A further R62 million was allocated for the development of information and communication technology (ICT) industry partnerships within the scope of the ICT RDI Implementation Roadmap over the same MTEF period.

In an effort to promote research and development (R&D) investment in the country, new amendments to the R&D Tax Incentive Programme came into effect on 1 October 2012. The most significant change introduced by the new legislation is the requirement for organisations to obtain prior approval for R&D expenditure from the DST if they wish to make use of the allowance. This arrangement serves a dual purpose: from a Treasury point of view, it prevents companies from retrospectively reclassifying capital spending as R&D outlays, thus blocking a sizeable revenue leakage; secondly, and from the investor's point of view, it creates a secure environment as, instead of waiting for the South African Revenue Service to approve or audit their R&D activities and expenditure, companies are able to get approval in advance. Between 1 October 2012 and 31 March 2013, the DST received 308 applications, of which 21 have been processed. The changes have been welcomed in the business sector, and the incentive has started attracting new participants.

The Department continued to position South Africa as a strategic international RDI partner and destination through the exchange of knowledge, capacity and resources between South Africa, the region and other international partners. The year under review saw further enhancement of South Africa's STI cooperation on multilateral platforms, especially those in the region and the continent. In promoting regional integration in Southern Africa, the DST continued to work towards the development of STI capacity through the support of various programmes such as the Southern African Development Community (SADC) STI Climate Change Framework and Implementation Plan. The first SADC Policy Training Programme was launched in partnership with the United Nations Economic, Social and Cultural Organization (UNESCO). The purpose of this policy training programme is to build S&T policy capacity among senior officials in the SADC region.

S&T has emerged as one of the key areas of cooperation for the Brazil, Russia, India, China and South Africa (BRICS) grouping of emerging economies. In building on our relationship with our S&T counterparts in these countries, the DST hosted the 2nd BRICS Senior Officials' Meeting in November 2012. The meeting agreed to draft a memorandum of understanding to serve as a framework for S&T cooperation between BRICS member states.

The consolidation and deepening of relations with strategic partners of the global North has continued in the year under review, with the DST playing an active role during the South Africa-EU Summit that was held in Brussels in September 2012. S&T received attention at three events organised in partnership with EU counterparts, including one to celebrate the achievements of the South Africa-EU partnership on Innovation for Poverty Alleviation. The event was addressed by President Zuma and attended by Cabinet ministers, Members of the South African and European Parliaments and the EU Commissioner for Development. The S&T activities on the sidelines of the summit showcased S&T partnerships as one of the mainstays of the Trade, Development and Cooperation Agreement between South Africa and the EU.

The ongoing burden of diseases in Africa and the need to develop more drugs, microbicides, vaccines and diagnostics also received focused attention. The DST hosted the European and Developing Countries Clinical Trials Partnership Programme's future planning conference. The DST, together with EU counterparts, ministers of science and health from the rest of Africa, representatives of the pharmaceutical industry and leaders of foundations and philanthropic organisations involved in health research, set the tone for what would be one of the biggest investments in clinical trials. This programme will start in 2014 and will also help channel resources from partners to build human and health research infrastructure capacity on the continent and other developing regions.

The German-South African Year of Science 2012/2013 celebrated the cooperation between the two countries with a series of exhibitions, seminars, international conferences, workshops, cultural activities and other S&T events. In honour of the partnership and the friendship between South Africa and Germany, the former German Minister of Science and Education visited South Africa in February 2013 and, among other things, launched the Neville Alexander Memorial Fund under the Alexander von Humboldt Foundation. This fund will allow researchers from South Africa and the rest of the continent to spend months in Germany at laboratories of their choice, funded by the German Government. African junior postdoctoral researchers will also receive grants and mentorship.

The partnership between South Africa and Finland has begun moving towards the next level and is growing into the SADC region. The DST is in the process of finalising a partnership in support of the bioeconomy in the region, which is likely to attract an investment by the Ministry of Foreign Affairs of Finland of about R60 million. This partnership was originally aimed at strengthening South Africa's innovation capacity and drawing on Finland's experience and expertise. A critical component of this partnership was that the implementation process would include capacity building in South Africa and regionally. This has happened, with community projects turned into self-sustaining enterprises led by young people. One example is Reconstruct Labs, an organisation that delivers free training in ICT to communities in South Africa and the rest of Africa. Another is "Where is My Transport?", a tool to facilitate the use of public transport in the Western Cape. These were originally projects funded by the South Africa-Finland partnership and have had a positive effect on South Africa's socio-economic conditions by creating jobs, providing training, and developing business and innovation in communities.

The Department is committed to achieving its planned targets on a yearly basis and is making progress in this regard. Of the 66 targets set, the Department achieved a total of 47 (71%). This is a 4% increase from the previous reporting year and the highest achievement in the past three years.

One of the operating and capital spending requirements for ministries is the provision of strategic indicators that link a department's performance to its expenditure. In an effort to meet this requirement, the Department identified eight targets that were included in the Estimates of National Expenditure (ENE) for the fiscal year under review. Of the eight, the Department achieved a total of five targets (62%).

Table 1: Selected ENE indicators for the 2012/13 financial year

Indicator	Programme	ENE target for the 2012/13 financial year	Baseline (actual output) 2011/12	Actual progress to date	Reasons for variance	Status
Number of patents, patent applications and trademarks resulting from publicly funded research per year	Research, Development and Innovation (RDI) Human Capital and Knowledge Systems (HCKS) Socio-Economic Partnerships (SEP)	37 patents, patent applications and trademarks resulting from publicly funded research by 31 March 2013	14 patents, patent applications and trademarks were added to the IP portfolio	26 patents, patent applications and trademarks resulting from publicly funded research by 31 March 2013 <ul style="list-style-type: none"> RDI: One patent registered with Companies and Intellectual Property Commission (CIPC) and three patents filed HCKS: 20 patents filed SEP: Five patents filed 	Programme 5 had targeted for IP portfolio additions and not for patents only. As a result, the 15 targeted had only five patents intended to be filed.	Partly achieved
Number of companies provided with technology assistance packages (TAPs) per year to facilitate successful participation in infrastructure public procurement processes per year	Socio-Economic Partnerships	13 companies provided with TAPs	26 companies provided with TAPs	13 companies supported through TAPs A register of companies receiving TAPs is being updated as interventions are being implemented in companies. As at 31 March 2013, 50 local companies were in the register of companies receiving TAP.		Achieved
Total number of postgraduate students (financially) supported	Human Capital and Knowledge Systems	6 100 postgraduate students supported	7 083 postgraduate students supported by the DST through the NRF	8 379 postgraduate students funded (2 951 honours, 3 397 master's and 2 031 doctoral students)	These are bursaries that are awarded by research grant holders (and not through open calls) and it is therefore difficult to predict the number of students that will be supported.	Achieved
Number of researchers (financially) supported per year	Human Capital and Knowledge Systems	2 600 researchers supported	2 886 researchers supported by the DST	3 076 researchers supported	The target was exceeded because the number of awards depends on the size of the grant.	Achieved
Foreign funds leveraged per year in support of STI cooperation	International Cooperation and Resources	R240 million in foreign funds leveraged in support of STI cooperation	R285 million leveraged in pursuit of research-led socio-economic development	R241,2 million in foreign STI funds secured from international partners for knowledge production, technology transfer (TT), enhanced innovation, and STI human capital development (HCD) through agreed instruments by 31 March 2013	The Programme improved analysis and the collection of verifiable data.	Achieved

Indicator	Programme	ENE target for the 2012/13 financial year	Baseline (actual output) 2011/12	Actual progress to date	Reasons for variance	Status
Number of foreign participants in global knowledge and STI networks per year	International Cooperation and Resources	800 foreign participants in global knowledge and STI networks	3 460 foreign participants in global knowledge and STI networks	2 175 foreign participants (representing links to global knowledge and STI networks) collaborating with South African participants in knowledge production, TT, enhanced innovation, and STI human capita development (HCD) as agreed with foreign partners by 31 March 2013	During 2012/13, the Programme was able to strengthen its relationship with a specific international role player and more South African researchers were funded. As the European Union's Seventh Framework Programme for Research and Technological Development (FP7) is to end in 2013, more research calls were published. The Programme also improved the collection and analysis of data.	Achieved
Number of technology-based enterprises (financially) supported per year	Research, Development and Innovation	Five technology-based enterprises supported through TIA funding	A total of 18 new technology-based enterprises were supported by TIA	A cumulative total of three technology-based enterprises were established through TIA funding support	Misalignment of targets between TIA and the DST. TIA's target was for establishing enterprises only and not supporting new enterprises.	Partly achieved
Number of small and medium enterprises (SMEs) provided with technology support per year	Socio-Economic Partnerships	1 928 SMEs provided with technology support	A total of 1 918 SMEs received technology support through technology stations	A total of 1 769 SMEs received technology support through technology stations by 31 March 2013	The indicator is derived from the outputs of the erstwhile Tshumisano Technology Stations Programme, which was integrated into the Technology Innovation Agency (TIA). The published targets used by the DST were based on a projection of historical trends. In line with their agency responsibility, TIA effected changes to the operations and functioning of the programme, resulting in a misalignment of targets between TIA and the DST.	Partly achieved



3. PERFORMANCE INFORMATION BY PROGRAMME



3.1 Programme 1: Administration

This Programme is tasked with the overall management of the Department and with providing centralised support services to ensure that funded organisations comply with good corporate governance practices and are aligned with the strategic focus of the NSI. It is divided into Corporate Services and the Office of the Chief Operations Officer.

A. CORPORATE SERVICES

The objectives of the Programme are as follows:

- To enable and capacitate the Department through resource allocations and strategic support to achieve its mandate.
- To proactively position the Department positively both internally and externally to ensure informed employees and citizenry.
- To proactively partner with the Department in optimising organisational performance and improving levels of compliance with relevant policies, frameworks and legislative requirements.
- To provide a seamless service to all customers to ensure efficiency and effectiveness in service delivery.

The Programme has the following components: Finance; Knowledge Information and Records Management; Science Communication; Legal Services; and Security Services.

Finance: This subprogramme is responsible for ensuring that resources are allocated and used effectively and efficiently in line with good corporate governance. This includes financial planning and monitoring, ensuring compliance with financial prescripts, providing financial advice, and processing all revenue, expenditure, assets and liability transactions through the financial systems used by the DST.

Knowledge Information and Records Management: This subprogramme provides information and knowledge management services intended to optimise business processes and preserve institutional memory.

The Knowledge Management Strategy and Records Management Policy were adopted by the Department. The DST's Promotion of Access to Information Act Manual was translated into all

the official languages and Braille. The file plan has been fully implemented. An ICT Governance Framework, which should be approved in the next financial year, was drafted in line with the Public Service Corporate Governance of Information and Communication Technology Policy Framework issued by the Department of Public Service and Administration (DPSA).

During the year under review, the DST Resource Centre migrated from the Koha to the Amlib library management system software, which has better capabilities in generating reports for analysing Resource Centre services and functions. The research tool provided by the Institute for Futures Research is fully functional and is providing value in analysing comparative information on strategic issues. In addition, the Resource Centre has developed a web page on the DST website to facilitate remote access to information and knowledge at all times.

Of significance was the launch of the Alfresco document management system, which is meant to support all electronic document and records management functions, in addition to providing networking sites, which are increasingly used for collaboration and information sharing. The Alfresco enterprise content management (ECM) function was transferred to the Information Systems unit in the last quarter of the year under review. The goal of an electronic (and more environmentally friendly) system for ECM has been achieved by developing and implementing the submission process on Alfresco. Other processes, like leave requests, have also been automated using Alfresco.

Science Communication: This subprogramme is responsible for developing the DST communication strategy and its implementation plan. The strategy is informed by government priorities as expressed in the State of the Nation Address and the theme of the Minister's Budget Vote, and is in line with the Government Communication and Information System (GCIS) communications strategy adopted by Cabinet. The strategy is for both internal and external stakeholders.

In the period under review, the subprogramme implemented the approved communication strategy through various initiatives, such as the S&T television programme "Teenagers on a Mission", which reached a peak of four million viewers on SABC 1 through a partnership between the DST and the SABC. The programme also has a career guidance focus, and has proved to be popular with young people.

A strategy developed and implemented by the Subprogramme: Science Communication for the Budget Vote saw the Minister and other leading figures interviewed on public radio stations and e.tv's "Sunrise" programme.

The subprogramme developed marketing and communication strategies for the SKA, and the announcement that South Africa was to host the major portion of the radio telescope was made at a media briefing arranged by the subprogramme and the GCIS. During the period under review, the subprogramme also developed and implemented a communications plan for the President's visit to Carnarvon, the proposed site for the SKA. The visit was profiled live on SAfm and SABC 2's Morning Live. Both local and international media, including e.tv, also profiled the event.

In collaboration with the South African National Editors' Forum and Stellenbosch University, the subprogramme initiated a programme to train journalists, science communicators and researchers in science communication. In this regard a workshop was held at Stellenbosch University in November 2012.

Legal Services: This subprogramme provides legal services to the Department in order to ensure that the interests of the Department are protected against any legal risk.

A number of project contracts and international agreements and protocols were drafted, amended and/or reviewed. All litigation/arbitration matters between the Department and third parties were managed and processed effectively.

The subprogramme hosted several workshops and information dissemination sessions for DST staff, mainly on contract management and pre-contract verification processes and guidelines.

During the period under review, three draft Bills were prepared, namely, the Africa Institute of South Africa (AISA) Act Repeal Bill, the Science and Technology Laws Amendment Bill, and the Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill. The AISA Act Repeal Bill was introduced in Parliament. A comprehensive legal compliance framework and compliance monitoring tools were finalised, and compliance monitoring was undertaken.

Security Services: This subprogramme is responsible for the maintenance and operation of security systems in the Department.

B. OFFICE OF THE CHIEF OPERATIONS OFFICER

The objectives of the Programme are as follows:

- To coordinate and align strategic initiatives across the Department.
- To support the executive and political leadership in developing and maintaining processes, procedures and systems that enhance good corporate governance.
- To facilitate the attraction, development and retention of a competent, productive and representative workforce for the Department.

The Programme has the following components: The Ministry and the Office of the Director-General; Enterprise Risk Management; Policy, Planning, Governance Monitoring and Evaluation; Internal Audit Activity; and Human Resources.

The Ministry and Office of the Director-General coordinate activities within the Department and the NSI to steer the system towards the development of a knowledge-intensive economy with higher productivity levels, coordinating the implementation of the NRDS and the TYIP in line with the Medium Term Strategic Framework.

The subprogramme provided administrative and strategic support to the Minister and the Director-General. This includes the submission of cabinet memoranda by the Minister for consideration by Cabinet and providing the interface between the Department and the relevant committees in Parliament, ensuring that all DST parliamentary questions are responded to in time. The Office of the Director-General facilitated the effective participation of the Department in a number of cluster processes and ensured that the Department's work was integrated into a number of key outcomes.

Enterprise Risk Management primarily ensures that a risk management culture is embedded effectively and efficiently within the Department by creating risk management awareness, and elevating risk management to a strategic level within the Department in order to improve the DST's risk maturity level. The component's secondary roles are to ensure that countering fraud is made an integral part of strategy, operations and administration in the Department (i.e. to promote a fraud risk management culture within the DST) and to ensure that the Department has an effective business continuity management programme in place for building organisational resilience with the capability for an effective response that safeguards the interests of stakeholders, reputation, brand and value-creating activities. In order to facilitate proper coordination and alignment of strategic initiatives across the Department, the directorate focuses on ensuring that the Department has strategic, operational and fraud profiles in place that are managed, so as to ensure that there is a reasonable level of assurance that the Department will achieve its objectives.

Strategic, operational and fraud risk profiles for the 2012/13 financial year were finalised and approved on time. In the last quarter of the financial year, risk management training was provided to senior management as a precursor to determining the 2013/14 risk profiles for the Department. The 2013/14 operational and fraud risk profiles were finalised and approved.

The Department reviewed its fraud risk management system. The outcome of the process was an approved Fraud Risk Management Policy and Handbook and a revised whistle-blowing policy.

Policy, Planning, Governance, Monitoring and Evaluation (PPGME) facilitates the coordination and alignment of strategic initiatives across the Department, and supports the executive and political leadership in developing and maintaining processes, procedures and systems that enhance good corporate governance.

Some of the highlights during the year under review include the coordination of support for the Ministerial Review Committee and the finalisation of the Performance Information Management System. PPGME also developed a governance framework aimed at clarifying the roles and responsibilities of Programmes and entities, streamlining the planning, budgeting, reporting and governance processes of the entities, and ensuring that the entities report to National Treasury and Parliament via the DST.

Internal Audit Activity (IAA) performs internal appraisal activities to improve the effectiveness of controls and governance processes. This is accomplished through the provision of independent, objective assurance and consulting services designed to add value to the Department's operations.

The audit coverage plan was successfully completed. In addition, IAA enhanced the function by introducing a separate quality assurance function to increase the unit's maturity level.

IAA increased its use of Audit Command Language, a data analytics software tool, in the analysis of audit projects and plans to strengthen the control environment of the Department.

Human Resources (HR) aims to be a strategic partner that provides support to the Department in order to achieve its strategic and operational activities, by providing consistent and best employment practices, attracting and retaining employees, championing change and transition, setting and managing performance standards, and promoting a career-development environment in which all employees can reach their potential and contribute to a culture of service excellence.

The Department's vacancy rate was 8%. An electronic recruitment system was introduced to attract skilled employees within a reasonable period. This assisted in reducing the period needed to fill vacancies to about 68 days (below the target of 90 days). A talent management strategy was developed as an intervention to retain skilled and capable workers. To ensure that its workforce is competent and able to respond to the demands of the Department and the country, the DST continues to prioritise career development. A total of 119 bursaries were awarded during the year under review, and 35 employees completed their studies through DST funding during the year under review.

In terms of change management, a strategy was developed and implemented to facilitate changes within the Department and to ensure the smooth transition of processes.

The Department's employment equity targets for 2012/13 were to have women make up 47% of the Senior Management Service (SMS), and people with disabilities make up 3% of total DST staff. The Department monitored the implementation of the Employment Equity Plan, and during the course of the year under review the target for women at SMS level was achieved. However, in the fourth quarter the figure dropped to 43%, as some female SMS members left the DST. In terms of people with disabilities 2,52% was achieved. In the course of the year the Human Resources Gender and Disability Transformation Strategy was approved. This will help to create a gender and disability-friendly environment.

The Department continued to manage employees' performance through various innovative means. This year all employees were trained on the newly developed performance standards, which are intended to improve productivity.



3.2 Programme 2: Research, Development and Innovation

This Programme facilitates knowledge generation and exploitation through R&D in key priority areas, namely space science, bioscience and energy. It also promotes the exploitation of our knowledge stock through stimulating the development of innovative products and services, as well as the commercialisation thereof, where appropriate.

The objectives of the Programme are as follows:

- Support RDI initiatives in strategic areas (i.e. space, energy, biosciences and innovation research) to enhance South Africa's knowledge and skills base.
- Create and support multidirectional policy and institutional linkages between R&D and commercialisation in order to increase the commercialisation potential of R&D outcomes.
- Promote coordination among NSI institutions in space, energy and bioscience-related research that will enable the effective and efficient use of resources and the pooling of expertise.

The Programme has the following components: Biotechnology and Health Innovation; Hydrogen and Energy; Innovation Instruments and Planning; and Space Science and Technology.

BIOTECHNOLOGY AND HEALTH INNOVATION

The Biotechnology and Health Innovation subprogramme provides policy leadership for the development of a world-class bioeconomy in South Africa. This will be achieved through innovation instruments that provide financial, IP and innovation management support.

During the period under review, the subprogramme continued with a number of health initiatives. These include the South African HIV Research and Innovation Platform, the South African TB Research and Innovation Initiative, the South African Malaria Initiative, and the Non-Communicable Diseases Research and Innovation Initiative. By the end of the financial year, the Medical Research Council had been contracted by the DST to manage the strategic health innovation initiatives for an initial period of three years. These initiatives were managed by TIA until May 2012.

However, as they were positioned mainly in the early (R&D) stages of the innovation value chain, and as TIA's position is downstream in the commercialisation part of the value chain, it became imperative for the DST to appoint an appropriate institution to manage initiatives in the upstream, early stages of the value chain. The DST conducted an analysis of the different entities in the NSI with a view to identifying an appropriate institution for managing the strategic health innovation initiatives. The Medical Research Council emerged as the most suitable host entity in view of its statutory mandate, which makes provision for it to play a role through the entire innovation value chain in the human health sector.

One of the biggest highlights for the year under review was the development, co-funded by the DST, of a single-dose antimalarial drug candidate by the University of Cape Town (UCT). The new molecule, developed by the UCT's Drug Discovery and Development Centre, was selected for further development by Switzerland's Medicines for Malaria Venture (MMV) in 2012. The drug candidate, announced in August 2012, is expected to undergo a lengthy period of clinical

trials. It has the potential to become a single-dose cure for all strains of malaria and might also be able to block the transmission of the parasite from person to person. The development of the drug candidate has helped strengthen relations with an international partner, MMV.

During the period under review, and through DST co-funding, researchers at the National Institute for Communicable Diseases and the Centre for the Aids Programme of Research in South Africa (CAPRISA) announced a groundbreaking discovery. Researchers had discovered unique characteristics of HIV that enabled infected people to make antibodies that kill a wide range of HIV strains. The study, which was published in *Nature Medicine*, described how a unique change in the outer covering of the virus found in two HIV-infected South African women allowed them to make potent antibodies which are able to kill up to 88% of HIV types from around the world. These broadly neutralising antibodies are considered to be the key to making an Aids vaccine.

HYDROGEN AND ENERGY

The subprogramme provides policy leadership in long-term and cross-cutting RDI in the energy sector. It plays a key role in developing a sustainable and a modern South African energy knowledge base and industry that will ensure broader socio-economic benefits for the country from the nascent global hydrogen economy and renewable energy resources.

During the year under review, a collaboration between Hydrogen South Africa (HySA) Systems and Melex Electrovehicles led to the development of a golf cart powered by a fuel cell unit, which has an extended range of 70 km (depending on the driving conditions).

The manufacturing of the first proton-exchange membrane (PEM) high-temperature fuel cell stack and bipolar plates took place in South Africa with local and key international manufacturers. A PEM is a semi-permeable membrane generally made from ionomers and designed to conduct protons while being impermeable to gases such as oxygen or hydrogen. There are many advantages to using the high temperature PEM fuel cells in combined heat and power systems, including high-efficiency, low-emission, decentralised power and heat supply for stationary applications, and tolerance of higher impurity levels in fuel.

The HySA Infrastructure CoC received a 400 W state-of-the-art solar-to-hydrogen installation from Heliocentris, a Berlin-based company involved in multi-hybrid energy. In addition, the CoC has a Proton OnSite HOGEN-series PEM electrolyser that will be integrated into a 6 kW solar-to-hydrogen pilot plant. This large pilot plant is the first of its kind in South Africa. Both of these installations will be used for training and education purposes in a variety of hydrogen-related technologies, including fuel cells, energy storage, energy management and batteries.

In an effort by the Department to address some of the government's key priorities, such as economic growth, energy security and the reduction of greenhouse gas emissions, Minister Hanekom officially launched the HySA Advisory Board in February 2013. The board is an important instrument that will guide and give strategic advice to help the Department achieve the goals of the Hydrogen and Fuel Cell Technologies RDI Strategy. The board will also play a crucial role in ensuring that South Africa's natural resources and energy are used effectively, ensuring that South Africa is established as an exporter of high-value products to the growing international hydrogen and fuel cells market.

Through the NRF, the DST has formed a partnership with the Korea Electric Power Corporation International Nuclear Graduate School. In the year under review, the first group of students was

accepted to do a master's degree in nuclear engineering through the programme, which supports nuclear power infrastructure capacity building. The three students left for South Korea in February 2013.

INNOVATION INSTRUMENTS AND PLANNING

The subprogramme drives strategic interventions that will enable South Africa to translate a greater proportion of its scientific knowledge outputs into commercial technology products and services. This is achieved through designing and creating policy and institutional structures that facilitate technology development and its progression into national and international markets.

During the year under review, the National Intellectual Property Management Office (NIPMO) launched the first of a series of guidelines mandated by the Intellectual Property Rights from Publicly Financed Research and Development Act, 2008. This guideline ("Guideline 1 of 2012: Interpretation of the Scope of the Intellectual Property Rights from Publicly Financed Research and Development Act") was published in *Government Gazette No. 35978* on 12 December 2012. During the 2012/13 period, institutional applications for a rebate from the Intellectual Property Fund were received from 18 institutions, indicating that a total amount of R27,2 million (excluding value-added tax) was spent by the institutions on IP protection and maintenance between 1 March 2011 and 31 April 2012. After NIPMO had checked the applications for compliance with the requirements of the IP Fund Guideline 2.1 of 2012, an amount of R13,6 million was provided to institutions to reward them for proactively securing IP protection.

NIPMO continued to build capacity in respect of IP, organising sector-specific workshops on the commercialisation and use of IP. The workshops were related to animal health and nutrition (23 to 25 October 2012), and engineering for mining and agriculture (12 to 14 February 2013), and were designed to equip IT professionals and researchers at institutions with skills to introduce their emerging technologies to the market. A "dragon's den" concept was used to pitch ideas to potential investors. A workshop on IP commercialisation through IT was held in collaboration with the Association for University Technology Managers (a United States-based association representing the offices of most American universities) and the Southern African Research and Innovation Management Association (SARIMA) in December 2012. In addition, a summer school on IP and IT was held in collaboration with the World Intellectual Property Organization (WIPO) and the Companies and Intellectual Property Commission (CIPC) for two weeks from 26 November to 7 December 2012. This was hosted by the University of the Western Cape and allowed 42 local and international IP professionals to acquire deeper knowledge of IP and IT issues, as well as the management and commercialisation of IP. A seminar on the in-house management of inventions and patents was held in collaboration with the NIPMO-Unisa IP Chair on 31 January and 1 February 2013. Finally, in cooperation with SARIMA, 190 researchers were trained in the basics of IP management and IT through the NIPMO course, IPWise™.

SPACE SCIENCE AND TECHNOLOGY

The Subprogramme: Space Science and Technology focuses on creating the necessary strategic and institutional regimes for creating and developing a viable space programme and an Earth observation system. This includes providing strategic direction on key aspects linked to the construction of the SKA demonstrator telescope and related activities to ensure that Africa is well positioned to host the SKA. Targeted national space initiatives are intended to harness the benefits of space applications for socio-economic growth and sustainable development.

A major area of focus for the subprogramme is overseeing the South African National Space Agency (SANSA) and ensuring the implementation of the National Space Strategy. SANSA is a key instrument in the implementation of the National Space Strategy.

SANSA maintained formal local and international partnerships that both stimulate South Africa's space industry and the country's position as a recognised space citizen. These included the European Commission Joint Research Centre, which culminated in a MoU signed between the Joint Research Centre and SANSA, participation in the 9th European Space Weather Week, and various research visits to Germany, Japan, Argentina, Ethiopia and India.

The inauguration of the Kongsberg Satellite Services (KSAT) antenna at the Hartebeesthoek Ground Station was unveiled by the Norwegian Ambassador. Since its inception in early 2012, this major project has acquired over 1 000 images with a 99,2% satellite pass tracking rate. The project ushers in a new era in the partnership between SANSA, KSAT and the Norwegian Space Centre.

World Space Week offered a key opportunity for science advancement outreach programmes. The SANSA Space Lab visited eight schools in rural areas in the Eastern Cape and made a significant contribution, particularly in the underserved areas.

SANSA advanced scientific, engineering and technological competencies and capabilities through human capital development through the offering of various courses such as the e-Cognition training course aimed at addressing the skills gaps that existed in land-use and land-cover (LULC) classification projects and other relevant processing methodologies.

The subprogramme is also involved in user engagement with and the coordination of Earth observation activities. To this end, the establishment of SA-GEO (the South African component of the Group on Earth Observation (GEO)) and the National Space and Earth Observation Secretariat has facilitated South Africa's inputs into the GEO and its Global Earth Observation System of Systems by engaging the South African Earth observation community through communities of practice (CoPs), which have been established in the areas of agriculture, natural resources, water and LULC.

The Agriculture CoP is focusing on South Africa's participation in GEO's Global Agricultural Monitoring and Joint Experiment for Crop Assessment and Monitoring initiatives. The Natural Resources CoP seeks to promote sustainable development by ensuring sustainable and appropriate use of South Africa's renewable natural resources by collaborating; sharing Earth observations, models, operational systems and scientific knowledge; and sharing know-how and experience. The Water CoP is scoping a study to understand water-related Earth observation activities in the country as a precursor to developing its programme of activities. The LULC CoP is in initial planning discussions for conducting a comprehensive LULC survey of the country. The CoP has discussed South Africa's requirements for LULC data, methodologies and approaches to LULC mapping, as well as international LULC standards (the Land Cover Classification System and Land Cover Meta Language).

The subprogramme, in partnership with the Japanese Embassy's Economic Section, hosted a space colloquium under the theme "Promoting Space Exploration and Earth Observation: Contribution of Japan and South Africa to Humanity" on 4 October 2012 at the University of Pretoria. Four researchers from each country (South Africa and Japan) made presentations and participated in discussions.



The colloquium was followed by celebrating World Space Week in Gauteng, Limpopo, Mpumalanga, North West and the Western Cape. In order to contribute to the achievement of the objectives of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), in particular that of increasing awareness among decision makers and civil society of the benefits of the peaceful uses of space sciences and technology for sustainable development, the 2012 World Space Week was celebrated under the theme "Space for Human Safety and Security" and reached 5 831 learners and 300 educators through activities such as workshops, role-modelling, exhibitions, demonstrations and various other activities.

This was followed by an official visit to Japan by former Minister Pandor and the SANSA CEO on 7 October 2012 for a Science and Technology Society forum. Visits to facilities such as the National Institute of Information and Communications Technology, the Nippon Electric Company Corporation, the Remote Sensing Technology Center of Japan, Tokyo University, Japan Space Systems and the Japan Aerospace Exploration Agency were included.

The subprogramme facilitated South African participation at the United Nations/Tokyo University nanosatellite symposium held from 9 to 13 October 2012 in Nagoya, Japan. A presentation on the Cape Peninsula University of Technology's work on the ZA-CubeSat1 was very well received.

In meeting its international obligations, particularly on the African continent, the RDI programme is leading an African working group that aims to develop an African space agency policy and strategy. Once developed, the policy will provide a basis for the leveraging of space science for the continent's benefit. The group met in Pretoria in December 2012.

The DST, through its participation in the BRAGMA project, organised the 1st GMES & Africa workshop in Mombasa, Kenya, on 9 and 10 October 2012, where African experts gathered to discuss and contribute towards the Marine and Coastal Management chapter of the much anticipated GMES & Africa Action Plan. BRAGMA also organised a side event during the 9th International Conference of the African Association of Remote Sensing of the Environment that was held in El Jadida, Morocco, from 30 October to 1 November 2012. This was done to create awareness among Entrepreneurs' Organization (a global non-profit organisation) experts of the GMES & Africa process, and to give feedback on the BRAGMA workshop in Mombasa.

The subprogramme has made significant progress in respect of the implementation of the Cabinet resolution recommending the absorption of SunSpace capability into SANSA. Discussions with Denel Dynamics, SANSA and SunSpace in this regard are at an advanced stage.

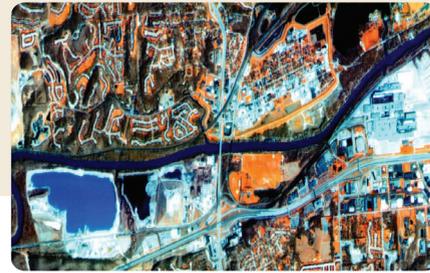
The Subprogramme: Radio Astronomy Advances manages and controls astronomy services and ensures that all activities and decisions comply with the Astronomy Geographic Advantage Act, 2007. During the year under review, the subprogramme provided strategic direction on key aspects linked to the construction of the SKA demonstrator telescope, the major portion of which was awarded to South Africa and its eight African partner countries. Another highlight was a decision made by the communications regulator, ICASA, to transfer broadcasting services in the Northern Cape to alternative frequencies in order to make way for astronomy services.

Site preparation began during the year under review, including the construction of roads, electric rectifications and site camps, as well as the design of one MeerKAT antenna, which was aligned to the SKA design. The construction related to the preparations of the SKA site created 354 construction jobs. In addition, 118 postgraduate students were funded through the SKA project in an effort to increase human resources to support the SKA initiative. The construction of the SKA is expected to start in 2016/17. In the period leading to the beginning of SKA construction, South Africa will build the 64-dish MeerKAT telescope. The first of the 64 dishes of the MeerKAT is scheduled for completion in the 2013/14 financial year. The MeerKAT telescope and associated infrastructure, which is classified as a mega project, is due for completion in the 2016/17 financial year. In addition, the development of the African Very Long Baseline Interferometry Network will be enhanced by a partnership between South Africa and Ghana to erect a radio telescope in Ghana.

In order to protect astronomy services against mining activities (e.g. fracking) in the Northern Cape, the Department has developed regulations declaring central astronomy advantage areas. These should be published before the end of the 2013/14 financial year after consultation with the relevant stakeholders.



Table 2: Programme 2 performance information for the 2012/13 financial year



Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of undergraduate and postgraduate students and technicians funded in space, bioscience, and energy-related research	A total of 255 undergraduate and postgraduate students were financially supported through DST initiatives during the 2011/12 financial year	274 undergraduate and postgraduate students and technicians funded by 31 March 2013	A cumulative total of 333 undergraduate and postgraduate students funded by 31 December 2012.	59 more students were funded than the targeted total.	Achieved	After winning the SKA bid, the decision was taken to fund more students.
	Number of interns (unemployed science graduates) funded through contracts with agencies and institutions for placement in private companies (TT100)	There was no target in 2011/12	50 interns (unemployed science graduates) funded through contracts with agencies and institutions for placement in private companies (TT100) by 31 March 2013	50 interns were placed in private companies.	None.	Achieved	
	Number of new research chairs and research initiatives ¹ financially supported in bioscience and energy-related research	The Department provided support to a total of four research chairs through the NRF	Six research chairs and six research initiatives in biosciences and energy-related fields financially supported by 31 March 2013	A total of seven research chairs were financially supported (four research chairs in biotechnology and health, and three research chairs in energy). A total of eight research initiatives in biotechnology and health financially supported.	One more research chair and two research initiatives was added.	Achieved	
	Number of publications as a result of R&D-funded initiatives through contracts with institutions and agencies	Six peer-reviewed publications resulting from R&D-funded initiatives have been produced, including a book chapter	Six publications resulting from R&D-funded initiatives through contracts with institutions and agencies by 31 March 2013	11 publications (journal articles) published in peer-reviewed journals.	Five more journal articles published.	Achieved	Baseline could only be established with previous year's performance, as well as the lengthy process of journal publication.

1. Research chairs and initiatives refer to a strategic instrument aimed at strengthening research and innovation capacity in public universities, enhancing the training of a new generation of researchers and the further development of established researchers in all knowledge areas, while responding to national priorities and strategies.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of requests for satellite datasets for R&D honoured ²	A total of 62 372 requests were honoured	5 000 requests for satellite data honoured by 31 March 2013	164 841 Earth observation data scenes (satellite datasets) honoured (distributed).	The target increased with 1 000 more requests.	Achieved	The target has been exceeded due to the excellent distribution in the previous quarters that is informed by active and targeted programmes in SANSA Earth observation. The higher performance is attributable to the Multi-angle Imaging SpectroRadiometer (MISR) data, which was distributed to the CSIR in Quarter 2, as well as Fundisa Disks distributed to universities. Four Fundisa Disks were sent out, totalling 2 257 images and 14 152 MISR images.

2. Satellite data honoured refers to satellite data distributed to users from SANSA satellite data archives either through downloads via an electronic portal or compact disks.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of South African candidates that attended IP and TT training programme	A total of 150 individuals participated in different IP training activities.	40 South African candidates that attended IP and TT training programme by 31 March 2013	In total 378 South African candidates were trained in IP and TT through commercialisation and use of IP workshops and the WIPO and TT summer school. The following groups were trained: 190 South African researchers were trained at seven institutions in the NIPMO IP Wise initiative. WIPO Summer School on IP and TT: A total of 42 candidates (23 South Africans and 19 foreigners) attended the training. In-house Management on Inventions and Patents workshop through the IP Chair: 71 participants attended. Association of University Technology Managers workshop called "IP commercialisation through TT" – 53 participants attended. Commercialisation and use workshops (one on animal health and nutrition and one on engineering for agriculture and mining): 41 candidates were trained.	338 more South African candidates were trained in IP and TT.	Achieved	The targets as set out in the Annual Report were set prior to NIPMO being fully operational.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of MeerKAT antennae designed and installed as per SKA specifications	A contract to construct roads, electrical reticulation and the MeerKAT construction camp site was awarded and the site was handed over to the contractor	One MeerKAT antenna designed and installed as per SKA specifications by 31 March 2013	Antenna has been designed and aligned to SKA design requirements.	None.	Achieved	
	Number of construction jobs created as per contracts signed off by SKA project director and service providers	The jobs were not created	200 construction jobs created in the Northern Cape by 31 March 2013	354 jobs have been created.	154 more jobs created.	Achieved	The target of the previous year was carried over and combine with the target of this year. Furthermore, the outcome of the SKA bid was not known when the target was planned.
To create and support multi-directional policy and institutional linkages between R&D and commercialisation in order to increase the commercialisation potential of R&D outcomes	NIPMO established ³ as a government component and staff permanently appointed	NIPMO interim office is operational	Business case approved by the National Treasury on 31 March 2013 NIPMO government component structure approved by the DPSA on 31 March 2013 NIPMO Advisory Board and Dispute Panel appointed by Minister by 31 March 2013	The feasibility study for the establishment of NIPMO as a Specialised Services Delivery Unit (SSDU) was completed and approved by the DST Executive Committee (EXCO). Approval for the establishment of the SSDU needs to be obtained from the DPSA. A submission to the Minister of Science and Technology has been prepared for submission of the feasibility study to the DPSA.	NIPMO not established as government component.	Partly achieved	Recommendation by Technical Assistance Unit to establish NIPMO as an SSDU instead of a government component based on the requirements of the Intellectual Property Rights from Publicly Financed Research and Development Act, with a phased approach to establishing the government component being recommended.

3. NIPMO will be established as a government component if the business case is approved by National Treasury, the organisational structure is approved by the Department of Public Service and Administration, the Advisory Board appointed by the Minister of Science and Technology, and the head and permanent staff appointed.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of new offices of technology transfer (OTTs) established or existing offices recapitalised ⁴ based on approved proposals and funding contracts signed with institutions and science councils	No new OTTs were funded	Four OTTs established and/or recapitalised by 31 March 2013	10 OTTs were funded from new proposals received and three OTTs were funded from existing NIPMO agreements (the remaining two institutions could not be funded because of funding constraints)	Six more OTTs funded in the 2012/13 financial year.	Achieved	The target four OTTs of the previous year were carried over to the target of this year, as the previous year's target could not be achieved in that year. The extra two OTTs were funded through the centralised funds, as they needed to be funded
	Number of new technology-based enterprises developed through funding support to TIA as part of a ring-fenced allocation	A total of 18 new technology-based enterprises were supported by TIA	Five new technology-based enterprises developed through funding support to TIA by 31 March 2013	A total of three technology-based enterprises established through TIA funding support.	Two new enterprises were not supported.	Partly achieved	Misalignment of targets between TIA and the DST. TIA only had a target on enterprise establishment and not new enterprises supported.
	Number of new technology products, processes or services developed through funding support to TIA for commercialisation	10 new technology products/ processes/ services commercialised	Eight new technology products, processes or services developed through funding support to TIA for commercialisation by 31 March 2013	58 products, processes or services developed for commercialisation. A total of three of these products were commercialised during this quarter.	50 new technology products/ processes/ services.	Achieved	Based on the previous year's actual performance, the target was decreased.
	Number of TT100 innovation recognition award events financially supported and held	One TT100 award took place	One TT100 innovation recognition award event financially supported and held by 31 March 2013	One TT100 award took place in November 2012.	None.	Achieved	

4. "Recapitalisation" refers to capacity development such as funding of positions within an office of technology transfer.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of prototypes developed and patents locally and internationally registered with the CIPC or United States Patent and Trademark Office (USPTO) or European Patent Office (EPO)	One prototype was developed and one patent was registered	One prototype developed and one patent registered locally or internationally with the CIPC, USPTO or EPO by 31 March 2013	One prototype developed and one patent registered locally or internationally with CIPC, USPTO or EPO. Prototype 2 kW high-temperature proton exchange membrane fuel cells stack developed). One patent registered (method of surface modification of metallic hydride forming materials). Three patents were filed: <ul style="list-style-type: none"> • Patent of High Temperature Membrane Electrode Assembly (HT-MEA). • Assembly (HT-MEA) production line is in trial run and not registered yet. • Patent of method for preparing hydride-forming alloys and materials on the basis of nanostructured magnesium hydride. 	None.	Achieved	

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
To promote coordination among NSI institutions in space, energy and bioscience-related research that will enable the effective and efficient use of resources and the pooling of expertise	Number of policy briefs ⁵ and concept documents developed in space, energy, bioscience and technology commercialisation-related fields approved by EXCO	Two policy briefs and concept documents were completed	Three policy briefs and concept documents (Hydrogen South Africa (HySA) review; one biotechnology and health innovation policy brief; one costing model for bioscience/biotechnology platforms) developed and approved by EXCO by 31 March 2013	Two policy briefs and concept documents were completed. The Bioeconomy Strategy was approved by EXCO in February 2013. A draft technology platform (with proposed costing model) recommendation document is available. The HySA review was not achieved; however, the Advisory Board was established, which comprises four board members. Currently the submission is en route to request the Director-General to approve the appointment of additional candidates to serve on the HySA Advisory Board.	One policy brief of concept document was not completed.	Partly achieved	The HySA Advisory Board plays a major role in the review process and therefore the board had to be established before the review could take place.

5. A policy brief is a document that outlines the rationale for choosing a particular policy alternative.



3.3 Programme 3: International Cooperation and Resources

This Programme strategically develops, promotes and manages international relationships, opportunities and S&T agreements that strengthen the NSI and enable an exchange of knowledge, capacity and resources between South Africa and its regional and international partners.

The objectives of the Programme are as follows:

- To increase the leveraging of foreign STI funds that will stimulate international technology transfer and knowledge production, and enhance innovation in pursuit of research-led socio-economic development.
- To increase South African and foreign funds spent on S&T-based socio-economic development in Africa.
- To increase access to global knowledge and STI networks that will result in international technology transfer and a competent and equitable pool of SET skills to support the NSI.
- To increase the number of South African students participating in international cooperative STI research projects that will contribute to a competent and equitable pool of SET skills in support of the NSI.

The Programme has the following components: Overseas Bilateral Cooperation; Multilateral Cooperation and Africa; and International Resources.

OVERSEAS BILATERAL COOPERATION

In cooperation with countries outside of Africa, the subprogramme promotes and facilitates collaborative activities and leverages resources in support of the NSI, with a specific focus on developing a knowledge-driven economy. In an effort to strengthen bilateral STI partnerships, the subprogramme undertook cooperative activities, including participation in various partnership meetings with key stakeholders such as Germany, Switzerland, Argentina, France and Norway.

During the second quarter, two calls for proposals under the South Africa-Japan S&T Bilateral Agreement were jointly launched in July 2012 by the NRF-Japan Science and Technology Agency and the NRF-Japan Society for Science and Technology Programmes. A joint call for proposals of the Argentina-South Africa Centre for Nanotechnology Programme under the South Africa-Argentina S&T Bilateral Agreement was launched in August 2012.

The fourth quarter focus was mainly on planning for the closing session of the German-South African Year of Science in Germany, preparations for the South African Season in France, and scientific collaboration between South Africa and Norway. The Phase II Framework Document on cooperation between South Africa and Norway from 2013 to 2016 was signed, and negotiations have started for a new research call with Norway.



MULTILATERAL COOPERATION AND AFRICA

This subprogramme facilitates South Africa's participation in strategic African bilateral agreements and multilateral organisations on STI, so as to strengthen the NSI and to achieve shared economic and social development in the region and on the continent.

This year saw the further enhancement of STI cooperation on multilateral platforms for the benefit of STI capacity building and regional integration. This includes the support of the SADC STI Climate Change Framework and Implementation Plan, the launch of the first SADC Policy Training Programme in partnership with UNESCO, and an increase in strengthening DST/NSI strategic participation in the Organisation for Economic Cooperation and Development (OECD) Committee for Scientific and Technological Policy activities.

INTERNATIONAL RESOURCES

This subprogramme works to increase the flow of international resources into the country by creating conditions for access to international STI skills and global projects.

The subprogramme facilitated the signing of various agreements with strategic partners, including an agreement with the Netherlands Organisation for Scientific Research (NWO) to foster deeper scientific collaboration between South Africa and the Netherlands. The main areas of cooperation relate to astronomy, industrial biotechnology and chemistry. Four agreements were concluded between NWO and various South African organisations, and two bilateral expert meetings were held aiming at new collaborations. In the area of astronomy, there are many long-running ties between excellent scientists in South Africa and the Netherlands. The agreement concluded in this area will cover an exchange programme for astronomy and enabling technologies, a public-private partnership targeted at ICT R&D for radio astronomy, and a visiting experts programme in the framework for astronomy for development.

South African institutions also took ownership of project equipment worth approximately R5 million as part of the joint Climate Variability Research Programme between South Africa and Japan, which came to an end in March 2013. This equipment includes additional weather stations and high-capability computational power that improve the South African climate modelling capability.

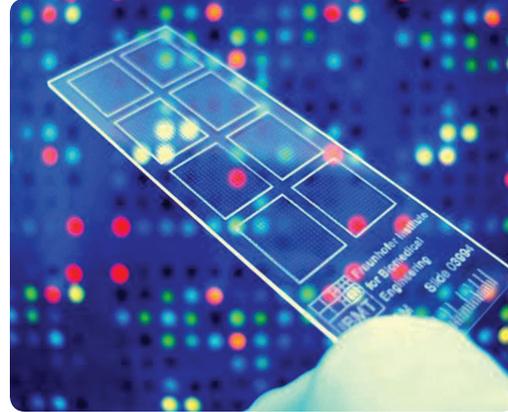


Table 3: Programme 3 performance information for the 2012/13 financial year

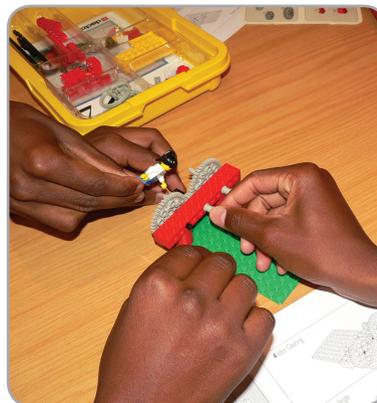
Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
To increase leverage of foreign STI funds that will stimulate international TT and knowledge production, and enhance innovation in pursuit of research-led socio-economic development	Amount (rand value) of foreign STI funds leveraged ⁶	R285 million in foreign STI funds leveraged	R240 million foreign STI funds leveraged by 31 March 2013	R241,2 million foreign STI funds secured from international partners for knowledge production, TT, enhanced innovation, and STI HCD through agreed instruments by 31 March 2013.	Secured R1,2 million more in STI funds from international partners than was planned.	Achieved	The Programme improved the collection and analysis of verifiable data.
To increase South African and foreign funds spent on S&T-based socio-economic development in Africa	Amount (rand value) of South African and foreign funds secured for STI development in Africa ⁷	R63,8 million of South African and foreign funds spent on S&T-based socio-economic development in Africa	R46,5 million of South African and foreign funds secured for STI development in Africa by 31 March 2013.	R49,3 million of South African and foreign funds secured for knowledge production, TT, enhanced innovation, and STI HCD in Africa as agreed with foreign partners by 31 March 2013.	Secured R2,8 million more South African and foreign funds than was planned.	Achieved	The Programme used more opportunities to secure foreign funds for S&T-based socio-economic development in Africa.

6. Leveraged refers to funds secured for knowledge production, technology transfer, enhanced innovation, and STI human capital development from international partners through agreed-upon instruments.

7. STI development refers to knowledge production, technology transfer, enhanced innovation, and STI human capital development.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
To increase access to global knowledge and STI networks that will result in international TT and a competent and equitable pool of SET skills to support the NSI	The number of foreign participants (representing the links to global knowledge and STI networks) involved with South African participants in knowledge production, TT, enhanced innovation, and STI HCD as agreed with foreign partners	3 460 foreign participants in global knowledge and STI networks	800 ⁸ foreign participants (representing the links to global knowledge and STI networks) involved with South African participants in knowledge production, TT, enhanced innovation and STI HCD by 31 March 2013	2 175 foreign participants (representing the links to global knowledge and STI networks) collaborating with South African participants in knowledge production, TT, enhanced innovation, and STI HCD as agreed with foreign partners by 31 March 2013.	1 375 more foreign participants collaborated with South African participants than was planned.	Achieved	During 2012/13, the Programme was able to strengthen its relationship with a specific international role player and more South African researchers were funded. As the FP7 is to end in 2013, more research calls were published. The Programme improved the collection and analysis of data.
To increase the number of South African students participating in international cooperative STI research projects that will contribute to a competent and equitable pool of SET skills in support of the NSI	Number of South African postgraduate students (master's, doctoral and postdoctoral) participating in international STI development as agreed with foreign partners	1 270 South African students participating in international cooperative STI research projects	450 South African postgraduate students (master's, doctoral and postdoctoral) participating in international STI development as agreed with foreign partners by 31 March 2013	748 South African postgraduate students (master's, doctoral and postdoctoral) participated in international STI development as agreed with foreign partners.	298 more South African students participated than was planned.	Achieved	The Programme improved on the collection of verifiable evidence to support the participation of South African students in international cooperative STI research projects.

8. The reduction in target by comparison to previous year's results from a change in the reporting base.



3.4 Programme 4: Human Capital and Knowledge Systems

The Human Capital and Knowledge Systems Programme provides leadership in the creation of an innovative and competitive society with highly skilled human capital, cutting-edge knowledge and research infrastructure.

The objectives of the Programme are as follows:

- To build a SET human capital pipeline to ensure increased availability of researchers and innovators for South Africa's global competitiveness.
- To promote and enhance research productivity to increase South Africa's world share of knowledge outputs.
- To identify and support the development of new and emerging research areas and technologies for their application in the improvement of quality of life and enhancement of economic competitiveness.
- To ensure the availability of appropriate infrastructure for enhancement of RDI competitiveness.
- To promote and develop RDI in IKS for improved quality of life.

The Programme has the following components: Human Capital and Science Platforms; Indigenous Knowledge Systems; and Emerging Research Areas and Infrastructure.

HUMAN CAPITAL AND SCIENCE PLATFORMS

This subprogramme formulates and implements policies and strategies that address the availability of human capital for STI and increased knowledge production. The subprogramme provides strategic direction and support to institutions mandated with human capital development (HCD) and increased knowledge production, as well as interfacing with relevant stakeholders in this regard. The strategies include the Human Capital Development Strategy for Research, Innovation and Scholarship, while research focus areas include astronomy and palaeosciences. The HCD pipeline is divided into three categories, each with a specific suite of support programmes, namely, new generation, emerging, and established researchers. Programmes for delivering high-end skills include bursary programmes (at the new generation level), a postdoctoral fellowship programme (at emerging researcher level), and research chairs and centres of excellence (at established researcher level).

The Department has sought to increase both the number of postgraduate students funded through bursaries, as well as the average per capita level of support. Recent trends (2008/9 to 2012/13) reveal increases in bursary values of more than 30% and in student numbers of about 20%. In 2011, the doctoral graduates rose significantly for the first time in four years, by 36% to 1 576, which is likely linked to a strategically targeted once-off injection by the Department in the 2010/11 financial year, and sustained support since then. The first indications are that, for the 2012 academic year, graduates have reached 1 700. In the year under review, the Department exceeded its target of funding 6 100 postgraduate students through bursaries, having supported 8 379 (2 951 honours, 3 397 master's, and 2 031 doctoral). In order to improve the regulatory environment for the disbursement of bursary funding, the Department drafted and approved a Ministerial Guideline document on achieving equity in the distribution of NRF scholarships and fellowships. The document sets clear equity targets for the agency over the next three years.

Similarly, the number of researchers funded as research grant holders stands at 3 076 against an annual target of 2 600.

The DST-NRF Internship Programme (implemented through the NRF) gives recently qualified graduates and postgraduate students an opportunity to improve their employability by placing them at various institutions within the NSI, thus greatly improving their chances of being retained within the science system in the longer term. The internship programme also addresses government imperatives of reducing unemployment and skills development. In 2012, the Internship Programme supported a total of 711 graduate and postgraduate interns in work preparation programmes.

The recruitment by universities of candidates for the 60 research chair positions (in addition to the 92 established research chairs) awarded in 2011/12 continued. In this regard, appointments have been finalised for 117 of the possible 152 research chairs. In 2012/13, the Department established its ninth CoE, the CoE for Palaeosciences, and finalised a framework for the establishment of a further five new CoEs. The call for proposals for the five new CoEs is to be opened by the NRF in early 2013/14.

The NRDS identified science platforms (areas of geographic advantage) in which the country should grow its research focus. These include palaeosciences and astronomy. The first draft of the implementation plan of the Palaeosciences Strategy, which was presented to Cabinet in February 2012, was completed. As part of implementing this strategy, the CoE for Palaeosciences was awarded to the University of the Witwatersrand. The nodes for this CoE include a number of museums. In astronomy, a concept document for the establishment of an independent astronomy entity was drafted and considered in discussions involving key stakeholders and the Minister. Taking into account current operational priorities for the broad domain of astronomy, as well as fiscal constraints, it was decided that, as an interim approach, all astronomy activities currently residing within the NRF should be consolidated in a sub-agency of the NRF.

In order to promote science engagement, the DST embarked on a number of initiatives, one being the National Science Week (NSW), an annual country-wide celebration of science, in which science-based activities involving various role players are conducted during the same week in all the nine provinces. This initiative is a major contributor to the overall number of people who participate in the science-awareness and engagement activities. The year 2012 was the "International Year of Sustainable Energy", which was the sub-theme for NSW 2012. Of the 92 grant holders, 20 were from the Department of Basic Education's District Offices, with some investing their own funds towards celebrating the NSW. The overall targeted number of participants of 385 000 was exceeded by 181 511, totalling 566 511 participants.

Both the NSW launch and the Women in Science Awards gala dinner were held in conjunction with the German-South African Year of Science. The theme for the Women in Science Awards event was "Using science and technology for the development of rural women to end poverty", showcasing the work of women in this area, and the relevance of science in solving broader societal problems.

INDIGENOUS KNOWLEDGE SYSTEMS

This subprogramme promotes the role of indigenous knowledge systems (IKS) in national R&D programmes to strengthen their contribution to STI. The focus is on providing an appropriate regulatory and policy environment, the development a National Recordal System (NRS) for IKS, an appropriate accreditation and certification system for indigenous knowledge (IK) holders, and biosprospecting and product development platforms for IK.

The national IKS Policy identified the need to accredit and certify IK holders and practitioners for alignment with the National Qualifications Framework. During the year, a draft framework for the accreditation and certification of IK holders and practitioners was completed, and draft norms and standards developed through contributions from practitioners in North West and KwaZulu-Natal. The working group tasked with providing leadership made a breakthrough in linking the draft norms and standards with the South African Qualifications Authority (SAQA) Level Descriptors. The technical task teams, comprising representatives of the traditional healing and practice communities and traditional leaders in North West, finalised and adopted the draft norms and standards during a consultative workshop held on 19 September 2012.

In November, two of the IKS SARChI chairs assisted in creating a new forum for researchers and knowledge holders called "Eziko" ["hearth"], which will focus on writing IKS teaching and learning materials, bringing together scholars from Botswana, Namibia and South Africa. Another effort brought together all recipients of NRF IKS research funds, with their students and the community elders with whom they work, to report back on research results and partnerships. This was considered to be a first in setting research ethics that promote joint ownership of the processes of knowledge production between academia and indigenous communities. The University of KwaZulu-Natal organised its own seminar on IKS methodologies and epistemologies, attended by scholars from Namibia, Tanzania and the United Kingdom.

An Indo-South African bilateral meeting on traditional medicines was held in Ottu, India. The South Africa delegation was made up of scientists from the University of the North West, Stellenbosch University, the University of KwaZulu-Natal, the University of Venda and the University of Pretoria, as well as knowledge practitioners. The trip was successful, with the team identifying three postdoctoral students to be attracted to South Africa, and culminated in the appointment of a panellist for the Hoodia Scientific Review.

Another highlight was the finalisation of the accreditation and certification norms and standards for traditional medicine for approval by EXCO.

The completion of the development of the ICT component of the NRS by the CSIR was a milestone. In October EXCO approved a communication plan for the NRS.

In March 2013, the senior management of the Department approved the draft Bill for the Protection, Promotion, Development and Management of IKS for public consultation. The Department will be embarking on a robust and widespread consultation process that will include national, provincial and local government departments, houses of traditional leadership, traditional health practitioners, science councils, academia and civil society. The consultation process is expected to last for three months, and the Bill should be tabled in Cabinet on 4 December 2013.

EMERGING RESEARCH AREAS AND INFRASTRUCTURE

The subprogramme facilitates the strategic implementation of research equipment and infrastructure to promote knowledge production in areas of national priority and to sustain R&D-led innovation. The subprogramme also promotes the development of new and emerging research areas through supporting the requisite research and infrastructure capacity in these areas. Funding is provided to institutions and national programmes such as the South African National Research Network (SANReN), the national nanotechnology innovation centres, the National Equipment Programme (NEP), emerging research areas (e.g. nanotechnology, photonics and synthetic biology) and new research areas (e.g. aptamers).

SOUTH AFRICAN NATIONAL RESEARCH NETWORK AND BROADBAND ACCESS

A highlight of the 2012/13 financial year was the expansion of the broadband connectivity to all the major campuses of tertiary educational institutions through the continued implementation of the SANReN programme. A total of 40 research and educational sites have been connected with high-speed networks ranging from a minimum of one to a maximum of 10 gigabits per second. The significance of this achievement is that the digital divide between urban, rural and remotely located institutions has almost been eliminated. This means that a rural university could participate in global experiments almost as easily as an urban university. Furthermore, the presence of the SANReN network made it possible for new paradigms in the way teaching and training and research are conducted – high-speed transport of large datasets, participation in global experiments regardless of physical location, and collaborative online teaching. The investment in SANReN also reduced Internet costs for participating institutions by a factor of more than 10. SANReN is also crucial for MeerKAT and SKA development and implementation.

RESEARCH AND INNOVATION INFRASTRUCTURE

In the 2012/13 financial year the DST's ring-fenced infrastructure allocation allowed it to support the following:

The awarding of 53 research infrastructure grants; of these, more than two thirds are research equipment grants to universities, science councils and museums via the NEP and National Nanotechnology Equipment Programme (NNEP).

- The development of a titanium primary pilot plant.
- The development of a titanium additive-manufacturing plant.
- The establishment of a world-class nanotechnology development clean-room at Mintek.
- The establishment of the National Recordal Systems (NRS) to capture, store and manage indigenous knowledge.

ENHANCING NANOSCIENCE TEACHING AND TRAINING

On 26 September 2012, in collaboration with four universities (the University of Johannesburg, Nelson Mandela Metropolitan University, the University of the Free State and the University of the Western Cape (UWC)), the DST launched the National Nanoscience Postgraduate Teaching and Training Platform. This multi-university consortium offers a structured master's degree in nanoscience. It is the only programme in the country where the same degree is offered at all partner institutions, with one partner acting as the champion (UWC in this case) and the lecturing load being shared by all partners. This platform provides an excellent model for other collaborative programmes. The first intake for the programme was 21 students.



Table 4: Programme 4 performance information for the 2012/13 financial year

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
To build a SET human capital pipeline to ensure increased availability of researchers and innovators for South Africa's global competitiveness	Number of postgraduate (honours, master's and doctoral) students awarded bursaries as reflected in the NRF reports	A total of 7 083 postgraduate students were supported by the DST through the NRF by the end of 2011/12	6 100 students (1 600 honours, 3 000 master's and 1 500 doctoral) were awarded bursaries as reflected in the NRF reports by 31 March 2013	8 379 postgraduate students (2 951 honours, 3 397 master's and 2 031 doctoral) were funded.	2 279 more than the planned target.	Achieved	There are bursaries that are awarded by research grant holders (and not through open calls); hence the over-achievement.
	Number of graduates and students placed in DST-funded work preparation programmes in science, engineering and technology institutions (SETIs)	New target	550 graduates and students placed in DST-funded work preparation programmes in SETIs by 31 March 2013	711 interns enrolled on SETI programme by 31 March 2013.	161 more than the planned target.	Achieved	The host institutions for interns are inclusive of the science centres.
	A functional information management system for bursary outputs	New target	A database of consolidated Higher Education Management Information Systems (HEMIS) and higher education institutions (HEIs) data developed by 31 March 2013	A functional information management system for bursary outputs is in place and a report on graduate output (for students funded in the past) has been received. The information system links HEMIS graduation data (from the Department of Higher Education and Training) with data on students funded by the NRF. The NRF's 2011/12 report, which sets out explicitly the graduation rate of students that are funded by the NRF, shows that the system is fully functional. The graduation data will always lag a year behind, as students only graduate a year after their period of study/funding.	None.	Achieved	

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Approved implementation plan for the Strategy for Human Capital Development for Research, Innovation and Scholarship (HCD for RIS Strategy) by the Minister	New target	HCD for RIS Strategy approved by the Minister by 31 March 2013	The HCD for RIS Strategy was not approved by the Minister during this reporting period.	The HCD for RIS Strategy was not approved by the Minister.	Not achieved	During the year, the approach taken to formulating the strategy changed in consultation with the Minister. The strategy was not finalised and the implementation plan could therefore not be developed.
	Number of participants ⁹ in science awareness and engagement programmes as reflected in NRF reports	751 217 people participated in different science awareness engagements (338 625 participated in NSW and 412 592 in science festivals)	385 000 participants (331 000 learners and 54 000 members of the public) in science awareness and engagement programmes by 31 March 2013	566 511 people participated in DST-led science awareness and engagement programmes (524 789 learners and 41 722 members of the public).	181 511 more people participated than expected.	Achieved	More people are becoming aware of the NSW events.
	Cumulative number of S&T institutions involved in DST-led science awareness	New target.	Seven HEIs, four science councils and six national research facilities participated in DST-led science awareness by 31 March 2013	10 HEIs, four science councils and three national facilities participated.	Three more HEIs.	Achieved	There was a drive by the DST and NRF to get all stakeholders to participate, which was implemented through the grant holders. Heranus Magnetic Observatory migrated to the South African National Space Agency.

9. The number of participants is the number of visitors to sites hosting awareness and engagement activities plus the number of people reached through the media.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Science, technology, engineering, mathematics and innovation (STEMI) promotion and engagement strategy for the NSI and its implementation plan approved by the Minister	New target	Draft STEMI promotion and engagement strategy for the NSI completed by 31 March 2013	A workshop of internal stakeholders was held in March 2013 to adopt a framework that will guide the development of the strategy in 2013/14.	No draft STEMI strategy.	Not achieved	A new strategic approach to the conceptualisation of the strategy was developed during the year, in consultation with the Minister. This delayed progress on the strategy.
Promote and enhance research productivity to increase South Africa's world share of knowledge outputs	Total number of researchers awarded research grants through NRF-managed programmes	2 886 researchers supported by the Department	2 600 researchers awarded research grants through NRF-managed programmes by 31 March 2013	3 076 researchers awarded research grants	476 more researchers awarded research grants	Achieved	Target exceeded as the number of awards also depends on the size of the grant.
	Number of peer-reviewed journal articles published by NRF grant holders as reflected in NRF reports	New target	4 000 peer-reviewed journal articles published by NRF grant holders by 31 March 2013	4 273 peer-reviewed journal articles published	273 more peer-reviewed journal articles published	Partly Achieved	Numbers are not easy to predict precisely because research outputs sometimes emerge only several years after the NRF grant was awarded.
	Number of books		70 books	141 books	71 more books		
	Number of chapters in books		240 chapters in books	535 chapters in books	295 more book chapters		
	Number of products, prototypes and artefacts		140 products, prototypes and artefacts	65 products prototypes and artefacts by 31 March 2013	75 fewer products prototypes and artefacts		
	Number of patents registered by NRF grant holders as reflected in NRF reports	New target	20 patents registered by NRF grant holders as reflected in NRF reports 31 March 2013	No registered patents were reported, but 14 patents were filed to be registered	Patents filed but not registered	Partly Achieved	It takes too long to register a patent for this to be reported within a single year.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Approved implementation plan for the Palaeosciences and Archaeology Strategy by the Minister	Palaeosciences and Archaeology Strategy gazetted and presented to Cabinet	Draft implementation plan for the Palaeosciences and Archaeology Strategy completed by 31 March 2013	Draft implementation plan for Palaeosciences and Archaeology Strategy completed	None	Achieved	
	Approved Antarctic research strategy by the Minister	New target	A draft Antarctic research strategy completed by 31 March 2013	A draft Antarctic research strategy was not developed, but a framework for the draft strategy was	Draft strategy not developed	Not achieved	The deputy directors-general of the Department of Environmental Affairs and DST decided to develop a broader framework for the holistic development of research in the Southern Oceans and Antarctica. A much broader range of stakeholders are thus involved.
	Astronomy entity established ¹⁰	New target	A business case for the establishment of an astronomy entity completed by 31 March 2013	A concept document was developed	Business case not developed	Partly achieved	After studying the concept document, the Minister requested that a sub-entity instead of an entity be established. There was therefore no need to develop a business case.
	Marine Biology Research Strategy approved by the Minister	New target	Terms of reference for the development of the Marine Biology Research Strategy finalised by 31 March 2013	Terms of reference for the development of the Marine Biology Research Strategy developed	None	Achieved	

10. The astronomy entity will be established when the entity board and CEO have been appointed.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of teaching and training platforms established by universities and accredited by SAQA	A multi-university nanoscience postgraduate teaching and training platform was established; a total number of 21 master's students registered	One photonics technician teaching and training platform established by universities and accredited by SAQA (offering three-year diploma) by 31 March 2013	A three-year diploma in industrial physics has been established to train photonics technicians This diploma programme started in January 2013, and is run by the Tshwane University of Technology	None	Achieved	
To identify and support the development of new and emerging research areas and technologies for their application in the improvement of quality of life and enhancement of economic competitiveness	Number of new and existing flagship projects financially supported through DST grants	10 flagship projects supported by the DST	Five new photonics flagship projects identified and funded by 31 October 2012 Seven existing nanotechnology flagship projects financially supported through DST grants by 31 March 2013	Five photonics flagship projects financially supported Five nanotechnology flagship projects financially supported	Two nanotechnology flagships were not funded	Partly achieved	Based on the review of the seven existing flagship projects, only five had made enough progress to be considered for further funding.
	Number of peer-reviewed publications produced and patents filed	New target	10 peer-reviewed publications on photonics published 10 peer-reviewed journal articles on nanotechnology published in accredited publications by 31	15 ISI-accredited journal publications on photonics were generated 29 journal publications on nanotechnology were generated	Five more publications on photonics were published 19 more journals articles on nanotechnology were published	Achieved	The photonics output is higher than projected because the flagship projects commenced earlier than initially planned, while the nanotechnology flagship projects achieved higher outputs because of larger grants and numbers of students.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of research innovation products (prototypes, publications and patents produced by nanotechnology innovation centres (NICs) and other nanotechnology development programmes)	The DST, through the Mintek NIC, finalised the lateral flow diagnostic prototype for malaria during the year under review. 103 papers were published and three patents filed.	One prototype, 10 peer-reviewed publications and one patent resulting from research and innovation filed internationally by 31 March 2013	Two prototypes, 109 journal articles and five patents	Four more patents, one more prototype, 99 more publications	Achieved	The number of journal articles is so high because student productivity increased significantly owing to the long period of students' involvement in the projects and their maturity (a significant number moved from master's to doctoral level and continued on the same projects). Furthermore, given the increased productivity, some research progressed more expeditiously than originally envisaged, resulting in a higher than expected number of patents and prototypes.
	Number of postgraduate students graduated through co-supervision at NICs and other nanotechnology development programmes	20 postgraduate students graduated and 88 students were supported	10 postgraduate students graduated through co-supervision at NICs and other nanotechnology development programmes (seven master's and three doctoral degrees) by 31 March 2013	30 post graduate students graduated (17 master's and 13 doctoral)	11 more postgraduate students graduated	Achieved	Supervision capacity increased owing to an increase in the number of postdoctoral fellows employed by NICs, which resulted from an increased budget. This led to the production of more degrees than initially planned.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of research infrastructure grants awarded as per award letters	50 infrastructure grants awarded	50 research infrastructure grants awarded by 31 March 2013	53 research infrastructure grants were awarded by 31 March 2013	Three more research infrastructure grants awarded	Achieved	The number and size of NEP/NNEP grants depends on the funds available. In 2012/13, the adjudication panel awarded more grants of less value than normal. The Naval Hill planetarium project was also approved for funding in 2012/13.
To ensure the availability of appropriate infrastructure for the enhancement of RDI competitiveness	Number of researchers accessing infrastructure	New target	250 researchers accessed research infrastructure by 31 March 2013	No researchers accessed infrastructure through the grants during this reporting period	250 less researchers have access to the infrastructure	Not Achieved	This target depend on the infrastructure developed through equipment grants awarded. The grants were awarded later in the year; as a result no equipment had been developed before the end of the financial year.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of academic and research sites connected to SANReN	86 research and teaching sites connected to SANReN	42 academic and research sites connected to SANReN by 31 March 2013	40 academic and research sites connected to the SANReN network	Two sites fewer	Partly achieved	Two fewer sites were connected because the additional sites estimated were to be connected through the Rural Campus Connectivity Programme, which faced some problems in the year under review.
	Approved legislation for the protection, promotion, development and management of IKS by the Minister	Draft Bill developed and submitted to the Minister for approval	Cabinet memorandum on draft legislation on the protection, promotion, development and management of IKS approved by the Minister by 31 March 2013	Cabinet memorandum on draft legislation not approved by the Minister Draft Bill approved by senior management for wider stakeholder consultation	Cabinet memorandum not approved by the Minister	Not achieved	During the year, the Department of Trade and Industry (DTI) developed an IP laws Amendment Bill, the content of which is relevant to the DST's proposed Bill. The delay in finalising the DTI Bill had an impact on progress with the DST Bill.
To promote and develop RDI in IKS for improved quality of life	Approved IKS accreditation and certification system by the Director-General	The accreditation and certification framework was completed but not approved by the Minister The norms and standards were piloted in two provinces (North West and KwaZulu-Natal); the first draft report based on the two pilots was completed	Public consultation and piloting of accreditation system in two provinces (KwaZulu-Natal and Limpopo) by 31 March 2013	Piloting and public consultations were done with stakeholders. The draft accreditation and certification regulatory policy was developed after consultation and was approved by EXCO for wider public consultation.	None	Achieved	

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of provinces with the NRS for IKS established with an appointed coordinator	IKS documentation centres (IKSDCs) established in KwaZulu-Natal, Limpopo and North West Version 2 of the National Indigenous Knowledge Management System completed, including NRS security requirement document, indigenous knowledge holder catalogue and recordal device	Two functioning NRS offices with a coordinator established in Northern Cape (one) and Free State (one) by 31 March 2013	Two NRS offices were established (in the Eastern Cape and the Free State) Only one coordinator was appointed (Free State)	NRS office in Northern Cape not established	Partly achieved	The Eastern Cape was chosen for the establishment of an NRS office because the Northern Cape had infrastructure challenges. However the coordinator for the Eastern Cape could not be appointed because the principal investigator responsible for the appointment was on sabbatical leave until 22 February 2013.
	A national bioprospecting and product development platform for the bioeconomy established through a consortium agreement approved by the Director-General	The integrated bioprospecting platform conceptual framework was presented to bioprospecting stakeholders on 24 February 2012. A report on progress with the bioprospecting platform was endorsed by EXCO on 26 February 2012.	National bioprospecting platform framework approved by the Director-General by 31 March 2013	National biosprospecting platform framework not presented to the Director-General for approval	National bioprospecting platform framework not approved by the Director-General	Partly achieved	Finalisation of the platform concept was dependent on progress with the Bioeconomy Strategy, which was finalised only very late in the year.
	Number of knowledge managers trained in documentation, data and IP rights management	New target	Two knowledge managers trained in documentation, data and IP rights management by 31 March 2013	Two IKSDC knowledge managers (North West and Limpopo) trained	None	Achieved	
	Number of independent agro-businesses based on IKS products developed	New target	Production processes for two candidate products piloted by 31 March 2013	Five Moringa tree products were piloted and commercialised in Gauteng and Limpopo. In addition, two cooperatives were established as business models	Three more products piloted and all commercialised	Achieved	There was an opportunity to diversify and the Director-General approved additional funding for diversification.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Increased number of leads identified for product development	New target	15 leads identified for product development by 31 March 2013	17 leads identified for product development.	Two more leads were identified	Achieved	Research led to multiple prototypes leads (3 nutraceuticals, 2 cosmeceuticals and 3 traditional medicines).
	Increased number of IKS bioprospecting research skills developed	New target	10 new master's and doctoral IKS research students in IKS projects by 31 March 2013	25 master's and doctoral students financially supported (15 master's and 10 doctoral students)	15 more students (five master's and 10 doctoral students).	Achieved	A significant increase in funding support made it possible to increase the number of postgraduate students supported through bioprospecting projects.
	Increased number of IKS CoP skilled workers developed	New target	27 IKS community CoP skilled workers developed by 31 March 2013	A total of 28 CoP skilled workers developed.	One more CoP skilled worker developed	Achieved	An extra R8m received from Programme 2 allowed more community members to be trained.
	Number of patents locally registered by IKS grant holders	New target	Three patents locally registered by 31 March 2013	Two provisional skin-care and anti-blemish provisional patents locally filed – due to be filed under the WIPO Patent Cooperation Treaty in 2013/14	No patents registered and only two filed	Partly achieved	The filing of the anti-balding and anti-wrinkle provisional patents was delayed owing to the need to outsource an independent review of the clinical study results.



3.5 Programme 5: Socio-Economic Partnerships

This Programme enhances the growth and development priorities of government through targeted S&T interventions and the development of strategic partnerships with other government departments, industry, research institutions and communities. Interventions include high-potential R&D-led industrial development programmes, technology support programmes for industry, new approaches to government service delivery and planning, science-based policy development and decision-making, technology-led opportunities for creating sustainable jobs and wealth creation, and technology applications in sustainable human settlements.

The objectives of the Programme are as follows:

- Through knowledge evidence and learning, to inform and influence¹¹ technology choices and the way alternative technologies can be used to transform rural and social economic development, government planning and service delivery, and the building of sustainable human settlements.
- To identify, grow and sustain a portfolio of niche high-potential STI capabilities for sustainable development and the greening of society and the economy.
- To enhance understanding and analysis that support improvements in the functioning and performance of the NSI.
- To identify, grow and sustain a portfolio of niche high-potential R&D capabilities that improve the competitiveness of existing and emerging economic sectors and that facilitate the development of new targeted industries with growth potential in aerospace, advanced manufacturing, chemicals, mining, advanced metals and ICTs.
- To support the generation, application and dissemination of social scientific knowledge, high-end HCD in the social sciences and humanities, and stronger links between knowledge and policy.

The Programme consists of the following components: Science and Technology for Economic Impact; Science and Technology for Social Impact; and Science and Technology Investment.

SCIENCE AND TECHNOLOGY FOR ECONOMIC IMPACT

The subprogramme advances strategic medium and long-term sustainable economic growth and sector development priorities, as well as government service delivery, through the following value-adding functions:

- Investing in the long-term knowledge generation capabilities of the NSI in targeted innovation areas.
- In partnership with other government departments and economic actors, spearheading focused efforts that exploit knowledge capabilities for economic benefit. (Economic benefit includes the development of advanced industries, improved government service delivery, improved productivity and competitiveness, and technology transfer and support to SMEs, as well as manufacturing firms in the supply chains of large-scale public infrastructure development programmes.)
- Providing strategic innovation policy and planning support to economic actors in priority economic sectors and provincial and local governments.

11. One of the responsibilities of the DST is to facilitate the use of new approaches to address a range of social challenges by using good science or deploying technologies that are available but may not be used for a variety of reasons. However, the DST is not responsible for putting in place arrangements for the adoption of a new technology (for example, alternative building technologies). This is normally done by government departments with service delivery responsibilities (for example, providing water and energy services or building houses in a new way). The approach used by a service delivery department, whether through direct procurement or through some policy instrument (e.g. by providing a subsidy, publishing a regulation, or issuing standards), has a significant impact on what technologies are used. The role of the DST is to invest in projects and processes that can generate appropriate knowledge and evidence that can inform and influence the decisions taken by government, communities and other role players. In many instances, knowledge and evidence will need to be shared through structured learning opportunities such as conferences, workshops and decision-support systems.

The 2012/13 highlights for the subprogramme include the following:

As part of the Global Change Grand Challenge Research Plan, the number of students (PhD and master's) funded or co-funded by the DST through the NRF continued to grow, exceeding targets in most cases. The exceeding of targets may be attributed to the attractiveness of various programmes implemented under the research plan to other interested funders in the private sector, including international organisations. Similarly, the number of publications exceeded the target set for the financial year.

The DST, in partnership with the NRF and Department of Environmental Affairs, hosted the first biennial National Conference on Global Change from 26 to 28 November 2012. The conference attracted close to 400 people, including policy-makers, organised business, civil society, and the global change science community. The theme of the conference was "Understanding Global Change for Innovation towards a Resilient Society". Discussions are being held with the Academy of Science of South Africa (ASSAf) about publishing some of the presentations made at the conference in a special edition of the *South Africa Journal of Science*. The conference proved to be a great success given the interest shown by various key stakeholders in the global change arena.

The ICT RDI Implementation Roadmap was finalised and continued to gain traction and support from key role players and stakeholders in government, the private sector and higher education institutions. The roadmap was endorsed by the Directors-General Economic Sectors and Employment Cluster, which recommended that it be presented to Cabinet for approval as a national investment and implementation plan for ICT RDI in South Africa.

Some of the gains already achieved with the ICT RDI Implementation Roadmap include the ability to effectively leverage investment funding from other government sources and the private sector, especially multinational companies. Examples of the impact of some of the projects emanating from these partnerships include the following:

- The launch of the Nokia Lablet in 2013/14. This is an open innovation research centre to be housed at the UCT.
- The mobile application development laboratory, mLab, currently assisting 11 start-ups with the development or commercialisation phase of their mobile services. To date the most successful of these is Mobi.lity, which has developed a service for Metrorail.
- SAP's Advanced Human Capital Development Programme has yielded six PhD/master's graduates in ICT. A further 24 postgraduate students are still in the programme.
- Exchange of climate change researchers with Microsoft's Cambridge facilities, and through the 4Afrika programme having a fresh look at how technologies can address challenges in Africa.

The European Commission funded and the DST supported the Wireless Mesh Network technology demonstrator project implemented in selected rural district municipalities, which has achieved success by connecting 200 schools in Nkangala (Mpumalanga) and Sekhukhune (Limpopo). There are plans to connect another 50 schools in the John Taolo Gaetsewe District in the Northern Cape. A grant was secured from Sishen Iron Ore to construct 12 metre towers at 25 schools so that each of the 50 schools in the Northern Cape can see at least two other schools in the mesh

network. There was also a commitment from the Northern Cape Education Department to pay a fee per month for connected schools towards Internet access.

With the Treasury allocation of R500 million over the 2013 MTEF period from the Competitiveness Fund, the DST initiated an Industry Innovation Partnership fund in the 2012/13 financial year. The fund's main objective is to enhance the competitiveness of various strategic sectors of the economy through RDI. The fund already caters for a number of RDI-based industrial development activities such as the satellite development programme and the Titanium CoC. By the end of 2012/13, plans were already being developed to accommodate other strategic sectors such as post-harvest innovation, aquaculture, citrus, red meat and grain. Under this fund, ring-fenced funding of R90 million for the 2013 MTEF was allocated to the CSIR for the development of industry innovation programmes in various strategic areas such as biosciences and nanosciences, safety and security, energy, robotics and mining. A further R62 million was allocated for the development of the ICT industry partnerships within the scope of the ICT RDI Implementation Roadmap over the same MTEF period.

The development of a new generation additive-manufacturing machine – project Aeroswift executed by Aerosud and the CSIR National Laser Centre – received substantial attention in the press at the signing of an MoA with Airbus in September 2012. Although much development still needs to take place, another MoA was signed with Boeing. The interest from these large firms is indicative of the level of novelty associated with this programme that could change the face of manufacturing.

The Biocomposites R&D-led Industrial Development Programme entered its second year in 2012/13, with good progress being made on a number of fronts. The Biocomposites CoC (BCC) was established in 2011/12 at the CSIR to stimulate the largely nascent biocomposites industry through R&D. One of the main weaknesses threatening this aim was that of HCD and research capacity. The 2012/13 financial year saw the intentional establishment of a high-end skills pipeline, as well as bolstering of researcher capacity at the CSIR. Good progress was also achieved through building networks with universities and with willing industry players.

An interdepartmental task team was set up to drive and coordinate a biocomposites related action plan. The DST has identified KwaZulu-Natal as having the greatest potential for a natural fibre value chain from natural fibre crop production, fibre extraction, intermediate fibre products and final natural fibre-based composite manufacturing. On the primary fibre crop production front, the first kenaf planting trials got under way. Trial plantations have been established in Bethlehem, Cedara, Makhathini, Rustenburg and Winteron under rain-fed (dry-land) and irrigated conditions. Harvesting of early-maturing cultivars took place, and initial results show a biomass yield of approximately 35 tons per ha, representing natural fibre yields of 1 to 2,6 tons per ha.

In terms of downstream R&D projects, this involved the continued development of a parcel tray demonstrator made from kenaf/polypropylene fibre composite material for Volkswagen South Africa, the development of flax/phenolic resin composite panels for non-structural interior applications in partnership with Airbus, bio-based insulated roof and ceiling panels for the construction sector, and a polylactic acid-based biocomposite biodegradable packing crate for the fruit export sector. The work on the Airbus composite panels remains promising with a

good chance of commercial success in the future, but the automotive parcel tray and fruit packing crate biocomposite projects have not been successful. Additional work will be done to address the deficiencies of the automotive parcel tray, but the fruit packing crate project has been closed. Work on the roof and ceiling panels for the construction sector faced challenges relating to scale-up (moving from laboratory scale to producing commercially-sized samples). However, the DST and the CSIR remain confident that the overall programme is moving in the right direction, and in fact has planned an expert review of the BCC 10-year value proposition in the coming fiscal cycle.

The first phase of the Multipurpose Fluorine Pilot Plant (MFPP) was launched by Minister Hanekom in July 2012. The MFPP facility will enable further development of virtually any type of fluorochemical product. The MFPP will also be able to develop and improve upon various chemical technologies and processes and produce commercial-size sample quantities of a wide variety of high-value fluorochemical products benefited from fluorspar, which can be used in electronic devices, household devices, pharmaceuticals, refrigeration, automotive and aerospace industries. The MFPP is considered to be an essential tool to enable the smooth transition between R&D and commercial operations.

The Technology Localisation Programme has met the target of delivering 50 technology assistance packages (TAPs) since in its inception through the Technology Localisation Implementation Unit (TLIU) hosted by the CSIR. Interesting new additions to the IP portfolio (technology packages), such as a new set of bearings, a simulation model for modelling the mechanical behaviour of transformer cores and the development of a new generic "toolbox" (canopy design) for Eskom service vehicles were developed jointly by the recipient of the TAP and the entity providing the TAP. In this regard, the DST is working closely with the DTI and Department of Public Enterprises. One of the DTI-funded initiatives, the United Nations Industrial Development Organization Subcontracting and Partnership Exchange (SPX), will be integrated into the TLIU in order to maximise the effectiveness of the TAP implementation. Additional funding from the National Treasury's Competitiveness Fund has been received for expanding local production.

The titanium industry development initiative is progressing according to plan. The DST is investing more than R75 million over the next two years in this key initiative through the Titanium CoC hosted by the CSIR. A key activity is the development of a novel low-cost process for the production of titanium metal powder, which will provide South Africa with a global competitive advantage. A pilot plant is under construction at the CSIR campus in Pretoria, with a capacity of 2 kg per hour of titanium powder. This represents the first upscaling stage of the process, which will be officially launched on 7 June 2013. A commercialisation task team has been established in order to help prepare for the next stage in the technology development process, namely the construction of a semi-commercial plant.

SCIENCE AND TECHNOLOGY FOR SOCIAL IMPACT

The subprogramme leads and supports knowledge generation in human and social dynamics in development, and promotes technology transfer for poverty reduction to support the creation of sustainable job and wealth opportunities and to contribute to creating sustainable human settlements in areas of deprivation. It focuses on mature technologies that do not yet have widespread application, but are seen as having the potential to achieve government's broad

development objectives. It does this by building partnerships with other government departments focusing on research, technology demonstration and technology transfer.

The highlights for the subprogramme in the 2012/13 financial year include exceeding the target number of sustainable livelihood opportunities created and sustained by the end of the financial year. Similarly, the target number of master's and PhD students supported exceeded the target set at the beginning of the financial year. This implies that the subprogramme was able to contribute to increasing the number of funded postgraduate students, which is critical within the context of HCD. The subprogramme also published the policy brief on innovation in state-assisted housing in South Africa. The subprogramme initiated a process of engaging stakeholders relevant to its scope of work to improve effectiveness and efficiency.

The KwaNobuhle Essential Oils project has increased its oil production significantly. The increase amounts to approximately 61%. The Nkowankowa project signed a contract with a large local juice producer, for which the centre has started pulping volumes of fruit for supply.

SCIENCE AND TECHNOLOGY INVESTMENT

The subprogramme leads and supports the development of indicators and instruments for measuring and monitoring investments in S&T and the performance of the NSI, and finds ways of strengthening the NSI and innovation policy. This includes an annual R&D survey, innovation measurement, the development of S&T indicators, the development of databases and information systems such as the Research Information Management System and national S&T expenditure tables, as well as the implementation of section 11D of the Income Tax Act, 1962, to promote private sector R&D investment.

The new amendments to the R&D Tax Incentive Programme came into effect on 1 October 2012. Between 1 October 2012 and 31 March 2013, the DST received 308 applications. Of these applications, 21 have been processed. The new changes have been welcomed in the business sector and the incentive has started attracting new participants.

Working together with other African countries, South Africa has played a key role in the establishment of the African Observatory for Science and Technology and Innovation (AOSTI), providing expert support and chairing a meeting to develop the statutes and operational procedures. AOSTI currently has an office in Malabo, Equatorial Guinea. AOSTI will serve as a continental body to support African countries in strengthening capacity for collecting and using STI indicators in national policies.

The evaluation of the scientific capacity of the South African Weather Service (SAWS), which the DST undertook in collaboration with the Department of Environmental Affairs and SAWS, made key recommendations on enhancing the relevant infrastructure, including securing new funding for the establishment of a high-performance computing facility dedicated to the weather service.

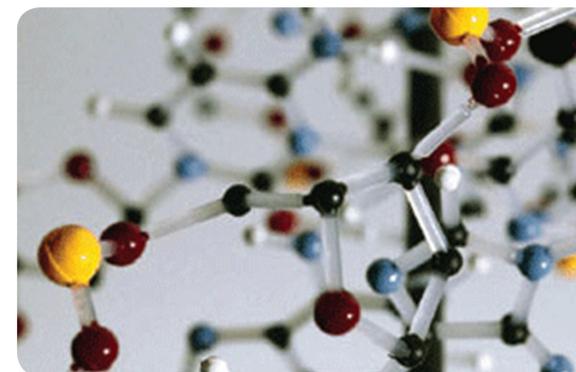


Table 5: Programme 5 performance information for the 2012/13 financial year

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
Through knowledge and evidence, to inform and influence technology choices and the way alternative technologies can be used to transform rural and socio-economic	Number of livelihoods ¹² created ¹³ , sustained or improved	632 job opportunities were sustained	400 livelihood opportunities created, sustained or improved by 31 March 2013	502 livelihoods were sustained by the end of the 2012/13 financial year, whereby 52 were self-employed entrepreneurs (10%) and the remainder were employees (90%).	An additional 104 livelihoods were sustained	Achieved	This is due to seasonal workers that were recruited during peak periods.

12. "Livelihoods" includes direct employment and self-employment. "Direct employment" refers to full-time, seasonal or temporary jobs in which people are paid for their labour (physical, intellectual, etc.). The DST accepts the Economic Development Department job creation reporting measure for non-Perseid, non-Expanded Public Works Programme employment. This is calculated as the sum of the number of weeks of employment created overall, for all the participants, divided by 42. The DST agrees to report the number of studentships, which are not workplace-based appointments, as well as the number of learnerships or internships, which are workplace-based appointments. "Self-employment" includes support to entrepreneurs and small-scale farmers by supplying training, mentoring and/or products and services that are intended to help them increase their income.
13. "Created" refers to new livelihoods supported by DST funds for the financial time frame referred to at the same level of livelihood. Sustained refers to existing livelihoods that are supported by DST funds for the financial time frame referred to at the same level of livelihood. Improved refers to the income of a person.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of knowledge products (case studies, policy briefs, technology briefs) ¹⁴ on technology-led opportunities for sustainable livelihoods published on the DST website	New target	One knowledge product (policy brief) published on DST website by 31 March 2013	One knowledge product (policy study) was finalised (but not published) by 31 March 2013	One knowledge product published on the DST website on 5 April 2013, i.e. five days after the target date	Partly achieved	The study was published five days late owing to a delay in incorporating comments into the document to finalise it.
	Number of knowledge products (case studies, policy briefs, technology briefs) for government planning, service delivery and the building of sustainable human settlements through innovation	New target	One knowledge product (policy brief) on government planning and service delivery improvement through innovation in housing published by 31 March 2013	One knowledge product (case study) was finalised (but not published) by 31 March 2013	Knowledge product published on 3 April 2013, i.e. three days after the target date	Partly achieved	The study was published three days late owing to a delay in incorporating comments into the document to finalise it.
To identify, grow and sustain a portfolio of niche high-potential STI capabilities for sustainable development and the greening of society and the economy	Number of master's and doctoral students funded or co-funded in designated niche areas (global change sciences and earth systems sciences)	232 students funded for research degrees	200 master's and doctoral students funded or co-funded in designated niche areas (global change sciences and earth systems sciences) by 31 March 2013	294 master's and doctoral students funded or co-funded by 31 March 2013	94 more master's and doctoral students funded or co-funded	Achieved	The demand for bursaries is high and the DST allocation is therefore distributed in such a way that most of the recipients are co-funded from other sources, e.g. international partners and the private sector.
	Number of patents ¹⁵ , patent applications, prototypes ¹⁶ , technology demonstrators and TT packages added to the IP portfolio from funded or co-funded research programmes	Two additions to the IP portfolio, namely, Passive Underground Mine-water Purification and Diamond Fingerprinting Technique	Two additions to the IP portfolio (patents, patent applications, prototypes, technology demonstrators and TT packages) by 31 March 2013	Two additions to the IP portfolio achieved by 31 March 2013	None	Achieved	

14. Different knowledge products may be required to provide the knowledge and evidence required by decision makers in order to adopt a new technology-based approach. A policy brief is a document that outlines the rationale for selecting a particular policy alternative and aims to convince a target audience of an existing problem and the need to adopt an alternative policy or course of action. A case study is a detailed description and exploration of a particular project and will usually be targeted at people involved in implementation. Technical briefs involve a range of knowledge products providing performance data on specifications or a specific technical challenge that could impact on the adoption of a particular technology.

15. "Patent" refers to formal disclosures (made within the entity, and provisional patent applications).

16. "Prototype" refers to a representative model that can perform the required functions of the intended product.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of scientific and technical papers accepted for publication	62 published scientific and technical papers	50 scientific and technical papers accepted for publication by 31 March 2013	132 scientific and technical papers accepted for publication by 31 March 2013	82 more scientific and technical papers accepted for publication	Achieved	Increasing opportunities for formal publications resulted in the annual target being exceeded. These opportunities included the hosting of the 1st Global Change Biennial Conference in November 2013.
To enhance understanding and analysis that support improvements in the functioning and performance of the NSI	Number of policy briefings on the innovation system and innovation policy	One policy briefing was completed. The framework for the production of the Technology Balance of Payment Report was completed by the end of the financial year. It will go through internal approval processes in 2012/13.	Five policy briefings by 31 March 2013	Five policy briefings or reports finalised: <ul style="list-style-type: none"> • 2011/12 report on performance of R&D Tax Incentive • 2010/11 R&D survey report, including a cabinet memorandum on trends in R&D in South Africa • Report on evaluation of scientific capacity of SAWS • 2011/12 report on publicly funded scientific and technological activities • 2011/12 report of performance of R&D tax incentive 	None	Achieved	

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
To identify, grow and sustain a portfolio of niche high-potential R&D capabilities that improves the competitiveness of existing and emerging economic sectors and that facilitates the development of new targeted industries with growth potential in advanced manufacturing, chemicals, advanced metals and ICTs	Number of high-level research graduates (master's and doctoral students) funded or co-funded in designated niche areas (advanced manufacturing, chemicals, advanced metals and ICTs)	262 master's and doctoral students supported in designated niche areas	138 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, chemicals, advanced metals and ICTs) by 31 March 2013	227 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, chemicals, advanced metals and ICTs) by 31 March 2013	82 more scientific and technical papers accepted for publication	Achieved	Increasing opportunities for formal publications resulted in the annual target being exceeded. These opportunities included the hosting of the 1st Global Change Biennial Conference in November 2012.
	Number of patents, prototypes, technology demonstrators ¹⁷ or TT packages ¹⁸ added to the IP portfolio through funded or co-funded research initiatives	14 patents, prototypes, technology demonstrators or TT packages were added to the IP portfolio	13 patents, prototypes, technology demonstrators or TT packages added to the IP portfolio by 31 March 2013	16 patents, prototypes, technology demonstrators or TT packages added to the IP portfolio by 31 March 2013 (five patents and 11 technology packages)	Three more patents, prototypes, technology demonstrators or TT packages added to the IP portfolio	Achieved	IP portfolio additions are difficult to anticipate, due to the complexity of the work being done.
	Number of companies provided with a technology assistance package (TAP)	24 companies supported through the provision of TAPs TAP requests for an additional 13 companies were developed by TIA under the DST contract. Two TAP requests were developed for companies linked to the MeerKAT infrastructure build programme. They were in the process of being assessed by the TLIU. TAP requests for a further 10 companies were approved for implementation. The TLIU commenced with the process of implementing these TAPs.	50 companies on a register of companies provided with a TAP by 31 March 2013	50 companies on a register of companies provided with a TAP by 31 March 2013	None	Achieved	

17. A technology demonstrator is a model that demonstrates the functional capability of a specific technology. It is at a lower level of technological maturity than a prototype, as it is aimed at demonstrating the technology's functionality only.

18. A technology transfer package is a set of documents, software and/or training that will allow a third party to use the transferred technology.

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of SMEs provided with technology support	A total of 1 918 enterprises received technology support through technology stations	1 928 small and medium enterprises receiving technology support by 31 March 2013	A total of 1 769 SMEs received technology support through technology stations by 31 March 2013	159 enterprises could not be supported	Partly achieved	The indicator is derived from the outputs of the erstwhile Tshumisano Technology Stations Programme, which was integrated into the Technology Innovation Agency (TIA). The published targets used by the DST were based on a projection of historical trends. In line with their agency responsibility, TIA effected changes to the operations and functioning of the programme, resulting in a misalignment of targets between TIA and the DST.
To support the generation, application and dissemination of social scientific knowledge, high-end HCD in the social sciences and humanities, and stronger links between knowledge and policy	Number of honours/master's/doctoral students funded or co-funded in the social sciences and humanities	21 honours/master's/doctoral students funded or co-funded in the social sciences and humanities	35 honours/master's/doctoral students funded or co-funded in the social sciences and humanities by 31 March 2013	55 honours, master's or doctoral students funded or co-funded in the social sciences and humanities by 31 March 2013	20 honours, master's or doctoral students funded or co-funded in the social sciences and humanities	Achieved	For the first two years chairs were setting up offices, but the research work has become more established and more supervisors have been recruited.
	Number of internships funded or co-funded in the social sciences and humanities	50 funded or co-funded internships in the social sciences and humanities	50 fully funded or co-funded internships in the social sciences and humanities by 31 March 2013 ¹⁹	50 funded or co-funded internship in the social sciences and humanities by 31 March 2013	None	Achieved	

19. Co-funded: jointly funded initiatives as per agency contracts with the DST

Strategic objective	Performance indicator	Actual achievement 2011/12	Planned target 2012/13	Annual achievement 2012/13	Deviation from planned target for 2012/13	Status	Comment on deviations
	Number of peer-reviewed scientific papers published	New target	Seven peer-reviewed scientific publications by 31 March 2013	17 peer-reviewed scientific publications by 31 March 2013	10 peer-reviewed scientific publications	Achieved	For the first two years chairs were setting up offices, but in the year under review the research work intensified because the number of SARChI researchers has increased.
	Number of policy interventions (seminars, briefs, policy papers)	Nine policy interventions (seminars, briefs, policy papers)	Nine policy interventions (seminars, briefs, policy papers) by 31 March 2013	23 policy interventions (seminars, briefs, policy papers) by March 2013	14 policy interventions (seminars, briefs, policy papers)	Achieved	<p>The policy space was much more active in 2012/13 than in previous years due to discussions and interest around the National Development Plan. There were therefore many more opportunities for carrying out policy interventions.</p> <p>An amount of R1 064 144 carried over from the 2011/12 financial year was used during the current year, making it possible to increase outputs. Moreover, the DST managed to collaborate and partner with agencies to convene seminars and workshops at no direct cost to the DST</p>



Public entities
reporting to the
Department

NATIONAL ADVISORY COUNCIL ON INNOVATION



The National Advisory Council on Innovation (NACI) is a legislative entity established in terms of the National Advisory Council on Innovation Act (Act No. 55 of 1997), to provide policy advisory services to the Minister of Science and Technology. NACI's primary objective is to leverage science, technology and innovation (STI) to further economic competitiveness.

NACI's key priorities in the short and medium term include the following:

- Coherence and coordination of the National System of Innovation (NSI).
- Skills and infrastructure for research and innovation.
- Bioeconomy policies and strategies.
- Gender mainstreaming in the STI environment.
- Innovation for economic development and social upliftment.

A high priority for the year was organisational change. NACI successfully migrated from a long-term standing advisory committee to a more flexible and output-driven project management approach, comprising short-term project teams. Through the implementation of the project teams approach, NACI has improved its performance by cutting down on the number of meetings per year and associated costs, strengthened independent and objective analysis, strengthened analytical skills within the secretariat and aligned NACI's policy work with pertinent national policy questions.

Particularly pleasing is the work of the Bioeconomy Policies and Strategies Project Team on the Bioeconomy Policy, which has since been finalised by the Department of Science and Technology (DST); the work of the Gender Mainstreaming Project Team which – in collaborating with the Department of Women, Children and People with Disabilities – made important contributions to the national Women Empowerment and Gender Equality Bill; and the Innovation for Economic Development and Social Upliftment Project Team, which completed groundbreaking work on scalable social innovation models. All of these outputs have been integrated into the policy-making processes of the DST and other departments.

NACI also provided platforms for high-level stakeholder dialogue on innovation policy, the most notable being –

- bioprospecting in South Africa's bioeconomy;
- translational research: from laboratory to industry;
- science, engineering and technology gender policy and women in agriculture.

NACI produced publications on various topics, including skills, gender, social innovation and biotechnology. All NACI publications and proceedings from stakeholder discussions are available on the NACI website at www.naci.org.za

TECHNOLOGY INNOVATION AGENCY



The Technology Innovation Agency (TIA) has the objective of stimulating and intensifying technological innovation in order to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations.

Investment

In the year under review, TIA supported the development of 55 products, processes and services against a target of 25. These were mostly in the agri-biotech sector (61%), followed by advanced manufacturing (17%), energy (10%) and other sectors (12%). TIA reduced the barriers to technology innovation for 1 775 small, medium and micro enterprises (63% first-time applicants, 35% female-owned, 45% black-owned) through technology support such as tests, analysis, training, technology demonstrations and product design at the technology stations. Most notably, 480 products and processes were developed using the technology stations.

In the first year of operation since its launch, the Animal Health Cluster produced 63 applications from the Agricultural Research Council, the University of Pretoria, the Council for Scientific and Industrial Research (CSIR) and Onderstepoort Biological Products worth R130 million. Of these, 21 were approved for funding to the value of almost R91 million.

High-impact projects

TIA launched the Uyilo E-Mobility Programme, a national technology innovation Programme based at Nelson Mandela Metropolitan University. The programme aims to support the development of commercially viable technologies that address the changing infrastructure and energy storage challenges crucial for a viable electric-vehicle industry in South Africa. It brings together and streamlines the related intellectual property developed at South African higher education institutions, science councils and companies to accelerate the development of new technologies, processes and services for the electric-vehicle industry. The programme has the full support of key industry stakeholders, such as Powertech/Willard (on battery systems/technology testing), Nissan, BMW, Siemens, the Nelson Mandela Bay Municipality and Eskom. These key partnerships are a reflection of the true mix of skills, expertise and infrastructure support required to develop and commercialise new technologies in the area of electric-vehicle systems.

Youth Technology Innovation Fund

The Youth Technology Innovation Fund is a fund created to promote and stimulate the culture of technology innovation and entrepreneurship among young South Africans between the ages of 18 and 30 by providing access to financial and business support. In 2012 the fund supported young entrepreneurs to develop 12 prototypes at the various TIA technology stations. Out of these, three are undergoing South African Bureau of Standards testing and certification with TIA support.

Stimulating the culture of innovation

TIA launched the Innovation Think-Tank Competition at the 2013 National Science Festival in Grahamstown. The competition served as a platform for learners to identify/think of potential technology solutions that would solve challenges across the country. There were approximately 60 entries, with five learners proposing cutting-edge technology ideas; TIA intends to assist the learners to pursue these further where possible.

Improving education through the use of technology

TIA also launched the Dr Math programme for learners in the Eastern Cape and Limpopo during Technology Awareness Week. Dr Math is a mobile tutoring service that enables mathematics learners to chat their way to better mathematics results. This involves using the MXit mobile instant messaging service on cellphones to access tutors who provide real-time support and assistance with mathematics homework and revision. The first roll-out of this programme was in Cofimvaba, Eastern Cape, where 2 000 learners from 32 schools were invited to share in various science demonstrations in a week-long programme. The second event in Limpopo attracted 2 000 learners from 12 schools. The event was hosted in collaboration with the Department of Education and the Meraka Institute of the CSIR.

The Council for Scientific and Industrial Research (CSIR) is committed to supporting innovation in South Africa to improve national competitiveness in the global economy. Science and technology services and solutions are provided in support of various stakeholders, and opportunities are identified where new technologies can be further developed and exploited in the private and public sectors for commercial and social benefit.

Built environment: improved decision making through integrated development planning and modelling

The CSIR's Integrated Planning Development and Modelling (iPDM) project was taken up on the stepSA platform (Spatial and Temporal Evidence for Planning in South Africa www.stepSA.org), a DST-co-owned and funded project. Through the iPDM, government can plan more proactively for the long term by understanding future demand patterns for infrastructure, facilities and services. These include the demand for water, electricity, sanitation, schools, clinics and hospitals, as well as public and private transport. This initiative responds well to the need for a timely, high-quality, long-term, comprehensive geospatial information and modelling platform for sound planning and decision-making in South Africa.

Defence and security: new concepts tested for integrative border safeguarding

Improved border safeguarding requires close cooperation and integration between a number of government departments responsible for defence, immigration, policing, etc. By understanding the need for processes and methodologies to facilitate the development of a multi-department border safeguarding capability, the CSIR has developed a "whole-of-government" capability – one that is built on its multidisciplinary ability and enterprise engineering-type skills.

At the implementation level, field experiments in border zones have tested the use of sensors, communication mechanisms and networks in combination to form an interoperable system to guide command decisions and patrol deployments. Data from aerial views and camera surveillance, called in on radio or cellphone and detected through sensors, is channelled through an interoperability gateway into a software system that gives the full border picture and can pinpoint incidents of concern.

Energy: further developments at the Hydrogen South Africa Infrastructure Centre of Competence

The Hydrogen South Africa (HySA) Infrastructure Centre of Competence at the CSIR is developing technologies for hydrogen storage and distribution. Various hydrogen storage/delivery options are being investigated, including metal-organic frameworks, carbon nanostructures, high-pressure composite cylinders and chemical carriers. Successful synthesis of metal-organic frameworks has already been accomplished and benchmarking results of structure, morphology and low-pressure hydrogen storage have been obtained. The ultimate aim is to develop hydrogen storage systems for use in selected portable, stationary and fuel-cell vehicle applications.

Enterprise development

A South African medicinal plant, *Sceletium tortuosum*, or "kougoed", has long been used as a natural traditional anti-depressant to elevate mood and decrease anxiety, stress and tension. A team of natural product chemists and experts in enterprise creation for development are investigating the required cultivation practices for the species to relieve pressure on wild populations, as well as for use in the product development process.

The agro-processing knowledge gained through the project is being transferred to rural farming communities in the Northern Cape in areas where the plants used to be abundant. The project is funded by the Department of Science and Technology through its Sustainable Livelihoods programme.

Employment has been provided to more than 30 people from the local Nourivier community. Ten staff members have received training in basic horticultural techniques and life-skills development. Approximately 5 000 kougoed plants have been propagated from cuttings, a major step towards ensuring a sustainable supply of preprocessed dried and fermented plant material of consistent quality for the pharmaceutical industry.

Information and communication technology: enabling education

The Information and Communication Technology (ICT) Enablement for Education initiative is a large-scale programme which deploys infrastructure and multiple innovations and technologies

to improve educational outcomes and assist in addressing the challenge of quality education in rural areas. The programme has been running since 2006. New funding from the DST and the Department of Rural Development and Land Reform for the next three years will see this programme grow and increase its impact.

Some projects in this programme include the following:

- Dr Math – an online mathematics tutoring service with a user base of 70 000 users, complementing what teachers are doing in the classroom.
- Cofimvaba – a project making use of ICT mobile devices and tablets to target education directly through technology-led efforts. Through this project, the eTextbook pilot at a rural school in the Eastern Cape contributed to an increase from 41% to 77% in the matric pass rate, and science passes almost doubled from 43% to 88%.
- Broadband for All – an infrastructure project deploying wireless mesh networks to schools. The Nkangala Wireless Mesh Network is operational, supplying connectivity and supporting technology to schools and the surrounding community.
- Infrastructure, including rail, port and coastal engineering, roads and buildings.
- Rolling stock, including energy efficiency, alternative fuels and energy regeneration.
- Operations – water use, waste management systems, logistics supply chain, greening, climate change, sensor tracking and automation, as well as safety and security.
- Strategic decision support, which looks into planning, environmental management systems and enterprise engineering.

National Recordal System

The National Recordal System is a national initiative and flagship project of the DST. The CSIR is the implementing agency and will, through the deployed National Indigenous Knowledge Management System (NIKMAS), support communities and indigenous knowledge holders and practitioners in preserving, promoting, protecting and developing their indigenous knowledge for future communal socio-economic development.

Industry: Transnet taps into the CSIR's research capacity and engineering know-how

Transnet and the CSIR formalised a historic partnership that will allow Transnet to tap into the CSIR's technological innovation and research capabilities. In terms of the partnership, Transnet and the CSIR will work together to identify possible areas of cooperation and enter into specific arrangements in all areas of Transnet's operations. These include port, rail and pipeline operations. Ownership and other rights, especially intellectual property, will be negotiated on a project basis, depending on the work to be done. The partnership will augment Transnet's own in-house engineering and project management unit – Transnet Capital Projects – which manages Transnet's mega projects.

Transnet and the CSIR have started work in the following areas:

- Infrastructure, including rail, port and coastal engineering, roads and buildings.
- Rolling stock, including energy efficiency, alternative fuels and energy regeneration.
- Operations – water use, waste management systems, logistics supply chain, greening, climate change, sensor tracking and automation, as well as safety and security.
- Strategic decision support, which looks into planning, environmental management systems and enterprise engineering.

Unique laser-based process leads to partnership

The CSIR has signed an agreement with South Africa's largest steel producer, ArcelorMittal. The agreement follows the development of a unique laser-based process by CSIR laser engineers for the ArcelorMittal South Africa continuous-caster foot rolls. The process is based on a special alloy developed by laser manufacturing experts at the CSIR and which is laser-cladded on the rollers. The new layer, which is metallurgically bonded, has much-improved wear and corrosion resistance properties. These casting rolls are exposed to harsh operating environments. As opposed to conventional welding, the laser process is faster, and with the customised metal coating and low heat input, it is possible to apply coatings that can extend the operational lifetime of these rollers.

Mining: new test facility for underground mining technologies

The CSIR Centre of Mining Innovation has built its own test stope for testing mine equipment to be used in a variety of mining environments. The test facility simulates a gold stope with a variable dip from 0 to 30 degrees, with reconfigurable hanging wall and foot wall material and mining width, as well as various positions of the mining face and support structures.

Natural environment: reducing the impact of failing wastewater treatment works

The Water Sustainability Flagship, further developed over the past year, is a CSIR-wide initiative to promote the sustainable use of South Africa's water resources, with a short-term focus on reducing the impact of wastewater treatment works. The project has three areas of focus. Firstly, improvements in strategic planning for human settlements will make investment in infrastructure more efficient and support planning for operation and maintenance. Secondly, the efficient operations of the treatment works will reduce impacts on downstream water users and promote sustainability. Thirdly, the downstream impact of treated wastewater needs to be reduced or eliminated, to protect communities that directly depend on rivers for potable water, as well as ecosystems that provide other benefits to people. The Sekhukhune District Municipality was selected as the rural study area for the first phase of the project, and the service area of the East Rand Water Care Company was selected as the urban case.

Overview of objectives

The primary objective of the Human Sciences Research Council (HSRC) is to initiate, undertake and foster strategic basic research and applied research in the human sciences, and to gather, analyse and publish data relevant to developmental challenges in South Africa, elsewhere in Africa and the rest of the world, especially by means of projects linked to public sector-oriented collaborative programmes.

Overview of publications

HSRC publications encompass books, book chapters, peer-reviewed journal articles published in internationally accredited scientific journals, other peer-reviewed journal articles and non-peer-reviewed journal articles published elsewhere. The number of peer-reviewed publications in internationally accredited scientific journals per HSRC senior researcher increased from 1,68 in 2011/12 to 1,77 in 2012/13, indicating a year-on-year growth of 5,36%. The HSRC's annual publishing performance for 2012/13 is as follows:

- Recognised books and book chapters: 47 (eight books; 39 book chapters)
- Peer-reviewed journal articles: 169 (115+54)
- Policy briefs: eight

During the year under review, the HSRC conducted major surveys, including the first South African National Health and Nutrition Examination Survey (SANHANES), the fourth South African National HIV, Behaviour and Health Survey (SABSSM), the tenth South African Social Attitudes Survey (SASAS) and the tenth South African National Survey of Research and Experimental Development. It continued to preserve and make publicly available datasets and reports based on these surveys, and also hosted various workshops, seminars and an international conference. The HSRC played a key role in forging international relationships, notably South-South collaboration involving social sciences, humanities and interdisciplinary research.

International conference: The re-emergence of astronomy in Africa

The HSRC held its 2012 Social Sciences Research Conference on "The re-emergence of astronomy in Africa – a transdisciplinary interface of knowledge systems" at the Maropeng Conference Centre at the Cradle of Humankind in the North West from 10 to 11 September. The conference was co-hosted with the HSRC's social partners, including the DST, the Council for the Development of Social Science Research in Africa, the National Research Foundation (NRF), the Freedom Park Trust, the Academy of Sciences of South Africa (ASSAf), the Africa Institute of South Africa (AISA), the Department of Arts and Culture and the Mapungubwe Institute for Strategic Reflection (MISTRA). The concept for the conference argued that, for astronomy to re-emerge in Africa, it should not be pursued as a discipline in isolation from the humanities and social sciences. The conference had numerous international and local speakers and it included a tour to a neighbouring astronomy site, the Hartebeesthoek Radio Astronomy Observatory. The conference papers will be turned into a book and published by the HSRC Press.

Rio+20 participation

The CEO, in her capacity as President of the International Social Science Council (ISSC), attended the Forum on Science, Technology and Innovation for Sustainable Development in Rio de Janeiro, Brazil. The forum took place in June 2012 and preceded the Rio+20 Conference. It brought together leading international scientists and policy-makers to explore the key role of interdisciplinary science and innovation in the transition to sustainable development, a green economy and poverty eradication, with the aim of helping to establish the research, technology and policy agendas that would be needed after Rio+20.

The forum was organised by the International Council for Science, in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Federation of Engineering Organizations, the ISSC, the Brazilian Ministry of Science, Technology and Innovation and the Brazilian Academy of Sciences. It was attended by more than 1 000 delegates.

The BRICS Think Tank

The South African Cabinet approved the establishment of the BRICS Think Tank to provide informed scientific analysis to underpin South African contributions to discussions among BRICS member states. The Department of International Relations and Cooperation asked the HSRC to prepare a concept note to place the think tank in the HSRC and to prepare a draft consortium agreement between the think tanks of the five BRICS countries. This request was approved by the HSRC Board in November 2012, alongside approval for the CEO of the HSRC to serve on the Advisory Committee of the BRICS Academic Forum.

The main aim of the BRICS Think Tank will be to determine the role of the BRICS countries in the global economy and political arena and how South Africa could add value. It will further serve as a centre for developing the strategy for the research work and publishing activities of academic institutions across South Africa, as deemed appropriate. The CEO and an HSRC delegation participated with other senior representatives from South Africa, Brazil, Russia, India and China in a workshop of the BRICS network of think tanks from 8 to 9 March 2013 in Durban and in the BRICS Academic Forum on 11 March 2013. The meeting noted the need to celebrate the bonds between the BRICS countries, to cooperate among themselves, to identify new areas of cooperation, and to set up a BRICS Think Tank Council (BTTC), comprising the following:

- The Institute for Applied Economic Research (IPEA), Brazil
- The National Committee for BRICS Research (NRC/BRICS), Russia
- The Observer Research Foundation (ORF), India
- The China Centre for Contemporary World Studies (CCCWS), China
- The Human Sciences Research Council (HSRC), South Africa

The BTTC will serve as a platform for exchanging ideas among researchers and academics of these countries. It will also take the responsibility of organising the BRICS Academic Forum, comprising academics in the five countries. The output of the BTTC will be submitted to the leaders of the summit (heads of state). The agreement to establish the BTTC was signed at a special ceremony during one of the BRICS Academic Forum dinners, witnessed by the Minister of Higher Education, Dr Blade Nzimande.

UNAIDS Collaborating Centre

The HSRC and the United Nations Joint Programme on HIV/AIDS (UNAIDS) signed a memorandum of understanding (MoU) for the HSRC to become a UNAIDS (the Joint United Nations Programme on HIV/AIDS) Collaborating Centre on HIV Prevention Research and Policy. According to the MoU, the centre will conduct research, training and policy development in the area of HIV prevention and policy. The proposed area of global collaboration with UNAIDS is around strategic information, especially the HSRC's flagship population survey, with the possibility of building in some "Know your epidemic, know your response" questions into the survey.

UNAIDS has begun monitoring incidence and behavioural risk and is interested in developing and strengthening this capacity in countries. The use of strategic information in developing

regional policies and training for writing policy briefs, as well as the joint convening or co-sponsoring of a regional conference, will also form part of the collaboration. At country level, the HSRC will work with the UNAIDS Country Office in South Africa to improve monitoring, evaluation and reporting of the epidemic, particularly at provincial level. The programme has undertaken research that includes HIV prevalence, HIV incidence, the use of antiretroviral drugs, sexual behaviour, perception of risk, stigma, family planning, impact of HIV/AIDS on health, education and economy.

African Science, Technology and Innovation Indicators (ASTII) training and validation in which two HSRC scientists participated as trainers.

Two senior staff members of the HSRC's Centre for Science and Technology and Innovation Indicators (CeSTII) attended a workshop from 11 to 15 February 2013, organised by the New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency (NPCA) and the African Observatory for Science, Technology and Innovation (AOSTI), in collaboration with the Arab Republic of Egypt. The title of the workshop was African Science, Technology and Innovation Indicators (ASTII) Training and Validation, and the CeSTII experts, through the DST, assisted in facilitating the training of 33 officials.

The ASTII initiative is a result of the call by the African Union Ministerial Council on Science and Technology to address the lack of STI measurement on the continent. The overall goal of the initiative is to compile STI indicators that will contribute towards improving the quality of STI policies at national, regional and continental levels. ASTII achieves this by supporting and strengthening Africa's capacity to develop and use STI indicators in development, planning, and policy.

The second phase of the ASTII initiative was launched in Addis Ababa, Ethiopia, in 2011. The second training workshop of this phase was held in Cape Town from 23 to 27 April 2012. The workshop was attended by 71 participants from countries in the first and second phases of the ASTII initiative, as well as other invited countries such as Botswana, Burundi, Morocco and Swaziland. The second round of surveys is currently underway, with more than half of the participating countries having provided results by the end of January 2013. The publication of the 2012/13 edition of the African Innovation Outlook is scheduled for early in the third quarter of 2013.

Facing Marikana: inequality, fragmentation, violence and challenges for leadership seminar

Following the tragic series of events which culminated in the shooting of 34 striking Lonmin workers on 16 August 2012 when police opened fire on the workers, the HSRC hosted a seminar to create a platform for participants to reflect on and explore the questions arising from the Marikana-Lonmin tragedy. The speakers of this seminar included Mr Jay Naidoo, a founding General Secretary of COSATU, and the Rev. Sakhumzi Collen Qiqimana, who is a resident of Marikana and member of a local faith-based organisation. Senior HSRC researchers served as chair and respondents for the discussions.

Launch of the Labour Market Intelligence Project

In February 2012 the Department of Higher Education and Training (DHET) and the HSRC signed a three-year memorandum of agreement (MoA) for an HSRC-led consortium to undertake a research programme to support the DHET to build a credible institutional mechanism for skills planning, known as the Labour Market Intelligence Project (LMIP). South Africa needs a strong foundation of labour market information – credible datasets across the post-school system and labour markets, down to sectoral, occupational and regional levels of analysis. Accurate, complete and compatible information systems are absolutely necessary, but not sufficient. For strong labour market intelligence, research that analyses dynamics, capabilities and constraints is also needed. The HSRC organised and hosted the ministerial launch, where Minister Nzimande and the CEO of the HSRC, Dr Shisana, addressed over 120 attendees from the public, private and NGO sectors.

The LMIP programme of work will have the most direct impact on the third National Skills Development Strategy (NSDS) goals of establishing a credible institutional mechanism for skills planning by contributing to information, research and intelligence. The six themes of research are as follows:

1. Establishing a foundation for labour market information systems in South Africa.
2. Skills forecasting: the supply and demand model.
3. Studies of selected priorities.
4. Reconfiguring the post-schooling sector.
5. Pathways through education and training and into the workplace.
6. Understanding changing artisanal occupational milieus and identities.

Launch of the Trends in International Mathematics and Science Study results

In December 2012, the HSRC announced the results of South African participation in the Trends in International Mathematics and Science Study (TIMSS). The launch was attended by a large contingent of media and high-level stakeholders.

The HSRC conducted the study in 256 public schools and 27 independent schools. Nearly 12 000 Grade 9 learners participated. The HSRC also undertook TIMSS in 1995, 1999 and 2002. The trend analysis from 1995 to 2012 shows that the national average score remained static over the years 1995, 1999 and 2002. From 2002 to 2012 there was an improvement of both the mathematics and science scores, and this improvement is equivalent to raising the standard by one and a half (1,5) grade levels. This is the first piece of evidence that shows an improvement in educational outcomes over time. In addition to the improved average performance, the distribution of the scores from highest to lowest decreased between 2002 and 2011. This wide distribution of learner achievement reflects the wide disparities in society and schools. With scores of learners at the lowest end increasing, it could suggest a small move towards more equitable educational outcomes.

Key findings from the South African Social Attitudes Survey

In November-December 2012, the South African Social Attitude Survey (SASAS) concluded its 10th round of surveying, thereby celebrating a decade of existence. Designed as a time series, SASAS is increasingly providing a unique, long-term account of the speed and direction of change in underlying public values and the social fabric of modern South Africa. SASAS is nationally representative of the adult population (16 years and older) of South Africa and allows researchers to capture the opinions of the people on key social and economic issues in democratic South Africa. Through SASAS, strong links are maintained with the International Wellbeing Group by annually fielding the Personal Wellbeing Index as part of comparative testing of the multidimensional measure.

Through SASAS, South Africa is also an active member of the 50-nation strong International Social Survey Programme and the SASAS 2012 round fielded a detailed module on family and changing gender roles. In 2012, various external clients also fielded modules in SASAS, including the Department of Energy, on energy-related behaviour and perceptions; the Nuclear Energy Corporation of South Africa on attitudes towards nuclear technology and energy; the Financial Services Board on financial literacy, the Independent Electoral Commission on the state of democracy, Rhodes University on quality of life and the Open Society Foundation for South Africa on trust in the criminal justice system. In addition to the reports generated from these findings, several popular articles based on SASAS data were published in the *HSRC Review*.

The articles covered topics pertaining to corruption, race relations, service delivery, social tolerance and prejudice, attitudes to trade unions and statements about the nation. The HSRC pulled together key headline findings from the 2012 round of SASAS to assist the President and Minister of Finance in assessing the mood of the nation ahead of the State of the Nation and Budget Vote addresses. More information on these findings is provided in the HSRC Annual Report, and deal with topics such as national priorities, national pride and prejudice, future outlook, poverty and inequality, support for state intervention, the value of education, and the fight against corruption.

Since 2012 marked the 10th round of SASAS, it is possible to comment on changes in South African perceptions over the past decade. It was found that, while South Africans remain resolutely proud of South Africa (this has increased from 83% in 2003 to 88% in 2012), they harbour concerns about the way democracy is working and vest relatively low confidence in key political institutions. In 2003, 48% of South Africans were satisfied with democracy, but this has eroded to the point that in 2012 only 39% of South Africans are satisfied with democracy. Furthermore, trust in institutions has declined over the 10 year period, specifically for political institutions.

During this period, trust in local government and national government has decreased by 11% (from 45% to 34% and 57% to 46%, respectively). Despite this, South Africans remain committed to democratic values (this has not changed over the decade), with the majority wanting to vote in elections. Furthermore, during this period, race relations have generally improved in South Africa with a greater proportion of South Africans (68%) in 2012 stating that race relations are

improving, as opposed to only 55% in 2003. Perceptions of group discrimination have not changed, with a third of people still feeling that their group is being discriminated against in some form. An encouraging finding is that the youth of South Africa, more specifically those born after or just before 1994, generally exhibit more tolerance towards different race groups, are more positive about the future of South Africa and are keen to be involved in democracy and democratic participation. However, they also display higher expectations, and the challenge is to ensure that they are not disappointed.

Launch of the set of guidelines and training tools dealing with the legal, ethical and counselling issues related to HIV testing of children for HIV/AIDS practitioners working with children

HIV counselling and testing is the most important entry point for HIV-related treatment, care, support and prevention. The HSRC, through the South African National AIDS Council, was commissioned to provide technical support to the Department of Health to ensure implementation of the goals for voluntary counselling and testing as set out in the 2006-2011 National Strategic Plan on HIV, STIs and TB. The Bill and Melinda Gates Foundation provided the funding for this initiative.

Through an extensive consultative process with key staff from the Department of Health, the United States Centres for Disease Control and Prevention, civil society, non-governmental organisations, academics, policy makers and practitioners working with children more generally and in HIV/AIDS specifically, the HSRC led the development of a series of implementation guidelines and training tools, dealing with the legal, ethical and counselling issues related to HIV testing of children. These guidelines explore in simple and practical terms the psychosocial implications, as well as the legal and policy obligations relating to HIV counselling and testing of children. The tools describe what practitioners can do to ensure that HIV testing of children takes place in a way that protects and promotes their rights and is conducted in their best interests.



The objective of the National Research Foundation (NRF) is to contribute to the improvement of the quality of life of all the people of the country. This objective is directly linked to the promotion of a knowledge economy that is based on the generation, transfer and use of knowledge in innovative ways. To assist with this, the NRF promotes and supports research in all fields of science and technology; develops the pipeline of human capacity towards creating critical mass in high-end skills; advances research infrastructure development; and provides researchers and institutions with access to these research facilities to create new knowledge. The NRF is a client-centric organisation that upholds excellence in its service to the research community.

Strategic knowledge development and transformation

The DST/NRF centre of excellence (CoE) programme enables collaboration across disciplines on long-term projects that espouse research excellence and capacity development. The NRF invested R68,5 million in CoEs in 2012/13 (R50 million in 2011/12). The CoE programme supported 622 postgraduate students in 2012/13, of whom 341 are black. Since 2008 the number of black students that have been supported is 1 284. Another area of strategic funding is the South African Research Chairs Initiative (SARChI), which spent R179 million in 2012/13 and supported a total of 537 students (303 black students) during the year. Between 2009/10 and 2012/13 the investment in CoEs and SARChI increased by 22,8% and 36%, respectively.

International collaboration

The NRF supported international interagency and bilateral research collaboration between South Africa and several other countries, and invested R61 million in this activity. The NRF promotes research that is internationally competitive and locally relevant through several initiatives.

Research outputs

NRF research support resulted in inter alia 4 273 Institute for Scientific Information (ISI) peer-reviewed articles authored by NRF grant holders (4 777 in 2011/12). The National Research Facilities also performed excellently by producing 271 journal articles (233 in 2011/12).

Science engagement

Developing a highly skilled workforce is one of the major aims of the NRF. This task includes creating public awareness of science and supporting learners, educators, students, emerging and established researchers, big research programmes and research institutions.

The NRF creates science engagement and advancement opportunities that demonstrate the value and impact of research. For this purpose, science advancement platforms at the research facilities are also used. During 2012/13 the NRF reached 997 430 learners, 42 973 educators and 143 394 visitors through science festivals. Some 738 371 people visited facility-based science awareness platforms.

Student support

In 2012/13 the Research and Innovation Support and Advancement unit was able to support 8 849 students in total. Of these, 2 951 were BTech/honours students, 3 397 were master's students and 2 031 were PhDs. The NRF has developed a system of tracking the throughput of NRF-funded students. This system can provide data from 2007 and shows an increase in throughput over the years. In 2011/12 the throughput was 158 doctoral students, 650 master's students and 1 528 honours students. This information is subject to change as the Higher Education Management Information System of the Department of Higher Education and Training is in the process of being updated.

The National Research Facilities also supported students, resulting in 1 368 undergraduate students being trained. Staff of the National Research Facilities supervised 255 students. Overall, the NRF supported students to the amount of R335 million.

Support for researchers

The NRF recognises the importance of established researchers in creating new knowledge and mentoring students, and invested R129 million in this category. The entity also supports emerging researchers to reach their full potential. The NRF disbursed R67 million to emerging researchers. It supported 3 079 grant holders (890 in 2011/12), of whom 790 (26%) were black (754 in 2011/12) and 1 044 (34%) were women.

Research and research information infrastructure

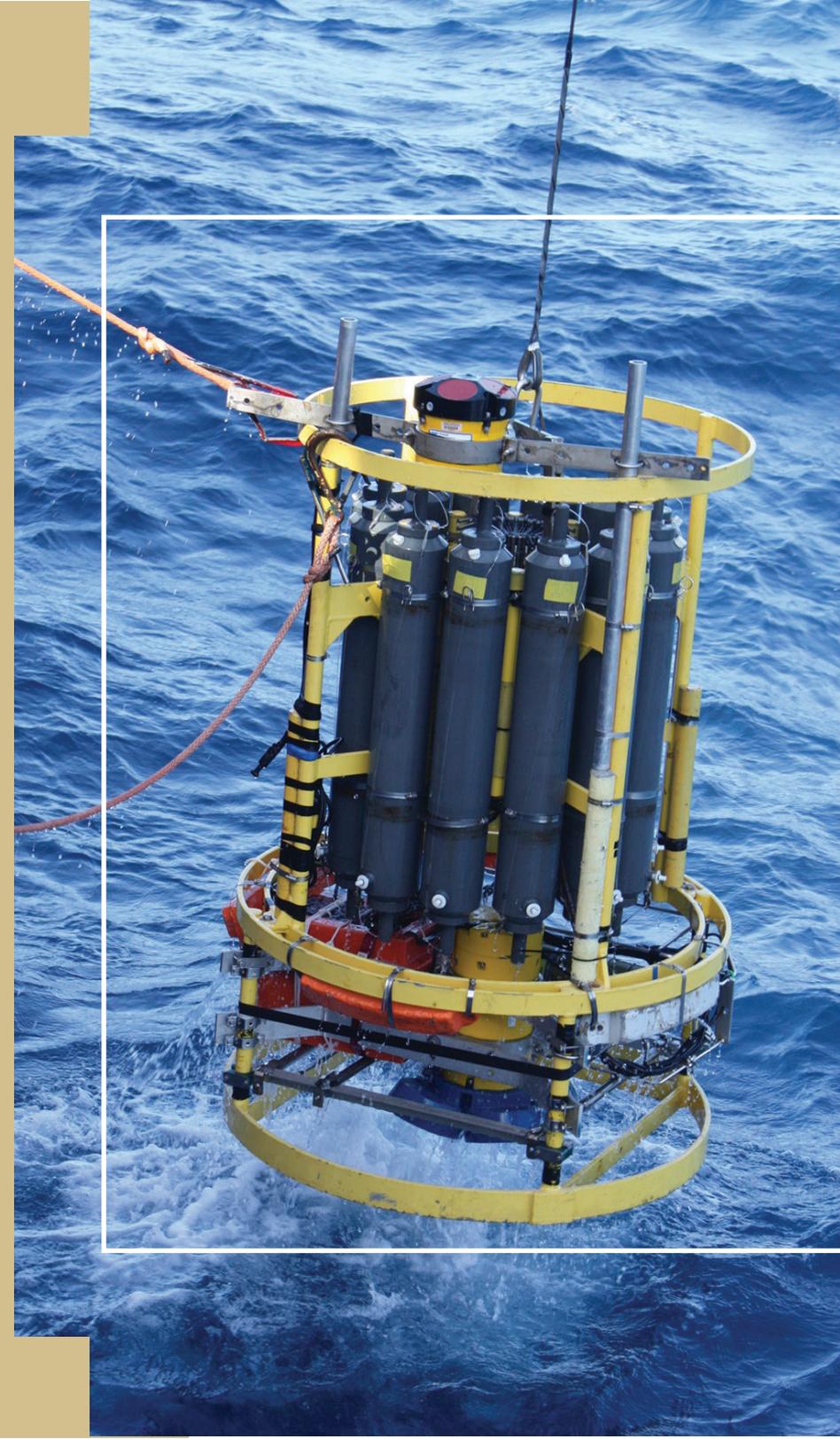
The NRF provides cutting-edge research, technology and innovation platforms through research facilities, mainly in the fields of astro/geosciences, biodiversity/conservation and environment, and nuclear sciences. The National Research Facilities platforms are used by researchers and students nationally and internationally. The National Research Facilities invested R739,8 million (R450 million in 2011/12) in the provision of research infrastructure. The NRF provided R178 million in equipment grants, which include access to unique scientific infrastructure to researchers and higher education institutions.

As part of the Square Kilometre Array (SKA) South Africa project, the MeerKAT development is in process and a 200% increase in net capital expenditure was realised in the 2012/13 financial year.

The NRF serves as a node for data provision and is responsible for the Research Information Management System (RIMS) project, which currently involves all national research facilities, 23 universities and nine science councils. RIMS is intended to provide access to information on research inputs and outputs.

World-class evaluation and grant-making systems

The NRF specialises in the administration of research grants and uses rigorous international peer review to evaluate and rate the quality of research outputs and to ensure that research proposals of high quality are funded. South African research is benchmarked internationally and 2 638 researchers (471 in 011/12) have an NRF-rating. Of the 2 638 rated researchers, 569 (22%) are black and 780 (30%) are women. The number of NRF-rated researchers has increased by 27% between 2008/09 and 2012/13. The evaluation and rating is dependent on the goodwill of the international and local research community, and the NRF has done an excellent job in building and maintaining good relations. The organisation recognises the contribution of the research community in this regard with gratitude.



AFRICA INSTITUTE OF SOUTH AFRICA



The Africa Institute of South Africa (AISA) turned 53 on 7 April 2013. The 2012/13 year was a challenging year for AISA, especially after the announcement of the former Minister of Science and Technology to incorporate AISA into the HSRC, as well as leadership changes. This brought about innovative thinking and a focus on delivering on the shareholder compact agreement.

The strategic objectives of AISA for 2012/13 were as follows:

- a) To produce and encourage knowledge production and dissemination on African affairs.
- b) To increase the reservoir and quality of researchers and develop and implement capacity-building programmes.
- c) To build the AISA image and increase visibility.
- d) To develop a performance-led culture within AISA.
- e) To improve the control and governance environment and compliance with legislation.

Knowledge production and dissemination

In accordance with AISA's research agenda, namely, "Seeking Solutions for Africa's Developmental Challenges", AISA researchers undertook research in seven African countries (Burundi, Kenya, Mauritius, Botswana, Tanzania, South Sudan and South Africa). Research in Africa resulted in the publication of 16 peer-reviewed journal articles, 24 policy briefs, 16 peer-reviewed book chapters from AISA researchers, and three published books in collaboration with research fellows. The research division also managed to publish 33 book chapters from contracted African scholars. This resulted in a number of media appearances in radio, television, print and online media.

The publications division published 10 books, including the *State of Africa* and *Africa A-Z*, which are flagship publications of AISA. Four of the 10 books were marketed through book launches. In addition to these, four volumes of the accredited *AISA Journal*, 4 monographs, 12 policy briefs from AISA researchers and proceedings from our flagship projects were also published. In terms of producing and encouraging knowledge production on African affairs, AISA excelled in the year under review. It is noteworthy that AISA moved from the 6th-ranked "think tank" in sub-Saharan Africa to the 5th, according to a study conducted by the University of Pennsylvania's Global Go-To Think Tanks.

Human capital development

Fourteen interns were mentored in this financial year. Interns in the research division were capacitated in journal article and policy brief writing, conference paper writing and presentations. Others were mentored in administration, finance, information technology, publications, library and human resource management. Capacitation of 790 university students was achieved through our Campus Lecture Series at various universities across the country. The AISA Young Graduates and Scholars Conference attracted 134 students from four African countries, who presented 25 academic papers and participated in an academic debate on "African Challenges". The "Second Scramble for Africa Conference", hosted by AISA and partners, brought together scholars from Africa and the diaspora, Canada, the United States of America, the United Kingdom, Turkey and South America. Topics which were presented and debated through their presentations covered areas such as good governance; peace and security; science, technology and innovation; world economy and trade; and the African diaspora. A 28-chapter book from this conference is currently in press.

Library services

The library continued to expand its services and its holdings. The library boasts an estimated 98 684 holdings. Subscriptions to various databases, journals and magazines assist researchers with vital information during their research. The digitisation of some of the collections, especially maps, photographs and other AISA books, commenced during the 2012/13 financial year.

Visibility

Significant interaction with the media was established to increase our visibility through social media platforms. Most of the radio and television appearances were through free publicity.

Governance

The Council and its committees continued with their oversight functions to promote an environment conducive to openness and transparency.

SOUTH AFRICAN NATIONAL SPACE AGENCY

Objectives

The objectives of the South African National Space Agency (SANSa) are to –

- promote the peaceful use of space;
- support the creation of an environment conducive to industrial development in space technology;
- foster research in space science, communication, navigation and physics;
- advance scientific, engineering and technological competencies and capabilities through human capital development, outreach programmes and infrastructure development;
- foster international cooperation in space-related activities.

Increased demand for satellite data distribution

With increasing awareness and appreciation of the efficiency and productivity gains that can be derived from the use and application of satellite imagery by an increasing number of end-users, SANSa has seen a huge demand for its products and services. Satellite imagery is increasingly applied in addressing challenges in agriculture, water resource monitoring, mapping of natural disaster areas, the effects of climate change over time, and planning of human settlements. To meet this demand, SANSa distributed more than 164 000 scenes of processed satellite data to key stakeholders and customers against a distribution target of 42 000 for the year. This performance is attributable to an increase in requests for satellite data and the distribution of the Fundisa disks to higher education institutions, as well as the distribution of MISR (Multi-angle Imaging SpectroRadiometer) data to the CSIR.

Database of informal settlements and environmental conditions assessment improves quality of lives

With urbanisation at 62% and increasing annually at a rate of 1,2%, putting a strain on urban amenities, SANSa is developing an informal settlement environmental conditions database. This will enable an environmental analysis of the development of informal settlements over a period of time. Satellite data will inform the extent of change over time and inform policy decisions regarding the dynamics of human settlements. A total of 45 municipalities were targeted and the data for 35 municipalities have since been completed. Preparations for the full release of the completed informal settlements database is currently underway.

SANSa supports international launch market

Satellite communication and broadcasting represents a substantial market of the space industry and is largely driven by satellite television. The increasing growth in the launch of communication satellites is primarily driven by the number of households around the world who are direct satellite broadcast subscribers. SANSa has seen an increasing demand from global communication satellite manufacturers and operators for launch-support services. This has resulted in the number of supported mission launches for international clients exceeding the annual target by 10% at year end. Increasing demand for in-orbit testing services, which is the monitoring of the proper deployment of a satellite after it has been launched in space, saw SANSa performing 10 of these tests against an annual target of four.

High-impact research outputs improves South Africa's science rankings

South Africa is progressively improving its position in international science rankings as it continuously contributes to more high-impact research outputs in support of the NSI. Through directing research efforts in space science and technology, the number of ISI (Institute for Scientific Information) publications per SANSa researcher for the year was 2,56, well above the national average of 1,2 to 1,5 per researcher. This demonstrates SANSa's continuous striving to develop emerging researchers and to maintain quality and impactful research outputs.

Providing space weather knowledge through the National Equipment Programme

In support of the Ten-Year Innovation Plan and the National Research and Development Strategy, SANSa is undertaking world class research to study the link between the magnetosphere, the ionosphere and Earth's surface. This system is known as the South African Ionospheric, Geophysics and Geomagnetic Experimental Resource (SNIGGER). In collaboration with partner universities, SANSa has acquired equipment through funding from the NRF. The natural phenomena that will be studied with SNIGGER present a unique opportunity and will lead to a better understanding of the space weather chain. Participating in this research will enable SANSa to contribute to research capacity development in space science and technology. National scientists will be empowered to answer long-standing questions about the space environment and its effects on technology. Other questions to be answered through this ground-breaking science relate to a

greater understanding of how the shielding effects of the Earth's electromagnetic fields preserve humanity from solar bombardment.

Science advancement and student support

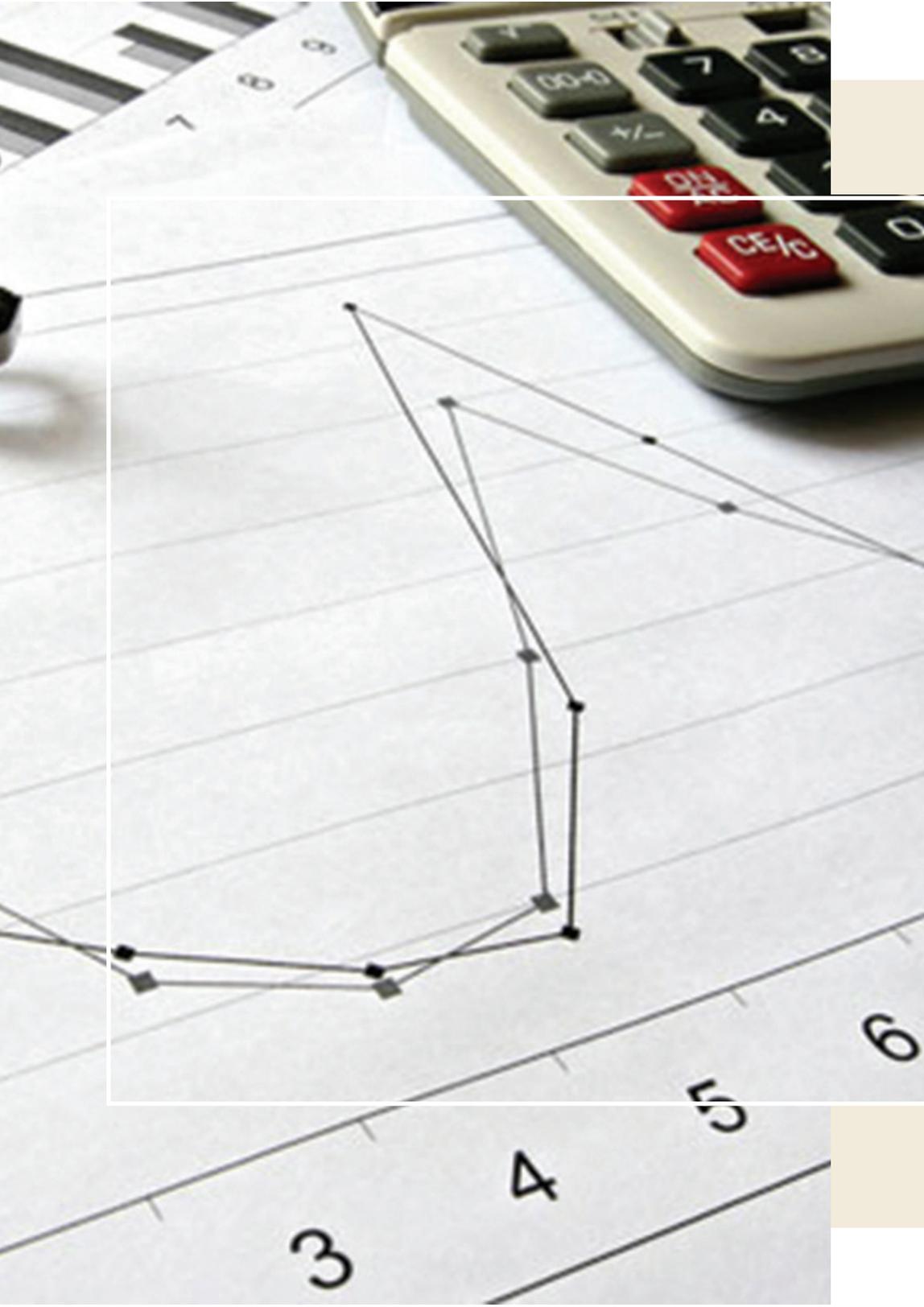
SANSA continuously strives to ignite the spark of awareness and appreciation in young minds for Earth observation technology, satellite technology and space science and space operations. SANSA takes science outreach initiatives to far-flung locations in South Africa, such as the remote villages of Limpopo and the coastal towns of the Western Cape. During the year under review, SANSA reached 6 500 learners and 270 educators through direct engagements to create an awareness of space science and technology. As part of building the future skills pipeline of science and technology researchers and scientists, SANSA collaboratively trained a total of 46 students at its facilities. The students were exposed to Earth observation techniques and applications, scientific research, data processing, electronics, satellite technology, space science and space operations.

Stimulating a sustainable local space industry

SANSA made an active contribution to the South African space industry through research, technological advancement, science advancement and local and global partnerships, as well as services that stimulated industry growth. SANSA provided 16 Earth observation and space science end-user services and products to industry clients and partners against the annual target of 10 products and services, indicating the growth potential of this industry.

South Africa: taking our place as an emerging space-faring nation

SANSA is the primary point of contact and the face of South Africa in the global space arena. It is a vehicle for strategically positioning the country among the community of space-faring nations. It met with a total of seven space agencies, including DLR (the German Space Agency); JAXA (the Japanese Space Agency); ISRO (the Indian Space Agency); ASAL (the Algerian Space Agency); ROSCOSMOS (the Russian Space Agency); ESA (the European Space Agency); and JRC (the European Commission's Joint Research Centre). Furthermore, foreign visitors were hosted from DLR, the UK Space Agency, JAXA and the Ukraine Space Agency. SANSA also participated in various multinational projects and forums, including intergovernmental Group on Earth Observations (GEO), the Committee on Earth Observation Satellites (CEOS), SFCG (Space Frequency Coordinating Group), IAC (International Astronomical Congress), and the African Union Space Working Group for the development of African space policy and strategy.



Annual Financial Statements

CONTENTS



CONTENTS

TABLE OF CONTENTS

	Page
Report of the Accounting Officer	72
Report of the Auditor-General	86
Report of the Audit Committee	88
Appropriation Statement	90
Notes to the Appropriation Statement	105
Statement of Financial Performance	107
Statement of Financial Position	109
Statement of Changes in Net Assets	110
Cash Flow Statement	111
Accounting Policies	112
Notes to the Annual Financial Statements	117
Disclosure Notes to the Annual Financial Statements	125
Annexures	131

Report of the Accounting Officer to the Executive Authority and Parliament of the Republic of South Africa for the year ended 31 March 2013

1. General review of the state of financial affairs

1.1 Policy decisions and strategic issues facing the Department

The former Minister of Science and Technology appointed a committee to review the science, technology and innovation (STI) landscape in South Africa. The Ministerial Review Committee's report was published in the 2012/13 financial year. Among other things, the report recommended a unitary science vote. The review's outcomes were shared with the National Treasury, which as a result established a science functional group led by the Department of Science and Technology (DST) and including all public entities undertaking STI-related activities.

The functional group's objectives include investigating the possibility of streamlining and maximising the budget bid process (the process of requesting new and additional funding from National Treasury) for the National System of Innovation (NSI). In other words, when requesting funds, the group should consider reducing redundancies and creating synergies within the NSI so as to make optimal use of the resources requested from National Treasury. The group has learnt from the 2012/13 bid process (the first time the DST had led the group in budget bids since the scrapping of the Science Vote in 2004), and will function more effectively as a result, which is imperative considering the role the NSI can play in growing the economy of the country if it is well managed, properly organised and adequately resourced.

1.2 Significant events and major projects undertaken

Below are some of the significant events that took place in the 2012/13 financial year. More detail is given in the performance overview sections for the specific Programmes.

(a) Human capital development

Government has identified the shortage of high-level skills as a significant constraint in the development of South Africa's economy and society. The DST-National Research Foundation (NRF) Internship Programme places recently qualified graduates and postgraduate students at various institutions in the NSI, thus greatly improving their employability and their chances of being retained in the science system. The government's financial commitment to the internship programme has grown as a result of the programme's success in developing skills and reducing unemployment. The Department plans to commit a further R142 million to enrol about 1 600 interns in the next three financial years.

The DST's Human Capital Development Strategy for Research Innovation and Scholarship is about to be finalised. Support for young scientists through focused human capital development investments has grown significantly in the past four years. The DST has signed ministerial guidelines for improving equity in the distribution of DST-NRF bursaries and fellowships. These guidelines are meant to ensure that funding support from the Department to the NRF for bursaries and fellowships is used efficiently and effectively to drive government imperatives.

The Department has sought to increase both the number of postgraduate students funded through bursaries and the average per capita level of support. Recent trends (2008/09 to 2012/13) reveal increases of more than 30% in bursary values and about 20% in student numbers. In 2011, doctoral graduates rose significantly (by 36%) for the first time in four years, to 1 576, which could be linked to a strategically targeted once-off injection by the Department in the 2010/11 financial year, and sustained support since then. In the 2012/13 financial year, the Department reprioritised R47 million of its funds towards bursary funding, which resulted in a total of 7 712 postgraduate students supported in the period under review (2 846 honours, 3 087 master's, and 1 779 doctoral), exceeding the target of 6 100. National Treasury has supported the DST's postgraduate bursary programme by allocating an extra R400 million in the outer year of the 2013 MTEF to increase the number and size of bursaries, thus boosting the postgraduate pipeline in scarce and critical knowledge areas.

(b) Science platforms

The National Research and Development Strategy identified Science Platforms (areas of geographic advantage) on which the country should focus its research. These include palaeosciences and astronomy. The first draft of the implementation plan of the Palaeosciences Strategy was presented to Cabinet in February 2012. As part of implementing this strategy, a Centre of Excellence in Palaeosciences has been established at the University of the Witwatersrand. The nodes for this centre of excellence include a number of museums with different strengths in this area. In astronomy, a concept document for the establishment of an astronomy entity was drafted. However, as the prevailing economic conditions and fiscal realities were not conducive to the establishment of new agencies, it was decided not to distract stakeholders and resources from core science objectives.

(c) Enhancing nanoscience teaching and training

Human capital and skills development are key for the implementation of the National Nanotechnology Strategy. On 26 September 2012, the DST launched the National Nanoscience Postgraduate Teaching and Training Platform in collaboration with four universities, namely, the University of Johannesburg, Nelson Mandela Metropolitan University, the University of the Free State and the University of the Western Cape (UWC). This multi-university consortium offers a structured master's degree in nanoscience. It is the only programme in the country where the same degree is offered at all partner institutions, with one partner acting as the champion (UWC in this case) and the lecturing load being shared by all partners. This platform provides an excellent model for other collaborative programmes. The first intake for the programme was 21 students.

(d) Research and innovation infrastructure

In the 2012/13 financial year, the DST's ring-fenced infrastructure allocation of R279,5 million allowed it to support the following:

- The award of 53 research infrastructure grants. Of these about 70% were awarded as scientific equipment grants to universities, science councils and museums via the NRF's National Equipment Programme and National Nanotechnology Equipment Programme.
- The development of a bench-scale primary titanium powder pilot plant.
- The development of a titanium additive-manufacturing plant.
- The establishment of a world-class nanotechnology development clean room at Mintek.
- The establishment of a National Recordal System for the capturing, storage and management of indigenous knowledge.

(e) Cofimvaba Rural Education Initiative

Launched in December 2012, the Cofimvaba Rural Education Initiative uses science and technology to contribute to eliminating poverty and reducing inequality. This multi-million rand project aims to create opportunities to examine whether the introduction of new technologies, or those that have been tested in other contexts, improves the quality of teaching and learning in a rural context. Three national departments and one provincial department are involved in this project and the cooperation is already bearing fruit, with the pass rate in the Cofimvaba area improving at the end of 2012.

(f) Titanium metal powder production technology development

The programme used an R8 million allocation from the Economic Competitiveness Fund for titanium metal powder production technology development.

The DST received an allocation of R500 million over three years from National Treasury for the Industry Innovation Partnership Initiative, which aims to further innovation in partnership with industry associations (which will provide co-funding).

Construction of a pilot plant to manufacture titanium metal powder has started. It will be completed in May 2013. This is the next step in the development of a new method of manufacturing titanium metal powder. The development of the next generation of additive manufacturing technology is under way. The technology has received attention from aircraft manufacturers such as Airbus and Boeing, which have both signed memoranda of agreement related to the validation of the new technology.

(g) Interaction with international partners

During the year under review the DST interacted with a range of international partners in support of STI for socio-economic development.

(i) South Africa-European Union Summit

The DST participated in the South Africa-European Union (EU) Summit in September 2012. With the science and technology (S&T) partnership the most active area of the Trade, Development and Cooperation Agreement between South Africa and the EU, three S&T events were organised, including a celebration of the South Africa-EU partnership on Innovation for Poverty Alleviation. The event was attended by the President of the Republic of South Africa, Cabinet Ministers, Members of Parliament and the European Commissioner for Development.

(ii) European Geostationary Navigation Overlay

The DST, on behalf of South Africa, agreed to the deepening of cooperation in the area of global navigation satellite systems with the EU, through the extension to South Africa of the European Geostationary Navigation Overlay Service, and exploring synergy between the European Earth Observation Programme, Copernicus (previously known as GMES, or Global Monitoring for Environment and Security), and the South African Earth Observation Strategy. The DST is advancing global partnerships in space with regard to space exploration, synergy with astronomy, and leveraging investments to drive innovation and deliver socio-economic benefits.

(iv) German-South African Year of Science

Germany and South Africa celebrated their long partnership on S&T during the German-South African Year of Science, which started in April 2012. A number of conferences and joint research programmes took place during the year, with a focus on student involvement.

(v) Southern African Young Scientists Summer Programme

The DST, in collaboration with the NRF, the University of the Free State and the International Institute for Applied Systems Analysis, officially launched the Southern African Young Scientists Summer Programme at the University of the Free State on 2 December 2012.

(vi) SADC STI policy training workshop

South Africa also hosted the first Southern African Development Community (SADC) STI policy training workshop in South Africa in October 2012, with the aim of building S&T policy capacity in the SADC region. The main purpose of the workshop was to discuss the roll-out of the African Very Long Baseline Interferometry Network (AVN) in Kenya. During the visit the South African team also visited a possible site for the AVN telescope.

(h) Health Innovation initiatives

(i) Health research

The DST established a number of strategic health research initiatives, namely, the South African HIV and Aids Research and Innovation Platform, the South African Tuberculosis Research and Innovation Initiative, the South African Malaria Initiative and the Non-Communicable Diseases Research and Innovation Initiative. These initiatives were managed by the Technology Innovation Agency (TIA) until May 2012. However, as they were positioned mainly in the early (R&D) stages of the innovation value chain, and as TIA's position is downstream in the commercialisation part of the value chain, it became imperative for the DST to appoint an appropriate institution to manage initiatives in the upstream, early stages of the value chain. The DST conducted an analysis of the different entities in the NSI with a view to identifying an appropriate institution for managing the strategic health innovation initiatives. The Medical Research Council (MRC) emerged as the most suitable host entity in view of its statutory mandate, which makes provision for it to play a role through the entire innovation value chain in the human health sector. The MRC has therefore been contracted by the DST to manage the strategic health innovation initiatives for an initial period of three years.

(ii) Preclinical drug development platform

In 2011, the DST transferred R43m to North West University for the development of a preclinical drug development platform in South Africa. This platform is an important part of the value chain, necessary for South Africa to exploit its biodiversity productively through the establishment of a vibrant pharmaceutical and phytomedicines industry. Preclinical testing is an important requirement for the registration of all pharmaceutical drugs and phytomedicines with regulatory bodies. The platform buildings have been converted into a world-class facility with state-of-the-art equipment for conducting preclinical work. The buildings and equipment have already been validated, and application has been made for good laboratory practice (GLP) accreditation for the facility and the methods it uses. Achieving GLP accreditation will automatically give this facility international standing. It already has international clients who intend using the facility for some of their preclinical work.

(iii) Development of single-dose antimalarial drug candidate

The DST co-funded the development of a single-dose antimalarial drug candidate by the University of Cape Town (UCT). The new molecule developed by UCT's Drug Discovery and Development Centre was selected for further development by Switzerland's Medicines for Malaria Venture (MMV) in 2012. The drug candidate, announced in August 2012, is expected to undergo a lengthy period of clinical trials. It has the potential to become a single-dose cure for all strains of malaria and might also be able to block the transmission of the parasite from person to person. The development of the drug candidate has helped strengthen relations with an international partner, MMV.

(iv) Biotechnology achievements

The Biotechnology Strategy is largely being implemented by DST agencies such as TIA, the Council for Scientific and Industrial Research (CSIR) and the Agricultural Research Council (ARC), as well as universities and other institutions. The cross-cutting initiatives that support biotechnology developments, like the Bioinformatics and Functional Genomics (BFG) programme managed by the NRF, the Public Understanding of Biotechnology programme managed by the NRF's South African Agency for Science and Technology Advancement, two research chairs, the Gauteng Accelerator Programme Biosciences initiative, and many others were financially and strategically supported by the DST. The BFG programme is developing human skills and capacity in the bioinformatics field and a total of 57 postgraduates were supported in the 2012 academic year. Five of the TIA-managed technology platforms (the Centre for Proteomic and Genomic Research, Bioprocessing, the Institute for Diagnostic Research, National Genomics Platform and Biosafety South Africa) have collectively hosted 10 interns and supported four postgraduate students. Three interns found permanent employment during the course of the financial year.

One of the key achievements from a funded project is the Eucalyptus Genome Project. The DST and the University of Pretoria (UP) are supporting the participation of South African scientists in the US Department of Energy Joint Genome Institute Eucalyptus Genome Project. UP has been the lead participating institution, with Prof. Zander Myburg as the principal investigator and coordinator of the Eucalyptus Genome Network. This leadership role has been greatly supported by strategic grants from the DST (R1,5m for the period April 2008 to March 2010, and R4m for the period April 2010 to November 2012).

Fast-growing *Eucalyptus* plantations are renewable sources of carbon, fibre and bioenergy. The sequencing of the *Eucalyptus* genome is a key milestone, advancing fundamental research in fibre and bioenergy production from woody plants. To date the initiative has completed the sequencing of 16 *E. grandis* genomes and 19 *E. dunnii* genomes at BGI (formerly the Beijing Genomics Institute). Eight additional *E. grandis* genomes and five *E. dunnii* genomes will soon be completed at BGI, bringing the total number of sequenced eucalyptus tree genomes to 48. The team has also completed targeted (complexity reduction) genotyping by sequencing for an additional 192 trees from the two species, adding genotypic diversity data for these breeding populations. Besides this partnership opening doors to key international collaborations, the DST grants have also supported the development of a South African Eucalyptus Genomics Platform, which has strengthened the industry-funded Forest Molecular Genetics Programme at UP. The UP has collaboration agreements with industry players and DST, UP and industry players are discussing the establishment of a public-private partnership.

(k) Intellectual Property Fund rebates for research and innovation

The Intellectual Property Fund provided institutions with R13,97m in the 2013/13 financial year, which was approximately 50% of the total IP protection and maintenance claims from these institutions. The National Intellectual Property Office (NIPMO) provided R11,8m in 2012/13 in transfer funding to institutions under the Intellectual Property Rights for Publicly Financed Research and Development Act (IPR-PFRD Act) for support for offices of technology transfer (OTTs). This NIPMO support funding has been used in the 15 institutions (three science councils and 12 universities) for capacity development and the establishment of OTTs, thus providing funding for the appointment of 30 technology transfer professionals employed in these OTTs.

(l) Intellectual property management for capacity-development initiatives

NIPMO has trained a total of 188 individuals in IP management skills through its capacity-development initiatives in the 2012/13 financial year. These initiatives have included an annual two-week summer school on IP and technology transfer hosted at UWC in collaboration with the World Intellectual Property Organization (WIPO) and the Companies and Intellectual Property Commission. These have allowed IP professionals from South Africa and abroad to acquire deeper knowledge of IP and technology transfer issues, as well as skills related to the management and commercialisation of IP. In 2012/13 a total of 42 candidates were trained in South Africa through the WIPO summer school.

NIPMO trained 41 people at sector-specific commercialisation and use workshops themed "Animal Health and Nutrition" and "Engineering for Agriculture and Mining". WaikatoLink, the commercialisation company of the University of Waikato in New Zealand, was used as a specialist facilitator to equip IP and technology transfer professionals and researchers with skills to progress their emerging institutional technologies to the market. A "dragon's den" concept was used, with ideas being pitched directly to potential investors. The NIPMO-Unisa IP Chair offered a seminar on the in-house management of inventions and patents at which 71 participants were trained. A workshop on IP commercialisation through technology transfer was held in collaboration with the US-based Association for University Technology Managers and the Southern African Research and Innovation Management Association on 4 to 6 December 2012. It was attended by 53 participants.

Through its IP advocacy and awareness initiative, *IP Wise*[™], NIPMO trained 190 researchers in the 2012/13 financial year. This initiative is intended to educate the research community about the IPR-PFRD Act, to empower scientists and innovation managers through directed education interventions that mainstream IP into research management, to promote NIPMO's establishment, brand and service offerings, and to promote the establishment and operations of OTTs to researchers to assist in the protection of their ideas and, through the commercialisation process, make their ideas contribute to addressing the country's socio-economic challenges. In total, NIPMO has engaged directly with 18 institutions through *IP Wise*[™].

(m) National Hydrogen and Fuel Cells Research, Development and Innovation (RDI) Strategy

On 13 February 2013, the Minister of Science and Technology officially launched the Hydrogen South Africa (HySA) Advisory Board. Collaboration between the HySA Systems Centre of Competence (CoC) and Melex Electrovehicles led to the development of a golf cart powered by a fuel cell unit, with an extended range of 70 km (depending on driving conditions). With local and key international manufacturers, HySA Systems manufactured the first PEM fuel cell high temperature stack and bipolar plates in South Africa. In February 2013, the HySA Infrastructure CoC received a 400 W state-of-the-art solar-to-hydrogen installation from Heliocentris, a Berlin-based company involved in multi-hybrid energy. In addition, the CoC has a Proton OnSite HOGEN-series PEM electrolyser that will be integrated into a 6 kW solar-to-hydrogen pilot plant. This large pilot plant is the first of its kind in South Africa. Both of these installations will be used for training and education purposes in a variety of hydrogen-related technologies, including fuel cells, energy storage, energy management and batteries.

1.3 Spending trends

The Department's appropriation for the year under review is R4,999bn compared to R4,407bn in 2011/12, which is a 13,4% year-on-year increase. Most of the additional appropriation was allocated to the Programmes that are core policy implementers of the Department, i.e. Research, Development and Innovation (Programme 2) received 52%, Human Capital and Knowledge Systems (Programme 4) received 18%, and Socio-Economic Partnerships (Programme 5) received 25%.

The Department's spending performance has been consistently above 90% since its inception. It was 99,5% for the 2012/13 financial year.

Summary budget expenditure analysis

	2012/13 R'000	2012/13 %
Amount voted	4 999 610	100
Actual expenditure	4 973 315	99,5
Unspent funds	26 295	0,5
Economic classification		
Current expenditure	386 780	7,8
Transfer payments	4 580 045	91,6
Payments for capital assets	6 490	0,1
Total payments	4 973 315	99,5

1.4 Virement

The Department effected virements amounting to R48,9m after the Adjusted Estimates process, which represents 0,98% of the adjusted budget. An amount of R23,5m was moved between major items and R17,5m between Programmes.

Transfer payments received the largest share (R23,6m) released from compensation of employees, and these funds were mainly redirected towards the support of OTTs (under Research, Development and Innovation). Some of the funds were redirected to goods and services, payments for capital assets, and interest and rent on land.

2. Services rendered by the Department

The DST's core business is to develop RDI policies in line with the White Paper on Science and Technology. The strategy instruments that assist with the implementation of the Department's mandate as set out in the White Paper are the National Research and Development Strategy and the Ten-Year Innovation Plan. The Department does not provide services to any institution or persons on a recoverable basis.

3. Capacity constraints

The DST had minimal capacity challenges. These are being addressed through the Recruitment Strategy and the Talent Management Strategy.

4. Use of donor funding

The DST received official development assistance (ODA) from Argentina, Australia, Canada, the European Community, Finland, the United States Agency for International Development (USAID) and Japan. Below is a brief summary of the activities supported by these ODA partners in science and technology.

4.1 Donor funding received in cash

Argentina

Argentina has committed R196 000 for the enhancement of cooperation between South Africa and the European Community through the Argentine Bureau for Enhancing Cooperation with the European Community in the Science, Technology and Innovation (ABEST II) project.

Australia

Australia has committed to regional support for the development and implementation of an S&T policy training initiative for senior SADC officials, and for the development of an SADC STI implementation framework for climate change response. The first training programme took place in October 2012. The implementation framework was completed, but the project has been extended through the placement of a technical assistant with the CSIR to assist with the first phase of the implementation of the framework.

Australia also provided financial support to enable four South African experts to attend the 34th International Congress on Mining.

Canada

An initiative on epidemiological modelling and analysis in South Africa includes financial support of approximately R20m over five years to the South African Centre of Excellence in Epidemiological Modelling and Analysis. The project aims, in partnership with Statistics Canada and the World Health Organization, to develop innovative quantitative methods to support a more integrated, evidence-based national response to the epidemic of HIV/Aids (and major related diseases such as tuberculosis). The project was initiated in November 2008 and ends in 2013. It is regarded by all parties as successful in achieving the goals set.

European Union

The NSI received approximately R200m through the participation of South African researchers in the EU Framework Programme, including projects that are managed directly by DST.

Sector Budget Support Programme

The EU has allocated a total of €30m to support the DST in its poverty alleviation initiatives over a period of three years. This allocation will see the DST supporting, among other things, the use of scientific innovation to provide sustainable water service delivery in rural areas, and the use of ICT to develop and empower rural communities through employment creation and human capacity development.

Ireland

The Irish Development Agency invested R2,1m in support of a pre-doctoral proposal development programme for the nursing sciences.

Portugal

Portugal has made available R232 000 towards the Bridging Actions for GMES/Copernicus and Africa (BRAGMA) project.

United States of America

Ongoing support was provided by USAID for two regional capacity development initiatives, namely, a potato culture project in Malawi and the development of capacity in the SADC for the Risk and Vulnerability Atlas.

The potato culture project is progressing well; the first progress report has been submitted and a greenhouse has been erected. USAID provided additional funding for the procurement of a generator for the laboratory, as the unreliable electricity in the area was hampering the project.

The SADC Risk and Vulnerability Atlas Capacity Development initiative involves two projects with Mozambique, one on aquaculture and one on the impact of pollution in the Oliphant's River on the health of communities living around the river, as well as a study to establish the feasibility

of establishing a virtual RDI network for the information society in partnership with the Limpopo Provincial Government. These are all expected to be finalised in the next financial year.

USAID made a new call for proposals and the DST was successful with two additional proposals, one regarding standards development and capacity building for indigenous knowledge systems in partnership with the South African Bureau of Standards, and one on developing sustainable mechanisms to improve food security through animal agriculture in Southern Africa.

4.2 Donor funding received in kind

The DST received in-kind Official Development Assistance from Canada, the European Community, the United States of America and Japan. Foundations that partnered with the DST include the following:

(a) Bill and Melinda Gates Foundation

Several projects have been successfully negotiated with the Bill and Melinda Gates Foundation. These include support for the training of the next generation of African researchers in legume sciences, the Follow-on African Consortium on Tenofovir Study, and research on T-cell correlation of risk diseases in adolescents infected with tuberculosis.

(b) Wellcome Trust

The Wellcome Trust has partnered with the DST on the longitudinal Birth to Twenty Plus cohort study, as well as the 12th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health.

(c) Grand Challenges Canada

Grand Challenges Canada is supporting a South African research consortium in the development of improved technology in point of care diagnostics.

(d) Japan

Japan placed science centre volunteers in Limpopo, the Eastern Cape and the North West to assist science centres develop exhibitions and teaching material for science and mathematics education. These volunteers are used to systematise newly developed exhibitions to ensure knowledge transfer to science centres.

The first grant aid to South Africa by Japan, awarded after a global competitive call, was channelled through the implementation of two research programmes. One of these (on the improvement of climate variability in the region) has been completed successfully, and the other (on seismic risk) still has two years of implementation left. The Hitachi Scholarships for three South African electrical engineers to do a two to three-month on-site training programme, is valued at approximately R1,2m.

5. Public entities

The public entities that were funded through the DST's vote in 2012/13 are as follows:

5.1 Human Sciences Research Council (R214m in 2012/13 and R206m in 2011/12)

The Human Science Research Council (HSRC) was established in terms of the Human Sciences Research Act, 1968. It supports development in South Africa and Africa by coordinating and conducting applied social science research projects. Its research structures and activities are aligned to South Africa's national development priorities, notably, poverty reduction through economic development, skills enhancement, job creation, the elimination of discrimination and inequalities, and effective service delivery. The HSRC has a key role in the implementation of the Ten-Year Innovation Plan, particularly in relation to the Human and Social Dynamics in Development Grand Challenge.

5.2 National Research Foundation (R1 064bn in 2012/13 and R1 099bn in 2011/12)

The National Research Foundation (NRF) was established by the National Research Foundation Act, 1998. The NRF supports and promotes research through funding human resource development, and the provision of the necessary research facilities for the creation of knowledge, innovation and development in all fields of S&T, including indigenous knowledge. In addition to the agency function it performs for the DST, the NRF acts as a service provider for the Departments of Water Affairs and Environmental Affairs in the area of marine research, the Department of Trade and Industry in respect of the Technology and Human Resources for Industry Programme, and the Department of Labour in respect of the Scarce Skills Development Fund.

5.3 Africa Institute of South Africa (R34m in 2012/13 and R32m in 2011/12)

The Africa Institute of South Africa (AISA) is a statutory body established in terms of the Africa Institute of South Africa Act, 2001. The key role of AISA is to conduct research and support policy development; embark on training programmes; and participate in and maintain networks for peace, development and prosperity in Africa. Its primary focus is on political, socio-economic, international and development issues in contemporary Africa. It contributes to the goals of the NSI through research programmes which impact on knowledge production and human resource development in African studies – a scarce resource in South Africa.

5.4 Council for Scientific and Industrial Research (R743m in 2012/13 and R687m in 2011/12)

The CSIR is governed by the Scientific Research Council Act, 1988. The objectives of the CSIR are to foster industrial and scientific developments in the national interest, through directed and particularly multidisciplinary research and technological innovation, either by itself or in cooperation with principals from the private or public sectors.

5.5 Technology Innovation Agency (R456m in 2012/13 and R434m in 2011/12)

TIA was established in terms of the Technology Innovation Agency Act, 2008. TIA's objective is to support the state in stimulating and intensifying technology innovation in order to improve economic growth and the quality of life of all South Africans by developing and exploiting technology innovations.

5.6 Academy of Science of South Africa (R16m in 2012/13 and R14m in 2011/12)

The Academy of Science of South Africa (ASSAf) was formally established in 2001 in terms of the Academy of Science of South Africa Act, 2001. ASSAf's objectives are to promote common ground for scientific thinking across all disciplines; to encourage and promote innovative and independent scientific thinking; to promote the optimum development of the intellectual capacity of all people; and to link South Africa with scientific communities at the highest levels, and the African continent in particular. In addition, it investigates matters of public interest concerning science and manages the *South African Journal of Science*.

5.7 South African National Space Agency (R126m in 2012/13 and R107m in 2011/12)

The South African National Space Agency (SANSA) was established in terms of the South African National Space Agency Act, 2008. SANSA is a Schedule 3A Public Entity under the Public Finance Management Act.

SANSA's objective is to –

- promote the peaceful use of space;
- support the creation of an environment conducive to industrial development in space technology;
- foster research in space science, communications, navigation and space physics;
- advance scientific, engineering and technological competencies and capabilities through human capital development, outreach programmes and infrastructure development; and
- foster international cooperation in space-related activities.

The SANSA Act also determines the functions of SANSA, which are to –

- implement any space programme in line with the policy determined in terms of the Space Affairs Act;
- advise the Minister on the development of national space S&T strategies and programmes;
- implement any national space S&T strategy; and
- acquire, assimilate and disseminate space satellite imagery for any organ of state.

6. Organisations to which transfer payments have been made

6.1 Programme 1: Administration

Organisation/theme	R'000	Reason for transfer payment
Institution and programme support	929	Assistance for research activities
Total	929	

6.2 Programme 2: Research, Development and Innovation

Organisation/theme	R'000	Reason for transfer payment
Biotechnology Strategy	40 552	Implementation of the Biotechnology Strategy
Energy Security Grand Challenge	38 965	Support R&D in the renewable energy sector
Health Innovation	37 888	R&D for new health products and services
HIV/Aids prevention and treatment technologies	20 263	Research into technologies to combat and prevent HIV/Aids
Hydrogen Strategy (Capital)	54 498	Support research infrastructure in the hydrogen and energy sector
Hydrogen Strategy (Current)	30 672	Support R&D in the hydrogen and energy sector
Innovation Projects	26 172	To promote IP management, regulation and commercialisation
International Centre for Genetic Engineering and Biotechnology	10 395	R&D of new health products
South African National Space Agency	126 008	To support the creation of an environment conducive to industrial development and space technology
Space Science	36 064	R&D to support space science initiatives
Square Kilometre Array (Capital)	218 738	Infrastructure for the SKA project
Square Kilometre Array (Current)	11 842	R&D for the SKA project
Technology Innovation Agency	456 325	To stimulate and intensify technology innovation and commercialisation output
Technology Top 100	3 007	To promote technological advancement for private sector with focus on SMMEs
Total	1 111 389	

6.3 Programme 3: International Cooperation and Resources

Organisation/theme	R'000	Reason for transfer payment
Organisation/theme	R'000	Reasons for transfer payment
Africa Institute of South Africa	33 643	To conduct research and support policy development
Global Science: Bilateral Cooperation	11 600	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Global Science: International Resources	26 707	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Global Science: Multilateral Cooperation	7 400	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Total	79 350	

6.4 Programme 4: Human Capital and Knowledge Systems

Organisation/theme	R'000	Reason for transfer payment
Academy of Science of South Africa	16 284	To promote innovative and independent scientific thinking
Centre for High Performance Computing	86 068	Operation and management of the CHPC initiatives
Emerging Research Areas	58 201	R&D into emerging research areas
Human Capital Development	200 746	Implementation of human capital development initiatives
Indigenous Knowledge Systems (IKS)	18 505	Implementation of IKS Initiatives
National Nanotechnology Centres	44 500	R&D into nanotechnology initiatives
National Research Foundation	1 063 869	To support and promote research through funding human resource development
R&D Infrastructure	263 453	Infrastructure development
Science and Youth	61 982	Research and initiatives towards youth involvement in the science arena
Science Themes	65 873	To support R&D initiatives in areas of geographic advantage
South African National Research Network	129 946	Connectivity of research institutions
Total	2 009 427	

6.5 Programme 5: Socio-Economic Partnerships

Organisation/theme	R'000	Reason for transfer payment
Advanced Manufacturing Technology Strategy	42 994	Implementation of the Advanced Manufacturing Technology Strategy
Council for Scientific and Industrial Research	742 752	Parliamentary Grant as per the Estimates of National Expenditure. To provide science and technology services and solutions and identify opportunities where new technologies can be further developed and exploited in the private and public sectors for commercial and social benefit.
Global Change S&T	63 434	Implementation of Global Change Grand Challenge – Planning support and 10-year research plan
Human and Social Dynamics in Development	10 221	Policy and institution building (10-year plan and centres of excellence)
Human Sciences Research Council	214 177	Parliamentary Grant as per the Estimates of National Expenditure. To conduct large-scale, policy-relevant, social-scientific research
Information Communication Technology	17 270	Implementation of the South African ICT RDI Strategy
Local Manufacturing Capacity	20 862	To assist local companies to develop their technology capabilities to enable them to leverage the procurement opportunities from the infrastructure build programmes of the state-owned enterprises
To fund technology stations to render technology support to small and medium-sized enterprises		

Organisation/theme	R'000	Reason for transfer payment
Local Systems of Innovation		
	7 587	Cold-Chain Technologies Project (FPEF and ARC); COFISA-DST partnership; advocacy in provinces.
Support local innovation interventions and science parks		
Natural Resources and Public Assets	66 078	Maintain and grow genebanks (ARC); South African Biosystematics Initiative; South African Biodiversity Information Facility, Biobank
Research Information Management System	14 010	Information access for decision making
Resource-Based Industries	47 014	S&T policy, strategy and direction-setting support to harness value from South Africa's natural resources
S&T Indicators	9 019	Development of S&T indicators
South African Research Chairs Initiative	60 385	Strengthen and improve research and innovation capacity in social sciences and humanities
Technology for Poverty Alleviation	27 546	Poverty alleviation initiatives
Technology for Sustainable Livelihoods	35 601	Poverty alleviation initiatives
Total	1 378 950	

7. Public-private partnerships

The DST has not entered into any public-private partnership agreements.

8. Corporate governance arrangements

The corporate governance frameworks/procedures below form the main pillars of the Department's corporate governance arrangements, which are based on legislation as well as best practice.

8.1 Enterprise risk management

The DST views enterprise risk management (ERM) as imperative for successful delivery on its mandate. The Department believes that identifying, understanding and managing risk in an enterprise-wide context will ensure accountability and sustainability, and that ERM will compel the DST to address negative events in a proactive and timely manner, while exploiting the possible opportunities posed by future uncertainties.

There are various ERM processes to ensure the commitment of the entire Department (e.g. awareness sessions, risk assessments, follow-ups), and ERM roles and responsibilities are clearly defined. The Department also has effective management systems (e.g. policies and guidelines) in place for ERM and Fraud Risk Management.

To ensure the quality, integrity and reliability of the DST's ERM processes and responses, the Department, in accordance with the Public Sector Risk Management Framework and best practice, has an ERM Committee comprising four external members and three ex-officio members. The Audit Committee Chairperson is a standing invitee of the Committee. The following table indicates the members of the ERM Committee and the meetings they attended:

Name	Status	Meetings attended			
		1	2	3	4
M Zakwe	Independent member (Chairperson)	Yes	Yes	Yes	Yes
Z Fihlani	Independent member	Yes	Yes	Yes	No
L Kaplan	Independent member	Yes	Yes	Yes	Yes
B Gutshwa	Independent member	Yes	Yes	Yes	No
BT Mavuso	Ex-officio member	Yes	Yes	Yes	Yes
M Malapane	Ex-officio member	Yes	Yes	No	No
B Muthwa	Ex-officio member	No	No	Yes	No
M Moholo	Audit Committee Chairperson (standing invitee)	Yes	Yes	n/a	n/a
S Machaba	Audit Committee Chairperson (standing invitee)	n/a	n/a	n/a	No
H Maritz	Representative of Audit Committee Chairperson	n/a	n/a	Yes	Yes

8.2 Materiality and Significance Framework

Although no legislation requires the Department to have a materiality and significance framework, the DST has a framework in place as part of good business practice.

8.3 Management processes to minimise conflicts of interest

To minimise conflicts of interest, the DST has the following management processes:

- All senior managers (i.e. SMS members) are required to complete a Disclosure of Interest Form on appointment; and at the beginning of each financial year.
- All members of the DST Bid Adjudication Committee and Bid Evaluation Committee are required to complete a Declaration of Interest Form prior to the adjudication or evaluation of each tender/bid.

8.4 Internal Audit Activity and Audit Committee

In accordance with section 51(1)(a) of the PFMA and Treasury Regulation 27.1, the Department has an Audit Committee, comprising four external members and one ex-officio member, which carried out its responsibilities for the year in compliance with the Audit Committee Charter. Five meetings were convened during the year.

The Audit Committee was fully effective in its oversight function of ERM, control and governance in the DST.

The following table indicates the members of the Audit Committee and the meetings they attended, as well as their terms of office:

Member	Term of office	Date resigned	Meetings attended
Mike Mohohlo (previous Chair)	1 Aug. 2008 – 31 July 2012	31 July (term came to an end)	2 out of 2
Shirley Machaba (new Chairperson)	1 Oct. 2012 – 30 Sept. 2014	n/a	2 out of 2
Dr Botlhale O Tema	1 May 2009 – 30 April 2013	n/a	4 out of 4
Hendrikus Maritz	1 Oct. 2010 – 30 Sept. 2014	n/a	4 out of 4
Khumoetsile Gaesale	1 Oct. 2010 – 30 April 2013	12 April 2013	2 out of 4
Dr Phil Mjwara	Ex-officio member	n/a	2 out of 4

The Department also has a fully resourced Internal Audit Activity, which is responsible for evaluating the control environment and assisting the Audit Committee to fulfil its responsibilities.

9. Discontinued activities and activities to be discontinued

No activities were discontinued in the year under review.

10. New and proposed activities

10.1 Repackaging of ICT RDI Implementation Roadmap in the ICT and Service Industries Unit

Depending on the outcome of the ICT RDI Implementation Roadmap presentation to Cabinet, some of the investment opportunities in the six identified clusters will be unpacked into measurable goals and tasks to provide a foundation for implementation. This will imply significant leveraging of funds through negotiations with stakeholders in national and provincial departments, and in industry.

10.2 The introduction of the Industry Innovation Participation Programme

The Industry Innovation Participation Programme is aimed at building specific sector-based R&D networks that will be jointly funded and resourced. The Technology Localisation Programme will be expanded in line with the additional allocation from National Treasury for local manufacturing. The DST's Technology Localisation Programme has made an impressive impact and is now actively supported by other departments (the Department of Energy and the Department of Trade and Industry) and the state-owned companies in its efforts to expand the capabilities and competitiveness of the local companies. The DST's involvement in aerospace was formalised through participation with the Department of Trade and Industry in the launch of the Joint Aerospace Steering Committee. This is aimed at maximising investments in aerospace (and related technologies), as well as maximising coordination at national level. In addition, the Department's unmanned aircraft systems programme was extended to be a national flagship project.

10.3 Migration of energy bursaries to SANHARP

During the 2012/13 financial year, as part of consolidating its support efforts for the energy sector, the DST decided to migrate the energy bursary programme previously managed by South African National Energy Development Institute into the South African Nuclear Human Asset and Research Programme (SANHARP). This will include the Master's in Accelerator and Nuclear Science and Master's in Materials Science courses that are hosted by the University of the Western Cape, the University of Zululand and iThemba LABS.

The energy landscape has changed since SANHARP was first conceptualised in 2005. In April 2013, the DST therefore appointed an independent service provider to review SANHARP in terms of the following:

- The management of the programme with regard to resource allocation in support of the programme objectives.
- The quality and level of service.
- The requirements and value of university bursaries.
- The funding model restrictions.
- The pipeline model used by the programme.
- The website to promote nuclear technology knowledge.
- The links with communities of practice in the nuclear sector.
- The success of the programme in addressing the skills needs of the country.

The review will also make recommendations regarding the future strategic direction of the programme. As SANHARP is seen as a flagship programme for the development of skills in South Africa's nuclear sector, the outcomes of the review will also assist in the development and finalisation of the National Nuclear Skills Development Strategy, which will be submitted for approval to the Deputy President, who is the Chair of the National Nuclear Energy Executive Coordination Committee.

10.5 Review of the five-year HySA programme

A five-year review of the HySA programme is planned for July 2013. The review will be conducted by an independent panel consisting mainly of top international experts appointed by the DST. These experts will interact with the HySA Advisory Board and HySA centres of competence for a week. The review will look at the activities of the past five years and obtain top-level inputs that are essential in planning the subsequent phases of the programme. The review will make recommendations regarding the future strategic direction of the programme.

The National Hydrogen and Fuel Cells RDI Strategy will also be revised towards the end of the 2013 calendar year in order to include socio-economic impact analysis and alignment with other government programmes like the Integrated Resource Plan. The recommendations of the review panel will be valuable in the revision of the strategy.

11. Asset management

Asset management policies and procedures are in place. According to DST policy, asset verification should be conducted twice a year. This was done. The Auditor-General was involved in the half-year verification, and the DST's Internal Audit Activity is reviewing the year-end verification. Through collaboration between the Asset Management unit and the Security unit, stringent measures were put in place to ensure that no one leaves the Department's premises with official assets unless they have authorisation to do so.

12. Inventories

The costing method used for inventory valuation by the Department is the weighted cost method. Inventory purchased during the financial year is disclosed at cost in the notes. For replenishment purposes, the Department, through Supply Chain Management (SCM), uses the logistical information system (LOGIS), which employs analytical techniques for SCM provisioning. This system assists the Department to maintain and manage inventory at the lowest levels. Furthermore, the DST inventory is not used for reselling and low levels of inventory are therefore ideal for the Department's operations, since no cash is locked up in illiquid assets. Incidences of obsolescence are rare because inventory is not held for long periods and losses are not material.

13. Events after the reporting date

There have been no significant events since the reporting date.

14. Information on predetermined objectives

The processes for the identification, collection, capturing, analysis and reporting of performance information/predetermined objectives are detailed in the Performance Information Policy and Procedures Manual. At the beginning of each financial year, and in consultation with the Programmes, the Subprogramme: Policy, Planning, Governance, Monitoring and Evaluation (PPGME) updates the templates that will be used to capture performance information.

14.1 Management of quarterly reports

After the 20th of the month following the end of the quarter, PPGME sends the template to the Programmes. Upon receipt of the information, PPGME verifies the data, captures it and prepares a quarterly report. The report is presented to the DST's Executive Committee for approval and is signed by the Director-General. It is then sent to National Treasury. The report is also presented to the DST Audit Committee.

14.2 Annual Report

For the Annual Report, PPGME follows the same process as for the quarterly report, starting 20 days after the end of the financial year. This report is sent to the Auditor-General for auditing.

The DST's inadequate reporting is due to its use of a manual reporting system. From the 2013/14 financial year, the Department will be using an electronic Performance Information Management System.

15. Standing Committee on Public Accounts (SCOPA) resolutions

There are no SCOPA resolutions.

16. Prior modifications to audit reports

The Auditor-General found no matters of significance regarding the DST's administration.

17. Exemptions and deviations received from the National Treasury

Neither exemptions nor deviations were raised by the National Treasury.

18. Interim financial statements

The Department has complied with the National Treasury's requirement in terms of the preparation of interim financial statements. All the quarterly statements were prepared and submitted on time.

19. Other

I would like to express my sincere appreciation to all the Department's employees and the Audit Committee for their tireless dedication in making sure that the Department's mandate is carried out.

20. Approval

The Annual Financial Statements set out on pages 90 to 145 have been approved by the Accounting Officer.



Dr PM Mjwara
Accounting Officer
Date: 31 July 2013

Auditor-General Report (For the year ended 31 March 2013)

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON VOTE NO. 34: DEPARTMENT OF SCIENCE AND TECHNOLOGY

REPORT ON THE FINANCIAL STATEMENTS

Introduction

1. I have audited the financial statements of the Department of Science and Technology set out on pages 90 to 145, which comprise the appropriation statement, the statement of financial position as at 31 March 2013, the statement of financial performance, statement of changes in net assets and the cash flow statement for the year then ended, and the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting officer's responsibility for the financial statements

2. The accounting officer is responsible for the preparation of these financial statements in accordance with the Departmental Financial Reporting Framework prescribed by the National Treasury and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999)(PFMA), and for such internal control as the accounting officer determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor-General's responsibility

3. My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA), the *General Notice* issued in terms thereof and International Standards on Auditing. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.
4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

6. In my opinion the financial statements presents fairly, in all material respects, the financial position of the Department of Science and Technology as at 31 March 2013, and its financial performance and cash flows for the year then ended in accordance with the Departmental financial reporting framework prescribed by the National Treasury and the requirements of the PFMA.

Additional matter

7. I draw attention to the matter below. My opinion is not modified in respect of this matter.

Unaudited supplementary schedules

8. The supplementary information disclosed in the annexures does not form part of the financial statements and is presented as additional information. I have not audited these annexures and, accordingly, I do not express an opinion thereon.

Financial reporting framework

9. The financial reporting framework prescribed by the National Treasury and applied by the department is a compliance framework. The wording of my opinion on a compliance framework should reflect that the financial statements have been prepared in accordance with this framework and not that they "present fairly". Section 20(2) (a) of the PAA, however, requires me to express an opinion on the fair presentation of the financial statements. The wording of my opinion therefore reflects this requirement.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

10. In accordance with the PAA and the *General Notice* issued in terms thereof, I report the following findings relevant to performance against predetermined objectives, compliance with laws and regulations and internal control, but not for the purpose of expressing an opinion.

Predetermined objectives

11. I performed procedures to obtain evidence about the usefulness and reliability of the information in the overview of departmental performance as set out on pages 17 to 55 of the annual report.
12. The reported performance against predetermined objectives was evaluated against the overall criteria of usefulness and reliability. The usefulness of information in the annual performance report relates to whether it is presented in accordance with the National Treasury's annual reporting principles and whether the reported performance is consistent with the planned objectives. The usefulness of information further relates to whether indicators and targets are measurable (i.e. well defined, verifiable, specific, measurable and time bound) and relevant as required by the *National Treasury Framework for managing programme performance information*.

The reliability of the information in respect of the selected programmes is assessed to determine whether it adequately reflects the facts (i.e. whether it is valid, accurate and complete).

13. The material findings are as follows:

Opinion

Programme 5: Socio-Economic Partnerships

14. I was unable to obtain the information and explanations I considered necessary to satisfy myself as to the reliability of information presented in respect to the number of SMEs provided with technology support and number of master's and doctoral students funded or co funded in designated niche areas that is included within socio-economic partnerships programme. This was due to the fact that the department could not provide sufficient appropriate evidence in support of the information presented with respect for these two targets

Additional matter

15. I draw attention to the following matter below. This matter does not have an impact on the predetermined objectives audit findings reported above.

Achievement of planned targets

16. Of the total number of 66 targets planned, only 47 of targets were achieved during the year under review. This represents 29% of total planned targets that were not achieved during the year under review. For further details on the extent and reasons for deviations between planned targets and actual performance refer to section 3, page 17 – 55 of the overview of departmental performance report.

Material adjustments to the annual performance report

17. Material audit adjustments in the annual performance report were identified during the audit, of which were corrected by management and those that were not corrected have been reported accordingly.

Compliance with laws and regulations

18. I performed procedures to obtain evidence that the entity has complied with applicable laws and regulations regarding financial matters, financial management and other related matters. My findings on material non-compliance with specific matters in key applicable laws and regulations as set out in the *General Notice* issued in terms of the PAA are as follows:

Compensation of employees

19. Some employees were appointed without following a proper process to verify the claims made in their applications. Failure to follow proper process is in contravention of Public Service Regulation 1/MI/D.8.

Internal control

20. I considered internal control relevant to my audit of the financial statements, overview of departmental performance report and compliance with laws and regulations. The matters reported below under the fundamentals of internal control are limited to the significant deficiencies that resulted in the material findings on the annual performance report and the findings on compliance with laws and regulations included in this report.

Financial and performance management

21. Human Resources policies and procedures surrounding the verification process on new appointments are not always adhered to.
22. Insufficient appropriate evidence was obtained supporting performance information reported in the annual performance report and there was a lack of monitoring to ensure validity, accuracy and completeness of reported information.

OTHER REPORTS

Agreed-upon procedures engagement

23. As requested by the department, an engagement was conducted during the year under review on European Union Funded Project. The report covered the period September 2008 to February 2012 and was issued on 03 April 2013.

Auditor-General

Pretoria
31 July 2013



AUDITOR - GENERAL
SOUTH AFRICA

Auditing to build public confidence

Report of the Audit Committee (For the year ended 31 March 2013)

1. Overview

We are pleased to present our report for the financial year ended 31 March 2013.

2. Audit Committee members and attendance

The Audit Committee consists of the members listed below. In accordance with its approved Charter the Committee meets at least four (4) times a year. During the period under review, four meetings were convened.

Attendance of the meetings was as follows:

Name of member	Date	Number of meetings attended
Mike Mohoho (External Chairperson)	Appointed 1 August 2008 Appointed as Chairperson: 1 November 2010 and contract ended on 31 July 2012	2 out of 2
Shirley Machaba (External Chairperson)	Appointed 1 October 2012 Appointed as Chairperson: 1 October 2012	2 out of 2
Dr Botlhale O Tema (External Member)	Appointed 1 May 2009 and contracted ended on April 2013	4 out of 4
Hendrikus Maritz (External Member)	Appointed 1 October 2010	4 out of 4
Khumoetsile Gaesale (External Member)	Appointed 1 Oct 2010	2 out of 4
Dr Phil Mjwara (Accounting Officer)	Ex-officio member	2 out of 4

3. Audit Committee responsibility

The Audit Committee reports that it has complied with all its responsibilities in terms of section 38(1)(a) read with sections 76 and 77 of the Public Finance Management Act (PFMA) as well as with Treasury Regulation 3.1. It has adopted appropriate formal terms of reference as the Audit Committee Charter, has regulated its affairs and discharged its responsibilities in compliance therewith.

4. The effectiveness of internal control

In accordance with the PFMA, the Internal Audit Activity (IAA) provides the AC and management with assurance that the Department's internal controls are appropriate and effective. The committee evaluated the internal control environment and based on the information provided, assessed the internal controls as effective to mitigate related risks to an acceptable level. The system of internal controls applied by the Department over financial risk and risk management is in the main effective, efficient and transparent, as confirmed by an unqualified Auditor-General's report.

5. Governance

5.1 Enterprise Risk Management

The Department has an effective Enterprise Risk Management Committee which focuses on the identification, assessment, management and monitoring of risk. Based on the information provided, the Committee monitored the significant risks faced by the Department and is satisfied that these risks were reduced to an acceptable level. The Department implements an enterprise risk management strategy, which includes a fraud prevention plan.

5.2 Legal compliance

The Audit Committee reviewed the Department's compliance with legal and regulatory provisions and ensured that processes are in place to monitor the level of compliance to laws and regulations within the DST.

6. Submission of in-year management and monthly/quarterly reports in terms of the PFMA and the Division of Revenue Act

The Audit Committee is satisfied with the content and quality of monthly and quarterly reports prepared and issued by the Accounting Officer and management during the year under review.

7. Evaluation of financial statements

7.1 The Audit Committee –

(a) reviewed and discussed, with the Auditor General South Africa (AGSA) and the Accounting Officer, the audited annual financial statements to be included in the annual report;

(b) reviewed the AGSA's management letter and management's response to it;

(c) reviewed significant adjustments resulting from the audit;

(d) notes that there have been no changes in the accounting policies and practices; and

(e) is satisfied with the submission and quality of interim financial statements prepared by the Department.

7.2 The Audit Committee concurs with and accepts the AGSA's conclusions on the annual financial statements and is of the opinion that the audited financial statements should be accepted and read together with the report of the AGSA.

8. Annual Performance Review

The Committee has considered the performance information reports submitted to the AGSA for review and is satisfied with the measures that management has put in place to manage performance. The Department is also in consultation with National Treasury and external consultant to refine the performance management process.

9. External Auditors

The Auditor-General was independent throughout the financial year under review, and the Audit Committee met with the Auditor-General to ensure that there are no unresolved issues.

10. Appreciation

The Audit Committee expresses its appreciation to the Accounting Officer, the senior management team and the AGSA for their contributions during the year under review.



Ms Shirley Machaba

External Chairperson of the Audit Committee

Date: 31 July 2013

Appropriation Statements (For the year ended 31 March 2013)

Appropriation per programme									
APPROPRIATION STATEMENT	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1. Administration									
Current payment	226,359	-	(5,650)	220,709	219,805	904	99.6%	190,830	189,740
Transfers and subsidies	1,000	-	101	1,101	929	172	84.4%	1,073	1,036
Payment for capital assets	2,070	-	2,481	4,551	4,526	25	99.5%	3,992	4,780
Payment for financial assets	-	-	11	11	10	1	90.9%	-	-
	229,429	-	(3,057)	226,372	225,270	1,102	99.5%	195,895	195,556
2. Research, Development and Innovation									
Current payment	50,018	-	(5,000)	45,018	44,932	86	99.8%	43,404	43,109
Transfers and subsidies	1,092,558	-	22,280	1,114,838	1,111,390	3,448	99.7%	811,342	811,139
Payment for capital assets	231	-	296	527	523	4	99.2%	696	696
Payment for financial assets	-	-	-	-	-	-	-	-	-
	1,142,807	-	17,576	1,160,383	1,156,845	3,538	99.7%	855,442	854,944
3. International Cooperation and Resources									
Current payment	59,915	-	(2,700)	57,215	56,550	665	98.8%	48,445	48,222
Transfers and subsidies	79,402	-	-	79,402	79,350	52	99.9%	83,603	83,552
Payment for capital assets	-	-	623	623	618	5	99.2%	514	502
Payment for financial assets	-	-	-	-	-	-	-	-	-
	139,317	-	(2,077)	137,240	136,518	722	99.5%	132,562	132,276

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
APPROPRIATION STATEMENT	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
4. Human Capital and Knowledge Systems									
Current payment	30,013	-	(706)	29,307	29,208	99	99.7%	29,402	28,332
Transfers and subsidies	2,034,544	-	(7,140)	2,027,404	2,009,426	17,978	99.1%	1,927,795	1,927,689
Payment for capital assets	116	-	195	311	310	1	99.7%	313	313
Payment for financial assets	-	-	11	11	11	-	100%	-	-
	2,064,673	-	(7,640)	2,057,033	2,038,955	18,078	99.1%	1,957,510	1,956,334
5. Socio-Economic Partnerships									
Current payment	43,010	-	(5,183)	37,827	36,264	1,563	95.9%	37,385	36,515
Transfers and subsidies	1,380,216	-	19	1,380,235	1,378,950	1,285	99.9%	1,227,369	1,227,008
Payment for capital assets	158	-	362	520	513	7	98.7%	657	656
Payment for financial assets	-	-	-	-	-	-	-	183	183
	1,423,384	-	(4,802)	1,418,582	1,415,727	2,855	99.8%	1,265,594	1,264,362
Subtotal	4,999,610	-	-	4,999,610	4,973,315	26,295	99.5%	4,407,003	4,403,472
Statutory appropriation									
Current payment	-	-	-	-	-	-	-	-	-
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
TOTAL	4,999,610	-	-	4,999,610	4,973,315	26,295	99.5%	4,407,003	4,403,472

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

	2012/13			2011/12	
	Final Appropriation	Actual Expenditure		Final Appropriation	Actual Expenditure
TOTAL (brought forward)	4,999,610	4,973,315		4,407,003	4,403,472
Reconciliation with Statement of Financial Performance					
ADD					
Departmental receipts	1,219			1,365	
Direct Exchequer receipts	-			-	
Aid assistance	34,829			128,870	
Actual amounts per Statement of Financial Performance (Total Revenue)	5,035,658			4,537,238	
ADD					
Aid assistance		29,922			122,321
Direct Exchequer payments		-			-
Prior year unauthorised expenditure approved without funding		-			-
Actual amounts per Statement of Financial Performance (Total Expenditure)		5,003,237			4,525,793

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per economic classification									
2012/13								2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	247,588	-	(23,609)	223,979	221,767	2,212	99.0%	208,679	207,164
Goods and services	161,727	-	4,001	165,728	164,615	1,113	99.3%	140,315	138,283
Interest and rent on land	-	-	376	376	376	-	100%	472	470
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	2,844,653	-	23,513	2,868,166	3,011,927	(143,761)	105.0%	2,633,187	2,599,251
Universities and universities of technology	-	-	-	-	153,642	(153,642)	-	6,952	151,093
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	1,015,740	-	-	1,015,740	1,350,541	(334,801)	133.0%	929,909	1,245,807
Non-profit institutions	727,327	-	(8,513)	718,814	63,305	655,509	8.8%	480,830	53,645
Households	-	-	260	260	630	(370)	242.3%	304	630
Gifts and donations	-	-	-	-	-	-	-	-	-
Payments for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	2,575	-	3,950	6,525	6,490	35	99.5%	6,172	6,946
Heritage assets	-	-	-	-	-	-	-	-	-
Specialised military assets	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payments for financial assets	-	-	22	22	22	-	100.0%	183	183
Total	4,999,610	-	-	4,999,610	4,973,315	26,295	99.5%	4,407,003	4,403,472

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1.1 Ministry									
Current payment	3,669	-	(100)	3,569	2,790	779	78.2%	3,453	3,453
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
1.2 Management									
Current payment	84,647	-	(20,677)	63,970	63,924	46	99.9%	61,493	60,704
Transfers and subsidies	1,000	-	21	1,021	850	171	83.3%	1,047	1,010
Payment for capital assets	912	-	170	1,082	1,077	5	99.5%	1,989	1,989
Payment for financial assets	-	-	2	2	1	1	50.0%	-	-
1.3 Corporate Services									
Current payment	125,593	-	17,885	143,478	143,475	3	100.0%	117,197	116,896
Transfers and subsidies	-	-	80	80	79	1	98.8%	26	26
Payment for capital assets	1,001	-	2,336	3,337	3,334	3	99.9%	1,956	2,744
Payment for financial assets	-	-	9	9	9	100.0%	-	-	-
1.4 Governance									
Current payment	8,254	-	(1,700)	6,554	6,479	75	98.9%	5,811	5,811
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	157	-	(25)	132	115	17	87.1%	47	47
Payment for financial assets	-	-	-	-	-	-	-	-	-

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
2012/13								2011/12	
Detail per subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1.5 Office Accommodation									
Current payment	4,196	-	(1,058)	3,138	3,137	1	100.0%	2,876	2,876
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	229,429	-	(3,057)	226,372	225,270	1,102	99.5%	195,895	195,556

Appropriation per programme									
2012/13								2011/12	
Programme 1 per economic classification	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	120,896	-	(8,975)	111,921	111,328	593	99.5%	103,214	102,916
Goods and services	105,463	-	3,082	108,545	108,232	313	99.7%	87,334	86,543
Interest and rent on land	-	-	243	243	243	-	100.0%	282	281
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Universities and universities of technology	-	-	-	-	-	-	-	-	264
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Public corporations and private enterprises	-	-	-	-	500	(500)	-	-	-
Non-profit institutions	1,000	-	-	1,000	329	671	32.9%	1,000	698
Households	-	-	101	101	101	-	100.0%	73	74
Gifts and donations	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	2,070	-	2,481	4,551	4,526	25	99.5%	3,992	4,780
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	11	11	11	-	100.0%	-	-
Total	229,429	-	(3,057)	226,372	225,270	1,102	99.5%	195,895	195,556

Appropriation Statements (For the year ended 31 March 2013) *Continued....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
2.1 Space Science									
Current payment	10,953	-	(1,450)	9,503	9,458	45	99.5%	12,671	12,671
Transfers and subsidies	362,611	-	30,042	392,653	392,653	-	100.0%	118,001	118,001
Payment for capital assets	29	-	54	83	83	-	100.0%	108	108
Payment for financial assets	-	-	-	-	-	-	-	-	-
2.2 Hydrogen and Energy									
Current payment	9,548	-	(1,880)	7,668	7,655	13	99.8%	9,436	9,400
Transfers and subsidies	136,377	-	(9,114)	127,263	124,135	3,128	97.5%	136,187	136,183
Payment for capital assets	87	-	4	91	91	-	100.0%	58	58
Payment for financial assets	-	-	-	-	-	-	-	-	-
2.3 Biotechnology and Health									
Current payment	13,414	-	433	13,847	13,847	-	100.0%	9,700	9,681
Transfers and subsidies	115,051	-	(5,648)	109,403	109,098	305	99.7%	93,180	92,981
Payment for capital assets	87	-	(21)	66	62	4	93.9%	82	82
Payment for financial assets	-	-	-	-	-	-	-	-	-
2.4 Innovation Planning and Instruments									
Current payment	16,103	-	(2,103)	14,000	13,972	28	99.8%	11,597	11,357
Transfers and subsidies	478,519	-	7,000	485,519	485,504	15	100.0%	463,974	463,974
Payment for capital assets	28	-	259	287	287	-	100.0%	448	448
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	1,142,807		17,576	1,160,383	1,156,845	3,538	99.7%	855,442	854,944

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
Programme 2 per economic classification	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	32,617	-	(6,930)	25,687	25,610	77	99.7%	25,519	25,227
Goods and services	17,401	-	1,900	19,301	19,293	8	100.0%	17,837	17,835
Interest and rent on land	-	-	30	30	30	-	100.0%	48	48
Transfers and subsidies to:									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	695,483	-	33,401	728,884	936,441	(207,557)	128.5%	631,727	640,282
Universities and universities of technology	-	-	-	-	94,277	(94,277)	-	6,952	105,064
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	65,581	(65,581)	-	5,928	60,096
Non-profit institutions	397,075	-	(11,213)	385,862	14,999	370,863	3.9%	166,735	5,697
Households	-	-	92	92	92	-	100.0%	-	-
Gifts and donations	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	231	-	296	527	522	5	99.1%	696	695
Heritage assets	-	-	-	-	-	-	-	-	-
Specialised military assets	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	1,142,807	-	17,576	1,160,383	1,156,845	3,538	99.7%	855,442	854,944

Appropriation Statements (For the year ended 31 March 2013) *Continued....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
3.1 Multilateral Cooperation and Africa									
Current payment	16,822	-	470	17,292	17,287	5	100.0%	15,331	15,157
Transfers and subsidies	41,043	-	-	41,043	41,043	-	100.0%	43,740	43,740
Payment for capital assets	-	-	105	105	103	2	98.1%	235	235
Payment for financial assets	-	-	-	-	-	-	-	-	-
3.2 International Resources									
Current payment	24,175	-	(5,820)	18,355	17,742	613	96.7%	15,917	15,868
Transfers and subsidies	26,759	-	-	26,759	26,707	52	99.8%	26,661	26,610
Payment for capital assets	-	-	270	270	267	3	98.9%	132	132
Payment for financial assets	-	-	-	-	-	-	-	-	-
3.3 Overseas Bilateral Cooperation									
Current payment	18,918	-	2,650	21,568	21,521	47	99.8%	17,197	17,197
Transfers and subsidies	11,600	-	-	11,600	11,600	-	100.0%	13,202	13,202
Payment for capital assets	-	-	248	248	248	-	100.0%	147	135
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	139,317	-	(2,077)	137,240	136,518	722	99.5%	132,562	132,276

Appropriation Statements (For the year ended 31 March 2013) *Continued....*

Appropriation per programme									
2012/13								2011/12	
Programme 3 per economic classification	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	35,467	-	(1,200)	34,267	33,934	333	99.0%	31,880	31,836
Goods and services	24,448	-	(1,535)	22,913	22,581	332	98.6%	16,503	16,324
Interest and rent on land	-	-	35	35	35	-	100.0%	62	62
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	33,643	-	-	33,643	50,217	(16,574)	149.3%	32,440	52,278
Universities and universities of technology	-	-	-	-	13,788	(13,788)	-	-	5,612
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	12,453	(12,453)	-	-	22,545
Non-profit institutions	45,759	-	-	45,759	2,892	42,867	6.3%	50,932	2,886
Households	-	-	-	-	-	-	-	231	231
Gifts and donations	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	623	623	618	5	99.2%	514	502
Heritage assets	-	-	-	-	-	-	-	-	-
Specialised military assets	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	139,317	-	(2,077)	137,240	136,518	722	99.5%	132,562	132,276

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
4.1 Human Capital and Science Platforms									
Current payment	16,672	-	(2,941)	13,731	13,645	86	99.4%	13,019	12,768
Transfers and subsidies	1,417,164	-	(7,188)	1,409,976	1,408,754	1,222	99.9%	1,395,312	1,395,211
Payment for capital assets	-	-	122	122	121	1	99.2%	49	49
Payment for financial assets	-	-	11	11	11	-	100.0%	-	-
4.2 Indigenous Knowledge Systems									
Current payment	8,275	-	940	9,215	9,206	9	99.9%	9,242	8,623
Transfers and subsidies	19,160	-	26	19,186	18,505	681	96.5%	8,726	8,726
Payment for capital assets	116	-	(78)	38	38	-	100.0%	97	97
Payment for financial assets	-	-	-	-	-	-	-	-	-
4.3 Emerging Research Areas and Infrastructure									
Current payment	5,066	-	1,295	6,361	6,357	4	99.9%	7,141	6,941
Transfers and subsidies	598,220	-	22	598,242	582,167	16,075	97.3%	523,757	523,752
Payment for capital assets	-	-	151	151	151	-	100.0%	167	167
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	2,064,673	-	(7,640)	2,057,033	2,038,955	18,078	99.1%	1,957,510	1,956,334

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
Programme 4 per economic classification	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	24,647	-	(2,338)	22,309	22,239	70	99.7%	20,643	20,565
Goods and services	5,366	-	1,609	6,975	6,945	30	99.6%	8,717	7,725
Interest and rent on land	-	-	23	23	23	-	100.0%	42	41
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	1,621,105	-	(9,888)	1,611,217	1,580,417	30,800	98.1%	1,560,922	1,509,605
Universities and universities of technology	-	-	-	-	40,944	(40,944)	-	-	27,965
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	129,946	-	-	129,946	352,317	(222,371)	271.1%	104,710	352,659
Non-profit institutions	283,493	-	2,700	286,193	35,455	250,738	12.4%	262,163	37,261
Households	-	-	48	48	293	(245)	610.4%	-	200
Gifts and donations	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	116	-	195	311	311	-	100.0%	313	313
Heritage assets	-	-	-	-	-	-	-	-	-
Specialised military assets	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	11	11	11	-	100.0%	-	-
Total	2,064,673	-	(7,640)	2,057,033	2,038,955	18,078	99.1%	1,957,510	1,956,334

Appropriation Statements (For the year ended 31 March 2013) *Continued....*

Appropriation per programme									
Detail per subprogramme	2012/13							2011/12	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
5.1 S&T for Economic Impact									
Current payment	21,255	-	(355)	20,900	20,606	294	98.6%	19,919	18,624
Transfers and subsidies	1,009,041	-	-	1,009,041	1,007,972	1,069	99.9%	921,221	920,910
Payment for capital assets	-	-	390	390	387	3	99.2%	405	404
Payment for financial assets	-	-	-	-	-	-	-	-	-
5.2 S&T for Social Impact									
Current payment	9,766	-	(2,707)	7,059	6,765	294	95.8%	7,502	6,363
Transfers and subsidies	348,101	-	-	348,101	347,929	172	100.0%	287,048	286,998
Payment for capital assets	84	-	7	91	91	-	100.0%	20	20
Payment for financial assets	-	-	-	-	-	-	-	183	183
5.3 S&T Investment									
Current payment	11,989	-	(2,121)	9,868	8,893	975	90.1%	9,964	11,528
Transfers and subsidies	23,074	-	19	23,093	23,049	44	99.8%	19,100	19,100
Payment for capital assets	74	-	(35)	39	35	44	89.7%	232	232
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	1,423,384	-	(4,802)	1,418,582	1,415,727	2,855	99.8%	1,265,594	1,264,362

Appropriation Statements (For the year ended 31 March 2013) *Continued.....*

Appropriation per programme									
2012/13								2011/12	
Programme 5 per economic classification	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Current payments									
Compensation of employees	33,961	-	(4,166)	29,795	28,656	1,139	96.2%	27,423	26,620
Goods and services	9,049	-	(1,055)	7,994	7,564	430	94.6%	9,924	9,856
Interest and rent on land	-	-	45	45	45	-	100%	38	38
Transfers and subsidies									
Provinces and municipalities	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	494,422	-	-	494,422	444,852	49,570	90.0%	408,098	397,086
Universities and universities of technology	-	-	-	-	4,633	(4,633)	-	-	12,188
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	885,794	-	-	885,794	919,690	(33,896)	103.8%	819,271	810,507
Non-profit institutions	-	-	-	-	9,630	(9,630)	-	-	7,103
Households	-	-	19	19	144	(125)	757.9%	-	125
Gifts and donations	-	-	-	-	-	-	-	-	-
Payment for capital assets									
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	158	-	355	513	513	-	100.0%	657	656
Heritage assets	-	-	-	-	-	-	-	-	-
Specialised military assets	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	183	183
Total	1,423,384	-	(4,802)	1,418,582	1,415,727	2,855	99.8%	1,265,594	1,264,362

Notes to the Appropriation Statements (For the year ended 31 March 2013)

1. Detail of transfers and subsidies as per Appropriation Act (after virement):

Detail of these transactions can be viewed in the note Transfers and subsidies, disclosure notes and Annexure 1 (C, D, E, G, H and K) to the Annual Financial Statements.

2. Detail of specifically and exclusively appropriated amounts voted (after virement):

Detail of these transactions can be viewed in note 1 (Annual Appropriation) to the Annual Financial Statements.

3. Detail on financial transactions in assets and liabilities

Detail of these transactions per programme can be viewed in the note to payments for financial in assets to the Annual Financial Statements.

4. Explanations of material variances from amounts voted (after virement):

4.1 Per programme

	Final appropriation	Actual expenditure	Variance R'000	Variance as a % of final appropriation
	R'000	R'000	R'000	%
Socio-Economic Partnerships				
Compensation of employees	29,795	28,656	1,139	4%
Good and services	7,994	7,564	430	5%

The underspending in Programme 5: Socio-Economic Partnerships is due to staff turnover, resultant administrative costs and delays in procurement of goods and services.

Notes to the Appropriation Statements (For the year ended 31 March 2013) *Continued...*

4.2 Per economic classification	Final appropriation	Actual expenditure	Variance R'000	Variance as a % of final appropriation
	R'000	R'000	R'000	%
Current payments				
Compensation of employees	223,979	221,767	2,212	1%
Goods and services	165,728	164,615	1,113	1%
Interest and rent on land	376	376	-	-
Unauthorised expenditure approved	-	-	-	-
Transfers and subsidies				
Departmental agencies and accounts	2,868,166	3,011,927	(143,761)	(5%)
Universities and universities of technology	-	153,642	(153,642)	-
Public corporations and private enterprises	1,412,815	1,350,542	62,273	4%
Non-profit institutions	321,739	63,305	258,434	80%
Households	260	630	(370)	(142%)
Payments for capital assets				
Machinery and equipment	6,525	6,490	35	1%
Payments for financial assets	22	22	-	-

Statement of Financial Performance (For the year ended 31 March 2013)

PERFORMANCE	<i>Note</i>	2012/13	2011/12
		R'000	R'000
REVENUE			
Annual appropriation	1	4 999 610	4,407,003
Departmental revenue	2	1,219	1,365
Aid assistance	3	34,829	128,870
TOTAL REVENUE		5,035,658	4,537,238
EXPENDITURE			
Current expenditure			
Compensation of employees	4	221,767	207,164
Goods and services	5	164,615	138,283
Interest and rent on land	6	376	470
Aid assistance	3	4,692	5,718
Total current expenditure		391,450	351,635
Transfers and subsidies			
Transfers and subsidies	8	4,580,045	4,050,426
Aid assistance	3	25,211	116,580
Total transfers and subsidies		4,605,256	4,167,006
Expenditure for capital assets			
Tangible capital assets	9	6,509	6,969
Total expenditure for capital assets		6,509	6,969
Payment for financial assets	7	22	183
TOTAL EXPENDITURE		5,003,237	4,525,793
SURPLUS FOR THE YEAR		32,421	11,445

Statement of Financial Performance (For the year ended 31 March 2013) *Continued...*

PERFORMANCE	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Reconciliation of net surplus for the year			
Voted funds		26,295	3,531
Departmental revenue	14	1,219	1,365
Aid assistance	3	4,907	6,549
SURPLUS FOR THE YEAR		32,421	11,445

Statement of Financial Position (For the year ended 31 March 2013)

POSITION	Note	2012/13 R'000	2011/12 R'000
ASSETS			
Current assets		31,492	10,054
Cash and cash equivalents	10	30,649	9,237
Prepayments and advances	11	142	200
Receivables	12	701	617
TOTAL ASSETS		31,492	10,054
LIABILITIES			
Current liabilities		31,351	9,947
Voted funds to be surrendered to the Revenue Fund	13	26,295	3,554
Departmental revenue to be surrendered to the Revenue Fund	14	11	7
Payables	15	160	28
Aid assistance repayable	3	4,885	6,358
TOTAL LIABILITIES		31,351	9,947
NET ASSETS		141	107
Represented by:			
Recoverable revenue		141	107
TOTAL		141	107

Statement of Changes in Net Assets (For the year ended 31 March 2013)

NET ASSETS	<i>Note</i>	2012/13	2010/11
		R'000	R'000
Recoverable revenue			
Opening balance		107	50
Transfers:		34	57
Debts revised		2	2
Debts recovered (included in departmental receipts)		(94)	(7)
Debts raised		126	62
Closing balance		141	107
TOTAL		141	107

Cash Flow Statement (For the year ended 31 March 2013)

CASH FLOW	<i>Note</i>	2012/13	2011/12
		R'000	R'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts		5,035,081	4,536,981
Annual appropriated funds received	1.1	4,999,610	4,407,003
Departmental revenue received	2	642	1,108
Aid assistance received	3	34,829	128,870
Net decrease in working capital		106	63
Surrendered to Revenue Fund		(4,769)	(77,195)
Surrendered to RDP Fund/Donor		(6,380)	(29,110)
Current payments		(391,450)	(351,635)
Payments for financial assets		(22)	(183)
Transfers and subsidies paid		(4,605,256)	(4,167,006)
Net cash flow available from operating activities	16	27,310	(88,085)
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments for capital assets	9	(6,509)	(6,969)
Proceeds from sale of capital assets	2.3	577	257
Net cash flows from investing activities		(5,932)	(6,712)
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase/(decrease) in net assets		34	57
Net cash flows from financing activities		34	57
Net increase/(decrease) in cash and cash equivalents		21,412	(94,740)
Cash and cash equivalents at the beginning of the period		9,237	103,977
Cash and cash equivalents at end of period	17	30,649	9,237

Accounting Policies (For the year ended 31 March 2013)

The Financial Statements have been prepared in accordance with the following policies, which have been applied consistently in all material aspects, unless otherwise indicated. However, where appropriate and meaningful, additional information has been disclosed to enhance the usefulness of the Financial Statements and to comply with the statutory requirements of the Public Finance Management Act, 1999, and the Treasury Regulations issued in terms of the Act and the Division of Revenue Act, 2010.

1. Presentation of the Financial Statements

1.1 Basis of preparation

The Financial Statements have been prepared on a modified cash basis of accounting. Under this basis, the effects of transactions and other events are recognised in the financial records when the resulting cash is received or paid. The "modification" results from the recognition of certain near-cash balances in the financial statements as well as the revaluation of foreign investments and loans and the recognition of resulting revaluation gains and losses.

In addition supplementary information is provided in the disclosure notes to the financial statements where it is deemed to be useful to the users of the financial statements.

1.2 Presentation currency

All amounts have been presented in South African Rand (R), which is also the functional currency of the Department.

1.3 Rounding

Unless otherwise stated all financial figures have been rounded to the nearest one thousand Rand (R'000).

1.4 Comparative figures

Prior period comparative information has been presented in the current year's financial statements. Where necessary, figures included in the prior period financial statements have been reclassified to ensure that the format in which the information is presented is consistent with the format of the current year's financial statements.

1.5 Comparative figures - Appropriation Statement

A comparison between actual amounts and final appropriation per major classification of expenditure is included in the Appropriation Statement.

2. Revenue

2.1 Appropriated funds

Appropriated funds are recognised in the financial records on the date the appropriation becomes effective. Adjustments to the appropriated funds made in terms of the adjustments budget process are recognised in the financial records on the date the adjustments become effective.

Total appropriated funds are presented in the Statement of Financial Performance.

Unexpended appropriated funds are surrendered to the National Revenue Fund. Amounts owing to the National Revenue Fund at the end of the financial year are recognised in the Statement of Financial Position.

2.2 Departmental revenue

All departmental revenue is recognised in the Statement of Financial Performance when received and is subsequently paid into the National Revenue Fund when received, unless otherwise stated.

Any amount owing to the National Revenue Fund at the end of the financial year is recognised as payable in the Statement of Financial Position.

No accrual is made for receivables from the last receipt date to the end of the reporting period. These amounts are, however, disclosed in the disclosure note to the Annual Financial Statements.

2.2.1 Sales of goods and services other than capital assets

The proceeds received from the sale of goods and/or the provision of services is recognised in the Statement of Financial Performance when the cash is received.

2.2.2 Interest, dividends and rent on land

Interest, dividends and rent on land is recognised in the Statement of Financial Performance when the cash is received.

2.2.3 Sale of capital assets

The proceeds received on sale of capital assets are recognised in the Statement of Financial Performance when the cash is received.

2.2.4 Financial transactions in assets and liabilities

Repayments of loans and advances previously extended to employees and public corporations for policy purposes are recognised as revenue in the Statement of Financial Performance on receipt of the funds.

Cheques issued in previous accounting periods that expire before being banked are recognised as revenue in the Statement of Financial Performance when the cheque becomes stale. When the cheque is reissued the payment is made from Revenue.

2.3 Direct Exchequer receipts/payments

All direct exchequer receipts are recognised in the Statement of Financial Performance when cash is received and subsequently paid into the National Revenue Fund, unless otherwise stated.

2.4 Aid assistance

Aid assistance is recognised as revenue when received.

All in-kind aid assistance is disclosed at fair value on the date of receipt in the annexures to the Annual Financial Statements.

The cash payments made during the year relating to aid assistance projects are recognised as expenditure in the Statement of Financial Performance when final authorisation for payments is effected on the system (by no later than 31 March of each year).

The value of the assistance expensed prior to the receipt of the funds is recognised as a receivable in the Statement of Financial Position.

Inappropriately expensed amounts using aid assistance and any unutilised amounts are recognised as payables in the Statement of Financial Position.

3. Expenditure

3.1 Compensation of employees

3.1.1 Short-term employee benefits

The costs of short-term employee benefits are expensed in the Statement of Financial Performance when final authorisation for payment is effected on the system (by no later than 31 March of each year).

Short-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the Financial Statements. These amounts are not recognised in the Statement of Financial Performance or Position.

Employee costs are capitalised to the cost of a capital project when an employee spends more than 50% of his/her time in the project.

3.1.2 Post-retirement benefits

The Department provides retirement benefits (pension benefits) for certain of its employees through a defined benefit plan for government employees. These benefits are funded by both employer and employee contributions.

Employer contributions (i.e. social contributions) to the fund are expensed when the final authorisation for payment to the fund is effected on the system (by no later than 31 March of each year).

No provision is made for retirement benefits in the Financial Statements of the Department. Any potential liabilities are disclosed in the financial statements of the National Revenue Fund and not in the financial statements of the employer department.

Social contributions (such as medical benefits) made by the Department for certain of its employees are classified as transfers to households in the Statement of Financial Performance.

3.1.3 Termination benefits

Termination benefits (such as severance packages) are recognised as an expense in the Statement of Financial Performance as a transfer (to households) when the final authorisation for payment is effected on the system (by no later than 31 March of each year).

3.1.4 Other long-term employee benefits

Other long-term employee benefits (such as capped leave) are recognised as an expense in the Statement of Financial Performance as a transfer (to households) when the final authorisation for payment is effected on the system (by no later than 31 March of each year).

Long-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the Financial Statements. These amounts are not recognised in the Statement of Financial Performance or Position.

3.2 Goods and services

Payments made for goods and/or services are recognised as an expense in the Statement of Financial Performance when the final authorisation for payment is effected on the system (by no later than 31 March of each year).

The expense is classified as capital if the goods and services were used for a capital project or when an asset of R5 000 or more is purchased. All other expenditures are classified as current.

3.3 Interest and rent on land

Interest and rental payments are recognised as an expense in the Statement of Financial Performance when the final authorisation for payment is effected on the system (by no later than 31 March of each year). This item excludes rental for use of building or other fixed structures.

3.4 Financial transactions in assets and liabilities

Debts are written off when identified as irrecoverable. Debts written off are limited to the amount of savings and/or underspending of appropriated funds. The write-off occurs at year-end or when funds are available. No provision is made for irrecoverable amounts but amounts are disclosed as a disclosure note.

All other losses are recognised when authorisation has been granted for the recognition thereof.

3.5 Transfers and subsidies

Transfers and subsidies are recognised as an expense when the final authorisation for payment is effected on the system (by no later than 31 March of each year).

3.6 Unauthorised expenditure

When confirmed, unauthorised expenditure is recognised as an asset in the Statement of Financial Position until such time as the expenditure is either approved by the relevant authority, recovered from the responsible person or written off as irrecoverable in the Statement of Financial Performance.

Unauthorised expenditure approved with funding is derecognised from the Statement of Financial Position when the unauthorised expenditure is approved and the related funds are received.

Where the amount is approved without funding, it is recognised as expenditure in the Statement of Financial Performance on the date of approval.

3.7 Fruitless and wasteful expenditure

Fruitless and wasteful expenditure is recognised as expenditure in the Statement of Financial Performance according to the nature of the payment and not as separate line item on the face of the statement. If the expenditure is recoverable it is treated as an asset until recovered from the responsible person or written off as irrecoverable in the Statement of Financial Performance.

3.8 Irregular expenditure

Irregular expenditure is recognised as expenditure in the Statement of Financial Performance. If the expenditure is not condoned by the relevant authority it is treated as an asset until it is recovered or written off as irrecoverable.

4. Assets

4.1 Cash and cash equivalents

Cash and cash equivalents are carried in the Statement of Financial Position at cost.

Bank overdrafts are shown separately on the face of the Statement of Financial Position.

For the purposes of the Cash Flow Statement, cash and cash equivalents comprise cash on hand, deposits held, other short-term highly liquid investments and bank overdrafts.

4.2 Other financial assets

Other financial assets are carried in the Statement of Financial Position at cost.

4.3 Prepayments and advances

Amounts prepaid or advanced are recognised in the Statement of Financial Position when the payments are made and where goods and services have not been received by the year-end.

Pre-payments and advances outstanding at the end of the year are carried in the Statement of Financial Position at cost.

4.4 Receivables

Receivables included in the Statement of Financial Position arise from cash payments made that are recoverable from another party or from the sale of goods/rendering of services.

Receivables outstanding at year-end are carried in the Statement of Financial Position at cost. Amounts that are potentially irrecoverable are included in the disclosure notes.

4.5 Loans

Loans are recognised in the Statement of Financial Position when the cash is paid to the beneficiary. Loans that are outstanding at year-end are carried in the Statement of Financial Position at cost plus accrued interest.

4.6 Inventory

Inventories that qualify for recognition must be initially reflected at cost. When inventories are acquired at no cost, or no nominal consideration, their cost will be their fair value at the date of acquisition.

All inventory items at year-end are reflected using the weighted average cost formula.

4.7 Capital assets

4.7.1 Movable assets

Initial recognition

A capital asset is recorded, on receipt of the item, at cost. Cost of an asset is defined as the total cost of acquisition. Where the cost cannot be determined accurately, the movable capital asset is stated at fair value. Where fair value cannot be determined, the capital asset is included in the asset register at R1.

All assets acquired prior to 1 April 2002 are included in the asset register at R1.

Subsequent recognition

Subsequent expenditure of a capital nature is recorded in the Statement of Financial Performance as "expenditure for capital asset" and is capitalised in the asset register of the Department on completion of the project.

Repairs and maintenance is expensed as current "goods and services" in the Statement of Financial Performance.

4.7.2 Immovable assets

Initial recognition

A capital asset is recorded, on receipt of the item, at cost. Cost of an asset is defined as the total cost of acquisition. Where the cost cannot be determined accurately, the immovable capital asset is stated at R1 unless the fair value for the asset has been reliably estimated.

Subsequent recognition

Work-in-progress of a capital nature is recorded in the Statement of Financial Performance as "expenditure for capital asset". On completion, the total cost of the project is included in the asset register of the department that legally owns the asset or the National Department of Public Works.

Repairs and maintenance is expensed as current "goods and services" in the Statement of Financial Performance.

5. Liabilities

5.1 Payables

Recognised payables mainly comprise amounts owing to other governmental entities. These payables are recognised at cost in the Statement of Financial Position.

5.2 Contingent liabilities

Contingent liabilities are included in the disclosure notes to the Financial Statements when it is possible that economic benefits will flow from the Department, or when an outflow of economic benefits or service potential is probable but cannot be measured reliably.

5.3 Commitments

Commitments are not recognised in the Statement of Financial Position as a liability or as expenditure in the Statement of Financial Performance but are included in the disclosure notes.

5.4 Accruals

Accruals are not recognised in the Statement of Financial Position as a liability or as expenditure in the Statement of Financial Performance but are included in the disclosure notes.

5.5 Employee benefits

Short-term employee benefits that give rise to a present legal or constructive obligation are disclosed in the disclosure notes to the Financial Statements. These amounts are not recognised in the Statement of Financial Performance or the Statement of Financial Position.

5.6 Lease commitments

Finance leases

Finance leases are not recognised as assets and liabilities in the Statement of Financial Position. Finance lease payments are recognised as a capital expense in the Statement of Financial Performance and are not apportioned between the capital and interest portions. The total finance lease payment is disclosed in the disclosure notes to the Financial Statements.

Operating leases

Operating lease payments are recognised as an expense in the Statement of Financial Performance. The operating lease commitments are disclosed in the disclosure notes to the Financial Statements.

5.7 Provisions

Provisions are disclosed when there is a present legal obligation or constructive obligation to forfeit economic benefits as a result of events in the past, and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and so that a reliable estimate of the obligation can be made.

6. Receivables for departmental revenue

Receivables for departmental revenue are disclosed in the disclosure notes to the Annual Financial Statements. These receivables are written off when identified as irrecoverable and are disclosed separately.

7. Net assets

Capitalisation reserve

The capitalisation reserve comprises financial assets and/or liabilities originating in a prior reporting period but which are recognised in the Statement of Financial Position for the first time in the current reporting period. Amounts are recognised in the capitalisation reserve when identified in the current period and are transferred to the National Revenue Fund when the underlining asset is disposed of and the related funds are received.

The Department did not have a capitalised reserve in the current reporting period.

Recoverable revenue

Amounts are recognised as recoverable revenue when a payment made in a previous financial year becomes recoverable from a debtor in the current financial year. Amounts are either transferred to the National Revenue Fund when recovered or transferred to the Statement of Financial Performance when written-off.

8. Related party transactions

Specific information with regard to related party transactions is included in the disclosure notes.

9. Key management personnel

Compensation paid to key management personnel, including their family members where relevant, is included in the disclosure notes.

10. Public Private Partnerships

The Department did not have any public-private partnerships in the current reporting period.

Notes to the Annual Financial Statements (For the year ended 31 March 2013)

1. Annual appropriation

1.1 Annual appropriation

Included are funds appropriated in terms of the Appropriation Act (and the Adjustments Appropriation Act) for National Departments (Voted funds):

	Final appropriation	2012/2013 Actual funds Received	Funds not requested/ not received	Appropriation received 2011/12
	R'000	R'000	R'000	R'000
Administration	226,372	226,372	-	195,505
Research, Development and Innovation	1,160,383	1,160,383	-	855,442
International Cooperation and Resources	137,240	137,240	-	132,952
Human Capital and Knowledge systems	2,057,033	2,057,033	-	1,957,510
Socio-Economic Partnerships	1,418,582	1,418,582	-	1,265,594
Total	4,999,610	4,999,610	-	4,407,003

2. Departmental revenue

	Note	2012/13 R'000	2011/12 R'000
Sales of goods and services other than capital assets	2.1	64	56
Interest, dividends and rent on land	2.2	81	7
Sale of capital assets	2.3	577	257
Transactions in financial assets and liabilities	2.4	497	1,045
Departmental revenue collected		1,219	1,365

2.1 Sales of goods and services other than capital assets

	Note	2012/13 R'000	2011/12 R'000
Other sales	2	64	56
Total		64	56

2.2 Interest, dividends and rent on land

	Note	2012/13 R'000	2011/12 R'000
Interest	2	81	7
Total		81	7

2.3 Sale of capital assets

	Note	2012/13 R'000	2011/12 R'000
Machinery and equipment	2	577	257
Total		577	257

2.4 Transactions in financial assets and liabilities

	Note	2012/13 R'000	2011/12 R'000
Receivables	2	-	7
Other receipts, including recoverable revenue		497	1,038
Total		497	1,045

3. Aid assistance

3.1 Aid assistance received in cash from RDP

	Note	2012/13 R'000	2011/12 R'000
Foreign			
Opening balance		6,358	28,919
Revenue		34,829	128,870
Expenditure		(29,922)	(122,321)
Current		(4,692)	(5,718)
Capital		(19)	(23)
Transfers		(25,211)	(116,580)
Surrender to RDP		(6,380)	(29,110)
Closing balance		4,885	6,358

3.2 Analysis of balance

	Note	2012/13 R'000	2011/12 R'000
Aid assistance repayable		4,885	6,358
RDP Fund		4,885	6,358
Closing balance		4,885	6,358

4. Compensation of employees

4.1 Salaries and wages

	Note	2012/13 R'000	2011/12 R'000
Basic salary		144,477	131,368
Performance award		5,952	6,551
Service-based		111	170
Compensative/circumstantial		1,856	2,260
Periodic payments		92	162
Other non-pensionable allowances		46,971	45,855
Total		199,459	186,366

4.2 Social contributions

	2012/13	2011/12
Note	R'000	R'000
Employer contributions		
Pension	17,364	16,013
Medical	4,923	4,758
Bargaining council	21	27
Total	22,308	20,798
Total compensation of employees	221,767	207,164
Average number of employees	384	386

5. Goods and services

	2012/13	2011/12
Note	R'000	R'000
Administrative fees	3,816	532
Advertising	14,959	14,036
Assets less than R5,000	5.1 179	394
Bursaries (employees)	1,248	1,366
Catering	3,227	1,194
Communication	4,553	6,183
Computer services	5.2 7,812	5,867
Consultants, contractors and agency/ outsourced services	5.3 31,039	33,940
Entertainment	871	810
Audit cost – external	5.4 3,316	2,715
Inventory	5.5 11,213	7,276
Operating leases	4,339	1,428
Owned and leasehold property expenditure	5.6 5,318	5,191
Rental and Hiring	1,918	90
Travel and subsistence	5.7 39,796	35,345
Venues and facilities	17,991	13,179
Training and staff development	5,943	4,199
Other operating expenditure	5.8 7,077	4,538
Total	164,615	138,283

5.1 Assets less than R5, 000

	2012/13	2011/12
Note	R'000	R'000
Tangible assets	179	394
Machinery and equipment	179	394
Total	179	394

5.2 Computer services

	Note	2012/13	2011/12
	5	R'000	R'000
SITA computer services		4,344	3,759
External computer service providers		3,468	2,108
Total		7,812	5,867

5.3 Consultants, contractors and agency/outsourced services

	Note	2012/13	2011/12
	5	R'000	R'000
Business and advisory services		2,130	3,779
Legal costs		234	723
Contractors		5,018	4,903
Agency and support/outsourced services		23,657	24,535
Total		31,039	33,940

5.4 Audit cost – External

	Note	2012/13	2011/12
	5	R'000	R'000
Regularity audits		3,316	2,715
Total		3,316	2,715

5.5 Inventory

	Note	2012/13	2011/12
	5	R'000	R'000
Other consumables		2,827	131
Materials and supplies		371	1,320
Stationery and printing		8,015	5,825
Total		11,213	7,276

5.6 Property payments

	Note	2012/13	2011/12
	5	R'000	R'000
Municipal services		549	494
Property management fees		2,377	2,331
Other		2,392	2,366
Total		5,318	5,191

5.7 Travel and subsistence

	Note	2012/13	2011/12
	5	R'000	R'000
Local		21,657	20,230
Foreign		18,139	15,115
Total		39,796	35,345

5.8 Other operating expenditure

	<i>Note</i>	2012/13	2011/12
	5	R'000	R'000
Professional bodies, membership and subscription fees		1,918	1,943
Resettlement costs		492	433
Gifts		3,131	801
Other		1,536	1,361
Total		7,077	4,538

6. Interest and rent on land

	2012/13	2011/12
	R'000	R'000
Interest paid	376	470
Total	376	470

7. Payments for financial assets

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Other material losses written off	7.1	22	183
Total		22	183

7.1 Other material losses written off

	<i>Note</i>	2012/13	2011/12
	7	R'000	R'000
Nature of losses			
Damages to hired vehicles		6	183
Bursary debt		7	-
Damages to official vehicles		9	-
Total		22	183

8. Transfers and subsidies

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Departmental agencies and accounts	<i>Annex 1C</i>	3,011,927	2,599,251
Universities and universities of technology	<i>Annex 1D</i>	153,642	151,093
Public corporations and private enterprises	<i>Annex 1E</i>	1,350,541	1,245,807
Non-profit institutions	<i>Annex 1G</i>	63,305	53,645
Households	<i>Annex 1H</i>	260	304
Gifts, donations and sponsorships made	<i>Annex 1K</i>	370	326
Total		4,580,045	4,050,426

9. Expenditure for capital assets

	Note	2012/13 R'000	2011/12 R'000
Tangible assets			
Machinery and equipment	9.1	6,509	6,969
Total		6,509	6,969

9.1 Analysis of funds utilised to acquire capital assets – 2012/13

	Voted funds R'000	Aid assistance R'000	Total R'000
Tangible assets			
Machinery and equipment	6,490	19	6,509
Total	6,490	19	6,509

The amount of R19 000 is in respect of the donor fund project "Innovation for Poverty Alleviation Programme" [Note 3.1 and Annexure 1J] funded by the European Union and is accounted for under a different fund of the Department. This amount is, however, not included in the Departmental Asset Register and the additions in Disclosure Note 27.1

9.2 Analysis of funds utilised to acquire capital assets – 2011/12

	Voted funds R'000	Aid assistance R'000	Total R'000
Machinery and equipment	6,946	23	6,969
Total assets acquired	6,946	23	6,969

10. Cash and cash equivalents

	Note	2012/13 R'000	2011/12 R'000
Consolidated Paymaster-General Account		30,616	9,204
Cash on hand		33	33
Total		30,649	9,237

11. Prepayments and Advances

	Note	2012/13 R'000	2011/12 R'000
Travel and subsistence		44	47
Advances paid		98	153
Total		142	200

11.1 Advances paid

	Note	2012/13 R'000	2011/12 R'000
National departments	Annex 8A	98	153
Total		98	153

12. Receivables

	Note	2012/13		2011/12		
		R'000	R'000	R'000	R'000	
		Less than one year	One to three years	Older than three years	Total	Total
Claims recoverable	12.1	129	39	19	187	103
Recoverable expenditure	12.2	27	109	203	339	366
Staff debt	12.3	92	39	44	175	148
Total		248	187	266	701	617

12.1 Claims recoverable

	Note	2012/13	2011/12
		R'000	R'000
National departments		165	81
Households and non-profit institutions		22	22
Total		187	103

12.2 Recoverable expenditure (disallowance accounts)

	Note	2012/13	2011/12
		R'000	R'000
Income tax debt		14	7
Persal salaries and stoppages		1	-
Damages to vehicles		324	325
Value-Added Tax (VAT) in respect of the Donor Fund Project "Innovation for Poverty Alleviation"		-	34
Total		339	366

12.3 Staff debt

	Note	2012/13	2011/12
		R'000	R'000
Bursary debt		98	95
Salary overpayment		26	10
Previous employees - Resettlement debt		43	41
Overtime overpayment		-	2
Other – lost overhead projector		8	-
Total		175	148

13. Voted funds to be surrendered to the Revenue Fund

	Note	2012/13	2011/12
		R'000	R'000
Opening balance		3,554	75,854
Transfer from statement of financial performance		26,295	3,531
Paid during the year		(3,554)	(75,831)
Closing balance		26,295	3,554

14. Departmental revenue to be surrendered to the Revenue Fund

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Opening balance		7	6
Transfer from Statement of Financial Performance		1,219	1,365
Paid during the year		(1,215)	(1,364)
Closing balance		11	7

15. Payables – current

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Clearing accounts	15.1	160	28
Total		160	28

15.1 Clearing accounts

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Personal salaries and stoppages		123	3
Income tax		33	25
Pension Fund		4	-
Total		160	28

16. Net cash flow available from operating activities

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Net surplus as per Statement of Financial Performance		32,421	11,445
Add back non-cash/cash movements not deemed operating activities		(5,111)	(99,530)
(Increase)/Decrease in receivables – current		(84)	(132)
(Increase)/Decrease in prepayments and advances		58	187
Increase/(Decrease) in payables – current		132	8
Proceeds from sale of capital assets		(577)	(257)
Expenditure on capital assets		6,509	6,969
Surrenders to Revenue Fund	13 & 14	(4,769)	(77,195)
Surrenders to Donor Fund		(6,380)	(29,110)
Voted funds not requested/not received		-	-
Net cash flow generated by operating activities		27,310	(88,085)

17. Reconciliation of cash and cash equivalents for cash flow purposes

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Consolidated Paymaster-General Account		30,616	9,204
Cash on hand		33	33
Total		30,649	9,237

Disclosure Notes to the Annual Financial Statements (For the year ended 31 March 2013)

18. Contingent liabilities

	Note	2012/13 R'000	2011/12 R'000
Liable to			
Claims against the department	Annex 3B	3,000	3,000
Total		3,000	3,000

19. Commitments

	Note	2012/13 R'000	2011/12 R'000
Current expenditure			
Approved and contracted		14,674	20,288
Approved but not yet contacted		13	94
		14,687	20,382
Capital expenditure			
Approved and contracted		142	1,137
		142	1,137
Total commitments		14,829	21,519

20. Accruals

		2012/13 R'000	2011/12 R'000
Listed by economic classification			
	30 days	30+ days	Total
Goods and services	4,525	479	5,004
Interest on rent and land	-	-	35
Machinery and equipment	-	7	628
Total	4,525	486	5,011

	Note	2012/13 R'000	2011/12 R'000
Listed by Programme			
Programme 1: Administration		2,838	1,136
Programme 2: Research, Development and Innovation		765	554
Programme 3: International Cooperation and Resources		616	70
Programme 4: Human Capital and Knowledge Systems		484	84
Programme 5: Socio-Economic Partnerships		308	29
Total		5,011	1,873

	Note	2012/13 R'000	2011/12 R'000
Confirmed balances with other departments	Annex 5	296	1,101
Total		296	1,101

21. Employee benefits

	<i>Note</i>	2012/13	2011/12
		R'000	R'000
Leave entitlement*		5,695	6,622
Service bonus (Thirteenth cheque)		4,887	4,401
Performance awards		3,360	3,415
Capped leave commitments		2,438	2,512
Total		16,380	16,950

*A negative amount of R529, 221.21 was offset against leave entitlement. The amount was as a result of pro-rata calculation of leave taken by employees as at the 31 March 2013. In terms of the pro-rata calculation employees are entitled to 5.49 days leave from January to 31 March. If an employee takes more leave this result in a negative leave taken for the three month period. This situation will be automatically rectified during the leave period.

22. Lease commitments

22.1 Operating leases expenditure

	Land	Buildings and other fixed structures	Machinery and equipment	Total
2012/13	R'000	R'000	R'000	R'000
Not later than 1 year	-	552	2,829	3,381
Later than 1 year and not later than 5 years	-	816	1,864	2,680
Total lease commitments	-	1,368	4,693	6,061

22.1 Operating leases expenditure

	Land	Buildings and other fixed structures	Machinery and equipment	Total
2011/12	R'000	R'000	R'000	R'000
Not later than 1 year	-	900	-	900
Later than 1 year and not later than 5 years	-	-	-	-
Total lease commitments	-	900	-	900

22.2 Finance leases expenditure

	Specialised military equipment	Land	Buildings and other fixed structures	Machinery and equipment	Total
2012/13	R'000	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	-	613	613
Later than 1 year and not later than 5 years	-	-	-	-	-
Later than five years	-	-	-	-	-
Total lease commitments	-	-	-	613	613

	Specialised military equipment	Land	Buildings and other fixed structures	Machinery and equipment	Total
2011/12	R'000	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	-	1,175	1,175
Later than 1 year and not later than 5 years	-	-	-	578	578
Later than five years	-	-	-	-	-
Total lease commitments	-	-	-	1,753	1,753
LESS: finance costs	-	-	-	332	332
Total present value of lease liabilities	-	-	-	1,421	1,421

23. Receivables for departmental revenue

<i>Note</i>	2012/13	2011/12
	R'000	R'000
Opening balance	-	-
Transfers received (including conditional grants to be repaid by provincial departments)	638	-
Total	638	-

Analysis for receivables for departmental revenue

<i>Note</i>	2012/13	2011/12
	R'000	R'000
Opening balance	-	-
Add: Amounts recognised	638	-
Total	638	-

24. Irregular expenditure

Reconciliation of irregular expenditure

<i>Note</i>	2012/13	2011/12
	R'000	R'000
Opening balance	-	-
Add: Irregular expenditure – relating to prior year	-	-
Add: Irregular expenditure – relating to current year	569	1,507
Less: Amounts recoverable (not condoned)	-	-
Less: Amounts not recoverable (not condoned)	(569)	(1,507)
Irregular expenditure awaiting condonation	-	-

Details of irregular expenditure – current year

Incident	Disciplinary steps taken/ criminal proceedings	2012/13
		R'000
Non-compliance with procurement processes	Investigating	483
Non-compliance with procurement processes	Investigating	86
Total		569

Details of irregular expenditure not recoverable (not condoned)

Incident	2012/13
	R'000
Goods and services were procured without obtaining SBD4 forms for declaration of interest.	483
A bid was not awarded to the lowest quote and there is not evidence that the specification was sent to all suppliers.	86
Total	569

25. Fruitless and wasteful expenditure

Reconciliation of fruitless and wasteful expenditure

<i>Note</i>	2012/13	2011/12
	R'000	R'000
Opening balance	60	110
Fruitless and wasteful expenditure – relating to prior year	-	(55)
Fruitless and wasteful expenditure – relating to current year	-	60
Less: Amounts resolved	(60)	(55)
Fruitless and wasteful expenditure awaiting condonation	-	60

Analysis of awaiting condonation per economic classification

	Note	2012/13 R'000	2011/12 R'000
Current		-	60
Total		-	60

25. Related party transactions

25.1 Public Entities under ownership control of the Department

The following entities are under the ownership control of the Department in terms of Chapter 1 of the Public Finance Management Act, 1999, and report to the Minister of Science and Technology, and as such are related parties to the Department:

Schedule 3A – National public entities

- Africa Institute of South Africa
- Human Sciences Research Council
- National Research Foundation
- South African National Space Agency
- Technology Innovation Agency

Schedule 3B – National government business enterprises

- Council for Scientific and Industrial Research

The Department's transactions with these entities are limited to transfer and subsidy payments. Annexures 1C and 1E to the Annual Financial Statement reflect payments to these public entities. Where transactions other than these occur, they occur within a normal supplier/client relationship in terms of the procurement procedures of the Department and the Public Finance Management Act, 1999.

25.2 Related party relationships with other departments

The Department has a related party relationship with the Department of Public Works. The Department of Public Works is providing office accommodation free of charge to the Department. The Memorandum of Understanding that stipulates the amount the Department of Public Works is spending on behalf of the Department of Science and Technology was not yet concluded at the end of 31 March 2013.

26. Key management personnel

	No. of individuals	2012/13 R'000	2011/12 R'000
Political office bearers (provide detail below)	2	2,790	3,468
Officials:			
Level 15 to 16	9	9,684	8,355
Level 14 (incl. CFO if at a lower level)	25	20,385	965
Total		32,859	12,788

The key management personnel do not qualify for any remuneration other than the approved remuneration structures for the different classes of key management personnel (political office bearers and officials)

27. Movable tangible capital assets

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2013

	Opening balance R'000	Curr. year adjustments to prior year balances R'000	Additions R'000	Disposals R'000	Closing balance R'000
2012/13					
MACHINERY AND EQUIPMENT	54,187	-	5,484	(4,083)	55,588
Transport assets	5,697	-	178	(2,748)	3,127
Computer equipment	24,162	-	4,328	(1,266)	27,224
Furniture and office equipment	12,906	-	317	(24)	13,199
Other machinery and equipment	11,422	-	661	(45)	12,038
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	54,187	-	5,484	(4,083)	55,588

27.1 Additions

ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2013

	Cash	Non-cash	(Capital work in progress current costs and finance lease payments)	Received current, not paid (Paid current year, received prior year)	Cash received actual
	Total		R'000		R'000
MACHINERY AND EQUIPMENT	6,509	-	(1,383)	358	5,484
Transport assets	-	-	-	178	178
Computer equipment	4,298	-	-	30	4,328
Furniture and office equipment	167	-	-	150	317
Other machinery and equipment	2,044	-	(1,383)	-	661
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	6,509	-	(1,383)	358	5,484

27.2 Disposals

DISPOSALS OF MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2013

	Sold for cash	Transfer out or destroyed or scrapped	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	(1,448)	(2,635)	(4,083)	(577)
Transport assets	(1,448)	(1,300)	(2,748)	(577)
Computer equipment	-	(1,266)	(1,266)	-
Furniture and office equipment	-	(24)	(24)	-
Other machinery and equipment	-	(45)	(45)	-
TOTAL DISPOSAL OF MOVABLE TANGIBLE CAPITAL ASSETS	(1,448)	(2,635)	(4,083)	(577)

27.3 Movement for 2011/12

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2012

	Opening balance	Curr. year adjustments to prior year balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000		R'000
MACHINERY AND EQUIPMENT	48,458	-	6,946	(1,217)	54,187
Transport assets	5,181	-	1,427	(911)	5,697
Computer equipment	20,475	-	3,687	-	24,162
Furniture and office equipment	11,478	-	1,734	(306)	12,906
Other machinery and equipment	11,324	-	98	-	11,422
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	48,458	-	6,946	(1,217)	54,187

27.4 Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2013

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	1,806	-	1,806
Current year adjustments to prior year balances	-	-	-	-	-
Additions	-	-	179	-	179
Disposals	-	-	(149)	-	(149)
TOTAL MINOR ASSETS	-	-	1,836	-	1,836

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Number of R1 minor assets	-	-	27	-	27
Number of minor assets at cost	-	-	114	-	114
Total	-	-	141	-	141

Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2012

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	1,412	-	1,412
Curr Year Adjustments to prior year balances	-	-	-	-	-
Additions	-	-	394	-	394
Disposals	-	-	-	-	-
Total	-	-	1,806	-	1,806

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Number of R1 minor assets	-	-	89	-	89
Number of minor assets at cost	-	-	271	-	271
Total	-	-	360	-	360

ANNEXURE 1C

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

DEPARTMENT/AGENCY/ACCOUNT	TRANSFER ALLOCATION				TRANSFER		2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Africa Institute of South Africa	33,643	-	-	33,643	33,643	100%	32,440
Agricultural Research Council	-	-	-	-	66,265	-	68,527
Council for Geoscience	-	-	-	-	3,500	-	78
Human Sciences Research Council	217,569	-	-	217,569	235,532	108%	223,285
National Research Foundation	1,983,122	-	-	1,983,122	2,026,420	102%	1,718,900
South African Medical Research Council	-	-	-	-	34,714	-	6,332
South African National Biodiversity Institute	-	-	-	-	-	-	2,700
South African National Energy Development Institute	9,000	-	-	9,000	6,000	67%	4,800
South African National Space Agency	144,120	-	-	144,120	142,128	99%	106,790
Technology Innovation Agency	467,288	-	-	467,288	463,325	99%	499,335
Water Research Commission	-	-	-	-	400	-	-
Total	2,854,742	-	-	2,854,742	3,011,927		2,663,187

ANNEXURE 1D

STATEMENT OF TRANSFERS TO UNIVERSITIES AND UNIVERSITIES OF TECHNOLOGY

UNIVERSITY/UNIVERSITY OF TECHNOLOGY	TRANSFER ALLOCATION				TRANSFER			2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	Amount not transferred	% of Available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000
Cape Peninsula University of Technology	-	-	-	-	1,050	(1,050)	-	-
Nelson Mandela Metropolitan University	-	-	-	-	1,932	(1,932)	-	-
North-West University	-	-	-	-	29,825	(29,825)	-	-
Tshwane University of Technology	-	-	-	-	1,647	(1,647)	-	-
University of Cape Town	-	-	-	-	31,548	(31,548)	-	-
University of Fort Hare	-	-	-	-	500	(500)	-	-
University of Free State	-	-	-	-	5,912	(5,912)	-	-
University of Johannesburg	-	-	-	-	505	(505)	-	-
University of KwaZulu-Natal	-	-	-	-	1,717	(1,717)	-	-
University of Pretoria	-	-	-	-	9,540	(9,540)	-	-
Rhodes University	-	-	-	-	100	(100)	-	-
University of South Africa	-	-	-	-	2,152	(2,152)	-	-
Stellenbosch University	-	-	-	-	8,155	(8,155)	-	-
University of the Western Cape	-	-	-	-	39,314	(39,314)	-	6,952
University of the Witwatersrand	-	-	-	-	17,670	(17,670)	-	-
University of Venda	-	-	-	-	675	(675)	-	-
University of Zululand	-	-	-	-	400	(400)	-	-
Vaal University of Technology	-	-	-	-	1,000	(1,000)	-	-
Total	-	-	-	-	153,642	(153,642)		6,952

ANNEXURE 1E

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

NAME OF PUBLIC CORPORATION/PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Capital	Current	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000	R'000
Public corporations									
Transfers									
Council for Minerals Technology (MINTEK)	51,597	-	-	51,597	51,597	100%	39,500	12,097	-
Council for Scientific and Industrial Research	221,391	-	-	221,391	491,720	222%	236,091	255,629	236,812
Nuclear Energy Corporation of South Africa	-	-	-	-	13,091	-	-	13,091	5,928
Subtotal	272,988	-	-	272,988	556,408		275,591	280,817	242,740
Subsidies									
Council for Scientific and Industrial Research	742,752	-	-	742,752	742,752	100%	-	742,752	687,169
Subtotal	742,752	-	-	742,752	742,752		-	742,752	687,169
Total	1,015,740	-	-	1,015,740	1,299,160		275,591	1,023,569	929,909

Annexures to the Annual Financial Statements (For the year ended 31 March 2013) *Continued.....*

NAME OF PUBLIC CORPORATION/PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Capital	Current	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000	R'000
Private enterprises: Transfers									
Da Vinci Institute for Technology	-	-	-	-	9,007	-	-	9,007	-
Denel (Pty) Ltd	-	-	-	-	1,507	-	-	1,507	-
Earth Rehabilitation Services CC	-	-	-	-	31	-	-	31	-
Pelchem (Pty) Ltd	-	-	-	-	19,123	-	-	19,123	-
Research Research Africa (Pty) Ltd	-	-	-	-	154	-	-	154	-
Task Applied Science CC	-	-	-	-	126	-	-	126	-
The Innovation Hub Management Company (Pty) Ltd	-	-	-	-	1,000	-	-	1,000	-
Wits Commercial Enterprise (Pty) Ltd	-	-	-	-	3,124	-	-	3,124	-
Wits Health Consortium (Pty) Ltd	-	-	-	-	17,309	-	-	17,309	-
Subtotal	-	-	-	-	51,381	-	-	51,381	-
Total	1,015,740	-	-	1,015,740	1,350,541	-	275,591	1,074,950	929,909

ANNEXURE 1G

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

	TRANSFER ALLOCATION				EXPENDITURE		2011/12
	Adjusted	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Appropriation Act
	Appropriation	R'000	R'000	R'000	R'000	%	R'000
NON-PROFIT INSTITUTIONS							
Transfers							
Academy of Science of South Africa	-	-	-	-	132	-	1,768
Aurum Institute for Health Research	-	-	-	-	-	-	500
Bakgatla Sports, Arts and Culture	-	-	-	-	-	-	500
Black Science, Technology and Engineering Professionals	8,200	-	-	8,200	8,200	100%	5,500
Centre for AIDS Programme of Research in South Africa Ltd	-	-	-	-	3,505	-	2,800
Fresh Produce Exporters' Forum	-	-	-	-	5,000	-	5,000
Indigenous Knowledge of South Africa Trust	-	-	-	-	500	-	300
Institute of Natural Resources	-	-	-	-	-	-	17
Interactive Science Foundation	-	-	-	-	-	-	5,000
International Centre for Genetic Engineering and Biotechnology	-	-	-	-	10,395	-	-
Knowledge Economic Network	-	-	-	-	697	-	-
M Gulumian	-	-	-	-	-	-	13
Mapunguwe Institute for Strategic Relations	-	-	-	-	-	-	1,000
National Health Laboratory Service	4,000	-	-	4,000	4,000	100%	3,000
National Science and Technology Forum	-	-	-	-	1,628	-	-
Pinedene School	-	-	-	-	-	-	98
Pretoria High School for Girls	-	-	-	-	40	-	-
Progressive Women's Movement	-	-	-	-	100	-	-
Secretariat of the African Decade of Persons with Disabilities (SADPD)	-	-	-	-	58	-	58
South African Institute of Physics	-	-	-	-	1,200	-	1,665

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

	TRANSFER ALLOCATION				EXPENDITURE		2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
NON-PROFIT INSTITUTIONS							
South African Institute of AMI	-	-	-	-	1,430	-	-
South African Mathematics Foundation	-	-	-	-	1,500	-	3,938
South African Society for Basic and Clinical Pharmacology	-	-	-	-	100	-	-
South African Weather Service	-	-	-	-	1,000	-	2,500
Southern African Association of Science and Technology Centres	-	-	-	-	150	-	1,000
Southern African Research and Innovation Management Association	-	-	-	-	184	-	1,536
The Grahamstown Foundation Association	-	-	-	-	2,000	-	-
The South African Institute of Mining and Metallurgy	-	-	-	-	-	-	1,103
The South African Institute of Tribology	-	-	-	-	-	-	200
Unallocated funds in non-profit organisations transferred to other items	691,454	-	-	691,454	-	-	427,185
Water Research Commission	-	-	-	-	-	-	197
Waternavorsingsfonds	-	-	-	-	1,900	-	-
World Meteorological Organisation	-	-	-	-	2,000	-	2,000
Subtotal	703,654	-	-	703,654	45,719		466,878
Subsidies							
Academy of Science of South Africa	13,584	-	-	13,584	17,586	129%	13,952
Subtotal	13,584	-	-	13,584	17,586		13,952
Total	717,238	-	-	717,238	63,305		480,830

ANNEXURE 1H

STATEMENT OF TRANSFERS TO HOUSEHOLDS

HOUSEHOLDS	TRANSFER ALLOCATION				EXPENDITURE		2011/12
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of Available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Transfers							
Leave gratuity: Badsha N	-	-	13	13	13	100%	-
Leave gratuity: Bareetseng S	-	-	27	27	27	100%	-
Leave gratuity: Dingoko OW	-	-	20	20	20	100%	-
Leave gratuity: Gumbi L	-	-	23	23	23	100%	-
Leave gratuity: Mabokano MR	-	-	46	46	46	100%	-
Leave gratuity: Mahlangu AT	-	-	-	-	-	-	4
Leave gratuity: Mahlangu JM	-	-	-	-	-	-	1
Leave gratuity: Mashigo TP	-	-	-	-	-	-	6
Leave gratuity: Mkhondo NS	-	-	-	-	-	-	14
Leave gratuity: Phogojana TIL	-	-	-	-	-	-	15
Leave gratuity: Qhobela M	-	-	-	-	-	-	47
Leave gratuity: Rakate E	-	-	21	21	21	100%	-
Leave gratuity: Robbertse ZE	-	-	9	9	9	100%	-
Leave gratuity: Scheffer CJ	-	-	-	-	-	-	202
Leave gratuity: Seokane G	-	-	34	34	34	100%	-
Leave gratuity: Setumo SS	-	-	-	-	-	-	15
Leave gratuity: Sikrweqe AA	-	-	18	18	18	100%	-
Leave gratuity: Thobejane JN	-	-	27	27	27	100%	-
Leave gratuity: Tomotomo P	-	-	22	22	22	100%	-
TOTAL	-	-	260	260	260		304

ANNEXURE 1J

STATEMENT OF LOCAL AND FOREIGN AID ASSISTANCE RECEIVED

NAME OF DONOR	PURPOSE	OPENING BALANCE	SURRENDERED FUNDS	REVENUE	EXPENDITURE	CLOSING BALANCE
		R'000	R'000	R'000	R'000	R'000
Received in cash						
Argentina	Argentinean Bureau for Enhancing Cooperation with the European Community in the Science, Technology and Innovation Area, PHASE II (ABEST II)	-	-	196	3	193
Australia	Southern African Development Community project	2,331	2,331	1,757	1,757	-
Canada	Epidemiological Model for HIV/AIDS Programme	-	-	4,101	4,101	-
European Union	BioCircle2: To develop a skilled and capable workforce	-	-	169	146	23
European Union	Innovation for Poverty Alleviation Programme	1,566	1,588	20,150	17,412	2,716
European Union	Coordination and Advancement of Sub-Saharan Africa – EU Science and Technology Network (CAAST-Net)	510	510	510	57	453
European Union	Strengthening the European – South African Science and Advancement Programme (ESASTAP2)	-	-	639	149	490
European Union	European Code of Conduct for Nanosciences and Nanotechnologies (N&N) research (NANOCODE Programme)	158	158	-	-	-
European Union	Promoting Africa/EU Research Infrastructure (PAERIP)	1,557	1,557	1,557	1,482	75
European Union	The European Union to South Africa's Research and Innovation Programme (SACCESS)	236	236	573	144	429
European Union	ERA Africa: To develop a skilled and capable workforce IST Africa	-	-	400	336	64
European Union	IST Africa	-	-	210	-	210
Ireland	SANTRUST: Pre-Doctoral proposal development programme for Nursing Sciences	-	-	2,112	2,112	-
Portugal	Bridging Actions for GMES and Africa – BRAGMA	-	-	232	-	232
United States Agency for International Development	Southern African Development Community capacity building project in relation to Risk and Vulnerability Atlas	-	-	13	13	-
United States Agency for International Development	Southern African Development Community capacity building project in relation to Risk and Vulnerability Atlas	-	-	539	539	-

STATEMENT OF LOCAL AND FOREIGN AID ASSISTANCE RECEIVED *(Continued)*

NAME OF DONOR	PURPOSE	OPENING BALANCE	SURRENDERED FUNDS	REVENUE	EXPENDITURE	CLOSING BALANCE
		R'000	R'000	R'000	R'000	R'000
Received in cash						
United States Agency for International Development	Human Health Risks and coping mechanisms to environment pollution in the lower Olifants with Mozambique	-	-	537	537	-
United States Agency for International Development	Mozambique Marine Finfish Sea Cape Farming Project	-	-	559	559	-
United States Agency for International Development	Feasibility study for the establishment of a virtual research, development and innovation network for the information society.	-	-	575	575	-
Subtotal		6,358	6,380	34,829	29,922	4,885
Received in kind						
Canada	South African participation in Grand Challenge Canada call on point care diagnostics	-	-	2,297	2,297	-
Government of France	The extension of FSATIE Scientific Director contract	3,186	-	-	3,186	-
United States of America	Tenofovir Microbicide Gel for HIV Prevention	-	-	50,800	50,800	-
Japan	An observational study to mitigate seismic risks in mines	-	-	3,200	3,200	-
Japan	Science Centre Senior Volunteers in Eastern Cape – To support science centres with developing teaching material for science and mathematics education and development exhibitions	-	-	900	900	-
Japan	Science Centre Senior Volunteers in Limpopo – To support science centres with developing teaching material for science and mathematics education and development exhibitions	-	-	1,200	1,200	-
Bill and Melinda Gates Foundation	Training of next generation of African researchers in legume sciences	-	-	2,000	2,000	-
Subtotal		3,186	-	60,397	63,583	-
Total		9,544	6,380	95,226	93,505	4,885

ANNEXURE 1K

STATEMENT OF GIFTS, DONATIONS AND SPONSORSHIPS MADE AND REMISSIONS, REFUNDS AND PAYMENTS MADE AS AN ACT OF GRACE

NATURE OF GIFT, DONATION OR SPONSORSHIP	2012/2013	2011/12
	R'000	R'000
Paid in cash		
South African Women in Science Awards	370	326
SUB TOTAL	370	326
TOTAL	370	326

ANNEXURE 3B

STATEMENT OF CONTINGENT LIABILITIES AS AT 31 MARCH 2013

Nature of liability	Opening balance 1 April 2012	Liabilities incurred during the year	Liabilities paid/ cancelled/reduced during the year	Liabilities (recoverable)	Closing balance 31 March 2013
	R'000	R'000	R'000		R'000
The Department has a dispute over breach of contract with Brentlana. Brentlana accuses the Department of not adhering to the terms of the contract and wants the Department to pay R3 million. The matter is being arbitrated.	3,000	-	-	-	3,000
Total	3,000	-	-	-	3,000

ANNEXURE 4

CLAIMS RECOVERABLE

Government Entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2013	31/03/2012	31/03/2013	31/03/2012	31/03/2013	31/03/2012
	R'000	R'000	R'000	R'000	R'000	R'000
Department						
Department of Correctional Services	-	4	-	-	-	4
Department of Basic Education	17	-	-	-	17	-
Department of Health: North West Province	-	4	-	-	-	4
Department of Home Affairs	10	-	-	-	10	-
Department of Public Enterprise	2	-	-	-	2	-
Department of Public Service and Administration	-	30	-	-	-	30
Department of Women, Children and People with Disabilities	15	-	-	-	15	-
Office of the Premier: Western Cape Province	-	1	-	-	-	1
Subtotal	44	39	-	-	44	39
Other government entities						
Government Employee Pension Fund	-	-	1	1	1	1
Subtotal	-	-	1	1	1	1
Total	44	39	1	1	45	40

ANNEXURE 5

INTERGOVERNMENT PAYABLES

Government Entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2013	31/03/2012	31/03/2013	31/03/2012	31/03/2013	31/03/2012
	R'000	R'000	R'000	R'000	R'000	R'000
DEPARTMENTS						
Current						
Department of Home Affairs	20	-	-	-	20	-
Department of International Relations and Cooperation	240	1,071	-	-	240	1,071
South African police Service	-	8	-	-	-	8
The Presidency	-	22	-	-	-	22
Western Cape Provincial Government: Social Development	36	-	-	-	36	-
Total	296	1,101	-	-	296	1,101

ANNEXURE 6

INVENTORY

Inventory	Note	Quantity	2012/13	Quantity	2011/12
			R'000		R'000
Opening balance		21,469	379	9,773	448
Add/(Less): Adjustments to prior year balance		149	51	-	-
Add: Additions/Purchases - Cash		18,476	9,247	38,882	3,487
Add: Additions - Non-cash		-	-	194	8
(Less): Disposals		-	-	129	16
(Less): Issues		(29,455)	(9,243)	(33,997)	(3,592)
Add/(Less): Adjustments		(6)	(1)	6,488	12
Closing balance		10,633	433	21,469	379

Total cash additions in the goods and services note includes the purchase of consumables that are not recorded in the inventory management system of the Department. Hence the additions for the year in the inventory annexure will not tie up with the total cash additions in the goods and services note (note 5.5).

ANNEXURE 8A

INTER-ENTITY ADVANCES PAID (note 17)

	Confirmed balance		Unconfirmed balance		TOTAL	
	31/03/2013	31/03/2012	31/03/2013	31/03/2012	31/03/2013	31/03/2012
	R'000	R'000	R'000	R'000	R'000	R'000
GOVERNMENT ENTITY						
DEPARTMENTS						
Current						
Department of International Relations and Cooperation	98	153	-	-	98	153
Total	98	153	-	-	98	153



Human Resource
Statements

Human Resource Statements (For the year ended 31 March 2013)

1.1 – Personnel costs by programme, 2012/2013

Programme	Total Expenditure (R'000)	Personnel Expenditure (R'000)	Training Expenditure	Professional and Special Services (R'000)	Personnel cost as a per cent of total expenditure	Average personnel cost per employee (R'000)
Corporate Services and Governance	225269	111328	5840	2831	49.42%	497
Research, Development and Innovation	1156845	25610	0	2169	2.21%	753
International Cooperation and Resources	102875	33934	0	0	32.99%	585
Human Capital and Knowledge Systems	665350	22239	0	18	3.34%	542
Socio-Economic Partnerships	458798	28656	0	0	6.25%	521
Total	2609137	221767	5840	5018	8.50%	538

1.2 – Personnel costs by salary bands, 2012/2013

Salary bands	Personnel Expenditure (R'000)	% of total personnel cost	Average personnel cost per employee (R'000)
Lower skilled (Levels 1-2)		0.00%	0
Skilled (Levels 3-5)	1800	0.81%	180
Highly skilled production (Levels 6-8)	30337	13.68%	271
Highly skilled supervision (Levels 9-12)	100018	45.10%	518
Senior management (Levels 13-16)	89612	40.41%	924
Total	221767	100.00%	538

1.3 – Salaries, Overtime, Home Owners Allowance and Medical Assistance by programme, 2012/2013

Programme	Salaries		Overtime		Home Owners Allowance		Medical Assistance	
	Amount (R'000)	Salaries as a % of personnel cost	Amount (R'000)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical Assistance as a % of personnel cost
Corporate Services and Governance	111328	50.20%	451	0.41%	1901	1.71%	3001	2.70%
Research, Development and Innovation	25610	11.55%	3	0.01%	646	2.52%	289	1.13%
International Cooperation and Resources	33934	15.30%	91	0.27%	459	1.35%	701	2.07%
Human Capital and Knowledge Systems	22239	10.03%	22	0.10%	756	3.40%	408	1.83%
Socio-Economic Partnerships	28656	12.92%	1	0.00%	587	2.05%	525	1.83%

Programme	Salaries		Overtime		Home Owners Allowance		Medical Assistance	
	Amount (R'000)	Salaries as a % of personnel cost	Amount (R'000)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical Assistance as a % of personnel cost
Lower skilled (Levels 1-2)		0.00%	0	0.00%	0	0.00%	0	0.00%
Skilled (Levels 3-5)	1800	0.81%	71	0.03%	5	0.05%	114	0.05%
Highly skilled production (Levels 6-8)	30337	13.68%	298	0.13%	56	0.27%	603	0.27%
Highly skilled supervision (Levels 9-12)	100018	45.10%	199	0.09%	4288	1.93%	2917	1.32%
Senior management (Levels 13-16)	89612	40.41%	0	0	0	0.00%	1125	0.51%
Total	221767	100.00%	568	0.26%	4349	1.96%	4759	2.15%

Human Resource Statements (For the year ended 31 March 2013) *Continued.....*

2.1 – Employment and vacancies by programme, 31 March 2013

Programme	Number of posts	Number of posts filled	Vacancy Rate	Number of posts filled additional to the establishment
Corporate Services and Governance	244	224	8.20%	
Research, Development and Innovation	48	34	29.17%	
International Cooperation and Resources	62	58	6.45%	
Human Capital and Knowledge Systems	44	41	6.82%	
Socio-Economic Partnerships	63	55	12.70%	
Total	461	412	10.63%	

2.2 – Employment and vacancies by salary bands, 31 March 2013

Salary band	Number of posts	Number of posts filled	Vacancy Rate	Number of posts filled additional to the establishment
Lower skilled (Levels 1-2)	0	0	0.00%	
Skilled (Levels 3-5)	10	10	0.00%	
Highly skilled production (Levels 6-8)	115	112	2.61%	
Highly skilled supervision (Levels 9-12)	217	193	11.06%	
Senior management (Levels 13-16)	119	97	18.49%	

3.1 – Job Evaluation, 1 April 2012 to 31 March 2013

Programme	Salaries		% of posts evaluated by salary bands	Posts Upgraded		Posts downgraded	
	Number of posts	Number of Jobs Evaluated		Number	% of posts evaluated	Number	% of posts evaluated
Lower skilled (Levels 1-2)	0	0	0.00%	0	0.00%	0	–
Skilled (Levels 3-5)	10	4	40.00%	0	0.00%	0	–
Highly skilled production (Levels 6-8)	115	19	16.52%	2	10.53%	0	–
Highly skilled supervision (Levels 9-12)	217	43	19.82%	4	1.84%	0	–
Senior Management Service Band A	83	10	12.05%	1	10.00%	0	–
Senior Management Service Band B	26	2	7.69%		0.00%	0	–
Senior Management Service Band C	9	0	0.00%	0	0.00%	0	–
Senior Management Service Band D	1	0	0.00%	0	0.00%	0	–
Total	461	78	16.92%	7	1.52%	0	–

3.2 – Profile of employees whose salary positions were upgraded due to their posts being upgraded, 1 April 2012 to 31 March 2013

Beneficiaries	African	Asian	Coloured	White	Total
Female					
Male					
Total	0	0	0	0	0

4. EMPLOYMENT CHANGES

4.1 – Annual turnover rates by salary band for the period 1 April 2012 to 31 March 2013

Highly skilled supervision	Number of employees per band as on 1 April 2012	Appointments and transfers into the department	Terminations and transfers out of the department	Turnover rate
Lower skilled (Levels 1-2)	0	0	0	0.00%
Skilled (Levels 3-5)	11	0	0	0.00%
Highly skilled production(Levels 6-8)	94	26	11	12.09%
Highly skilled supervision(Levels 9-12)	185	37	23	12.43%
Senior Management Service Band A	68	9	9	12.86%
Senior Management Service Band B	21	3	7	38.89%
Senior Management Service Band C	7	2	2	28.57%
Senior Management Service Band D	1	0	0	0.00%
Total	387	77	52	13.54%

4.2 – Reasons why staff are leaving the department

Termination Type	Number	% of total
Death	0	0.00%
Resignation	15	28.85%
Expiry of contract	11	21.15%
Dismissal – operational changes		0.00%
Dismissal – misconduct		0.00%
Dismissal – inefficiency		0.00%
Discharged due to ill-health		0.00%
Retirement	1	1.92%
Transfers to other Public Service departments	25	48.08%
Other		0.00%
Total	52	
Total number of employees who left as a % of the total employment		13.54%

4.3 – Promotions by salary band

Salary Band	Employees 1 April 2012	Promotions to another salary level	Salary bands promotions as a % of employees by salary level	Progressions to another notch within a salary level	Notch progressions as a % of employees by salary band
Lower skilled (Levels 1-2)	0		0.00%	0	0.00%
Skilled (Levels 3-5)	11	0	0.00%	9	75.00%
Highly skilled production (Levels 6-8)	94	0	0.00%	90	98.90%
Highly skilled supervision (Levels 9-12)	185	6	3.24%	169	91.35%
Senior management (Levels 13-16)	97	6	6.25%	82	85.42%
Total	387	12	3.13%	350	91.15%

5. Employment equity

5.1 – Total number of employees (including employees with disabilities) in each of the following occupational categories as on 31 March 2013

Salary Band	Male				Female			
	African	Coloured	Indian	White	African	Coloured	Indian	White
Management (Levels 13 – 16)	33	4	5	9	23	2	5	10
Middle management (Levels 9 -12)	64	4	1	6	97	5	4	9
Administrative (Levels 6 – 8)	23	2		1	76	4	2	3
Clerical (Levels 3 – 5)	5				5			0
Elementary occupations (Levels 1 – 2)								
Total	125	10	6	16	201	11	11	22
Employees with disabilities	3		1	1	3	1		1

Human Resource Statements (For the year ended 31 March 2013) *Continued.....*

5.2 – Total number of employees (including employees with disabilities) in each of the following occupational bands as on 31 March 2013

Salary Band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	3		2	4	1				10
Senior Management (Levels 13 – 14)	32	4	4	6	24	2	5	10	87
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	65	4	1	6	98	6	4	9	193
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	23	2		1	76	4	2	4	112
Semi-skilled and discretionary decision making (Levels 3 – 5)	5				5				10
Unskilled and defined decision making (Levels 1 – 2)									
Total	128	10	7	17	204	12	11	23	412

5.3 – Recruitment for the period 1 April 2012 to 31 March 2013

Occupational Bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)				2					2
Senior Management (Levels 13 – 14)	5				6		1		12
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	14				21	1	1		37
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	8				18				26
Semi-skilled and discretionary decision making (Levels 3 – 5)									0
Unskilled and defined decision making (Levels 1 – 2)									0
Total	27	0	0	2	45	1	2	0	77

5.4 Promotions for the period 1 April 2012 to 31 March 2013

Salary Band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	1								1
Senior Management (Levels 13 – 14)	2				3				5
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	3				3				6
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)									0
Semi-skilled and discretionary decision making (Levels 3 – 5)									0
Unskilled and defined decision making (Levels 1 – 2)									0
Total	6	0	0	0	6	0	0	0	12

5.5 – Terminations for the period 1 April 2012 to 31 March 2013

Salary Band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top Management (Levels 15 – 16)	1						1		2
Senior Management (Levels 13 – 14)	4		1		9			2	16
Professionally qualified and experienced specialists and mid-management (Levels 9 – 12)	10			1	9		2	1	23
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (Levels 6 – 8)	3	1			2		1	4	11
Semi-skilled and discretionary decision making (Levels 3 – 5)									0
Unskilled and defined decision making (Levels 1 – 2)									0
Total	18	1	1	1	20	0	4	7	52

6 Performance rewards

TABLE 6.1 – Performance Rewards by race, gender, and disability

	Number of beneficiaries	Total number of employees in group	% of total within group	Cost ('000)	Average cost per employee ('000)
African					
Male	101	125	80.80%	1845	18
Female	156	178	87.64%	2666	17
Asian					
Male	2	9	22.22%	92	46
Female	7	12	58.33%	155	22
Coloured					
Male	8	11	72.73%	176	22
Female	7	10	70.00%	157	22
White					
Male	10	15	66.67%	296	30
Female	18	25	72.00%	398	22
Employees with a disability	6	8		156	26
Total	315	393	80.15%	5941	19

Performance Agreements submitted: 31 May 2013			
Number of employees	Number submitted	Number not submitted	Reasons for non-compliance
98	92	8	Non compliance

6.2 – Performance Rewards by salary bands for personnel below Senior Management Service

	Number of beneficiaries	Number of employees	% of total within salary bands	Total Cost (R'000)	Average cost per employee	Total cost as a % of the total personnel expenditure
Lower skilled (Levels 1-2)			0.00%	0	0.00	0.00%
Skilled (Levels 3-5)	11	11	100.00%	70	6	0.03%
Highly skilled production (Levels 6-8)	91	93	97.85%	776	9	0.35%
Highly skilled supervision (Levels 9-12)	173	185	93.51%	3333	19	1.50%
Total	275	289	95.16%	4179	15	1.88%

6.3 – Performance related rewards (cash bonus), by salary band, for Senior Management Service

Salary Band	Beneficiary Profile			Salary Band	Average cost per employee	Beneficiary Profile
	Number of beneficiaries	Number of employees	% of total within band			
Band A	29	70	41.43%	1204	42	0.54%
Band B	10	18	55.56%	497	50	0.22%
Band C	1	7	14.29%	61	61	0.03%
Band D	0	1	0.00%	0	0	0.00%
Total	40	96	41.67%	1762	44	0.79%

7. Leave utilisation

The Public Service Commission identified the need for careful monitoring of sick leave within the public service. The following tables provide an indication of the use of sick leave (Table 7.1) and disability leave (Table 7.2). In both cases, the estimated cost of the leave is also provided.

7.1 Sick Leave, 1 January 2012 to 31 December 2012

Salary Band	Total days	% days with medical certification	Number of Employees using sick leave	% of total employees using sick leave	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1-2)	0	0.00%		0.00%	0	0
Skilled (Levels 3-5)	63	3.46%	5	50%	13	25
Highly skilled production (Levels 6-8)	646	35.46%	105	91%	6	437
Highly skilled supervision (Levels 9-12)	837	45.94%	209	96%	4	1314
Senior management (Levels 13-16)	276	15.15%	48	40%	6	7000
Total	1822		367	89%	5	8776

7.2 – Disability leave (temporary and permanent), 1 January 2012 to 31 December 2012

Salary Band	Total days taken	% days with medical certification	Number of Employees using disability leave	% of total employees using disability leave	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1-2)	0	0%	0		0	0
Skilled (Levels 3-5)	0	0%	0		0	0
Highly skilled production (Levels 6-8)	4	100%	1	0.87%	4	2
Highly skilled supervision (Levels 9-12)	0	0%	0	0.00%	0	
Senior management (Levels 13-16)	4	100%	1	0.84%	4	10
Total	8	100%	2	0.49%	4	12

Table 7.3 summarises the utilisation of annual leave. The wage agreement concluded with trade unions in the PSCBC in 2000 requires management of annual leave to prevent high levels of accrued leave being paid at the time of termination of service.

7.3 – Annual Leave, 1 January 2012 to 31 December 2012

Salary Band	Number of days	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1-2)	0	0	0
Skilled Levels 3-5)	90	18	36
Highly skilled production (Levels 6-8)	2513	22	1702
Highly skilled supervision(Levels 9-12)	4140	21	6499
Senior management (Levels 13-16)	1902	20	4824
Total	8645	22	13061

7.4 – Capped leave, 1 April 2012 to 31 March 2013

Salary Bands	Total days of capped leave taken	Average number of days taken per employee	Average capped leave per employee as at 31 March 2013
Lower skilled (Levels 1-2)	0	0.00	0
Skilled Levels 3-5)	0	0.00	14
Highly skilled production (Levels 6-8)	0	0.00	26
Highly skilled supervision(Levels 9-12)	0	0.00	25
Senior management (Levels 13-16)	0	0.00	19
Total	0	0.00	23

7.5 – Leave payouts for the period 1 April 2012 to 31 March 2013

The following table summarises payments made to employees as a result of leave that was not taken.

REASON	Total Amount (R'000)	Number of Employees	Average payment per employee ('000)
Leave payout for 2012/13 due to non-utilisation of leave for the previous cycle	0	0	0
Capped leave payouts on termination of service for 2009/010	0	0	0
Current leave payout on termination of service for 2012/13	260	11	24
Total	260	11	24

8. Labour relations

The following collective agreements were entered into with trade unions within the Department.

TABLE 8.1 – Collective agreements, 1 April 2012 to 31 March 2013

Subject Matter	Date
One	Jul-12
Total collective agreements	None

If there were no agreements, then use the following table

The following table summarises the outcome of disciplinary hearings conducted within the Department for the year under review.

Human Resource Statements (For the year ended 31 March 2013) *Continued.....*

TABLE 8.2 – Misconduct and disciplinary hearings finalised, 1 April 2012 to 31 March 2013

Outcomes of disciplinary hearings	Number	% of total
Correctional counselling		
Verbal warning		
Written warning	2	50.00%
Final written warning	1	25.00%
Suspended without pay		
Fine		
Demotion		
Dismissal		
Not guilty	1	25.00%
Case withdrawn		
Total	4	100.00%

Disciplinary hearings – 2012/13 0

TABLE 8.3 – Types of misconduct addressed at disciplinary hearings

Type of misconduct	Number	% of total
Failure to submit receipts	1	25.00%
Contravention of procurement process	1	25.00%
Unlawful disclosure of information	1	25.00%
Failure to give guidance on procurement process	1	25.00%
Insubordination		
Total	4	100.00%

TABLE 8.4 – Grievances lodged for the period 1 April 2012 to 31 March 2013

Type of misconduct	Number	% of total
	Number	% of Total
Number of grievances resolved	1	33.33%
Number of grievances not resolved	2	66.67%
Total number of grievances lodged	3	100.00%

TABLE 8.5 – Disputes lodged with Councils for the period 1 April 2012 to 31 March 2013

	Number	% of Total
Number of disputes upheld		
Number of disputes dismissed	1	100.00%
Total number of disputes lodged	1	100.00%

TABLE 8.6 – Strike actions for the period 1 April 2012 to 31 March 2013

Total number of person working days lost	
Total cost (R'000) of working days lost	0
Amount (R'000) recovered as a result of no work no pay	0

TABLE 8.7 – Precautionary suspensions for the period 1 April 2012 to 31 March 2013

Number of people suspended	
Number of people whose suspension exceeded 30 days	1
Average number of days suspended	57
Cost of suspensions	R23 591.68

9. Training and Development 2012/13

TABLE 9.1 Training needs identified 1 April 2012/13

Occupational Categories	Gender	Number of employees as at 1 April 2012	Training needs identified at start of reporting period			
			Internships	Skills Programmes & other short courses	Other forms of training	Total
Legislators, senior officials and managers (Level 13-16)	Female	14	0	33	0	33
	Male	59	0	47	0	47
Professionals (Level 9-12)	Female	105	0	83	0	83
	Male	80	0	64	0	64
Technicians and associate professionals (Level 6-8)	Female	79	0	48	0	48
	Male	26	0	22	0	22
Clerks (Level 3-5)	Female	0	16	0	0	18
	Male	3	16	3	0	19
Elementary occupations (Level 1-2)	Female	5	0	5	0	5
	Male	1	0	1	0	1
Sub Total	Female	230	16	169	0	187
	Male	169	16	137	0	153

Human Resource Statements (For the year ended 31 March 2013) *Continued.....*

9.2 Training provided 1 April 2012 to 31 March 2013

Occupational Categories	Gender	Number of employees as at 1 April 2011	Training provided within the reporting period			
			Internships	Skills Programmes & other short courses	Other forms of training	Total
Legislators, senior officials and managers (Level 13-16)	Female	41	0	21	0	21
	Male	59	0	25	0	25
Professionals (Level 9-12)	Female	105	0	48	0	48
	Male	80	0	44	0	44
Technicians and associate professionals (Level 6-8)	Female	79	0	26	0	26
	Male	26	0	6	0	6
Clerks (Level 3-5)	Female	0	16	0	0	16
	Male	3	16	3	0	19
Elementary occupations (Level 1-2)	Female	5	0	1	0	1
	Male	1	0	0	0	0
Sub Total	Female	320	16	98	0	114
	Male	169	16	71	0	87

Human Resource Statements (For the year ended 31 March 2013) *Continued....*

10. HIV and Aids & health promotion programmes

TABLE 10.1 – Details of Health Promotion and HIV and Aids Programmes (tick the applicable boxes and provide the required information)

Question	Yes	No	Details, if yes
1. Has the Department designated a member of the SMS to implement the provisions contained in Part VI E of Chapter 1 of the Public Service Regulations, 2001? If so, provide her/his name and position.	✓		Chief Director: Human Resources Ms Naledi Modibedi
2. Does the Department have a dedicated unit or has it designated specific staff members to promote the health and well being of your employees? If so, indicate the number of employees who are involved in this task and the annual budget that is available for this purpose.	✓		Special Programmes Unit: Five employees. The budget for the HIV and AIDS programme is located within the Special Programmes Unit budget of R1.671 million.
3. Has the Department introduced an Employee Assistance or Health Promotion Programme for your employees? If so, indicate the key elements/services of this Programme.	✓		The Department has put in place the Employee Health and Wellness Programme which focuses on: Wellness Management, Health Management and Occupational Health and Safety. The Department appointed a external service provider to provide confidential Employee Wellness Programme services.
4. Has the Department established (a) committee(s) as contemplated in Part VI E.5 (e) of Chapter 1 of the Public Service Regulations, 2001? If so, please provide the names of the members of the committee and the stakeholder(s) that they represent.	✓		Health, Wellness and Safety Support committee which also consists of the following Operational Teams (First Aiders, Wellness champions and Fire Fighters).
			Committee members
			Loretta Pillay
			Siphiwe Mngomezulu-Mthombeni
			Sengai Setumo
			Azwifarwi Phuravhathu
			Bongani Maseko
			Yandisa Ndaba
			Truelove Mnguni
			Tshepo Molema
			Tumisang Sebitloane
			Xoliswa Nqabeni

Human Resource Statements (For the year ended 31 March 2013) *Continued.....*

		First aiders & Fire fighters
		Kgaugelo Sithole
		Dorothy Majoko
		Loretta Pillay
		Mamohlala Mafokoane
		Theresa Lamprecht
		Izak Loubsher
		Sikhonzile Sikhosana
		Mhqobi Ngcobo
		Walter Jama
		Siphiwe Mngomezulu
		Rose Mocoletsane
		Monde Magadla
		Dudu Manyanga
		Stephen Matiwane
		Wiseman Ndlela
		Mathoto Thaoge
		Mmakwena Mopelong
		Tumi Maraba
		Phumelela Yab
		Mogale Mohlaela
		Wellness Champions
		Vivienne Gondwe
		Loretta Pillay, Kgaugelo Sithole, Xoliswa Nqabeni, Mabel Moabi, Vivienne Gondwe, Tumisang Sebitloane

Human Resource Statements (For the year ended 31 March 2013) *Continued....*

Question	Yes	No	Details, if yes
5. Has the Department reviewed its employment policies and practices to ensure that these do not unfairly discriminate against employees on the basis of their HIV status? If so, list the employment policies/practices so reviewed.	✓		HIV, AIDS and TB policy , Reasonable Accomodation Policy, Occupational Health and Safety Policy, and Policy on Support Provided on the Death of Employee were reviewed and approved in 2012.
6. Has the Department introduced measures to protect HIV-positive employees or those perceived to be HIV-positive from discrimination? If so, list the key elements of these measures.	✓		The candlelight ceremony and Worlds AIDS Day are observed annually to raise awareness on issues of HIV and AIDS. Experts on HIV and AIDS share their experiences with employees, as a result no cases of discrimination were reported. The Director-General had also recorded a video putting the stance of the Department in support of those affected and infected.
7. Does the Department encourage its employees to undergo Voluntary Counselling and Testing? If so, list the results that you have you achieved.	✓		HIV Counselling and Testing (HCT) are conducted quartely (4 times a year). The Department had contracted an offsite service provider to provide HCT. As a result the Department managed to test an average of 42.9% of employees.
8. Has the Department developed measures/indicators to monitor & evaluate the impact of its health promotion programme? If so, list these measures/indicators.	✓		The current measure/indicator focuses on the "percentage reduction of health risks". However in order to assess this measure, a metrics was developed to measure the impact of the health programme. The Health Risk Mangement pilot programme that is aimed at identifying employees at risk was discussed with a EHWP service provider, but could not be rolled out as the Tender process to appoint a new EHWP service provider has not been finalised. The Department also took part in the Discovery Healthy Company Index, which measures the effectiveness of the health and wellness programme. The other indicator focuses on the percentage of employees participating in the HIV Counselling and Testing drives", with the introduction of the offsite testing on average of 42.9% employees were tested.

DST Corporate Information

The Department of Science and Technology

Private Bag X727
Pretoria
0001

Director-General

Dr Phil Mjwara

Tel: (012) 843 6816

Deputy Director-General: Corporate Services

Ms Nombuyiselo Mokoena

Tel: (012) 843 6632

Deputy Director-General: Research, Development and Innovation

Dr Valanathan Munsami

Tel: (012) 843 6822

Deputy Director-General: International Cooperation and Resources

Mr Mmboneni Muofhe

Tel: (012) 843 6341

Deputy Director-General: Human Capital and Knowledge Systems

Dr Thomas Auf der Heyde

Tel: (012) 843 6831

Deputy Director-General: Socio-Economic Partnerships

Mr Imraan Patel

Tel: (012) 843 6430

Chief Operations Officer

Mr Thulani Mavuso

(012) 843-6398

Chief Financial Officer

Ms Malekgoloane Malapane

Tel: (012) 843 6717

Chief Information Officer

Mr Matile Malimabe

(012) 843 6626

Science Communication

Mr Tommy Makhode

Tel: (012) 843 6793

Chief Director: Human Resources

Ms Naledi Modibedi

Tel: (012) 843 6706



Department of Science and Technology
ANNUAL REPORT 2012/13

Building 53, Meiring Naudé Road
Scientia Campus, South Gate Entrance
Brummeria, Pretoria, South Africa

Tel : +27 (12) 843 6300
Fax: +27 (12) 349 1030
www.dst.gov.za